MUNICIPAL FOREST MANAGEMENT IN LATIN AMERICA

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PREFACE

Among the major political and economic trends that have been evolving in Latin America in recent years, the emergence of municipal governments as frontline actors stands out. This has been the result of a convergence of democratic and civic movements, as well as of the fiscal crisis, the central governments' lack of legitimacy and the search for more efficient public service provision.

The strengthening of municipal governments has strong implications for forest management. Municipal governments are increasingly involved in forestry issues: they grant permits, charge taxes, administer their own forests, create parks, prohibit activities, plant trees and take sides in conflicts. Some of these activities form part of the municipal governments' daily tasks, but in many other cases, the governments act in response to situations that crop up, such as conflicts, environmental crises and political events. They also implement non-forest activities that have a strong impact on forest resources, including road construction, the creation of agricultural credit programs and soil use planning.

Part of the municipal governments' growing leadership role in forestry issues is an explicit product of national policies to decentralize natural resource management. Nonetheless, municipal governments in many places have taken the initiative without either the support or the blessing of the central government, sometimes even illegally. The fact that municipal governments now have more political power and greater financial and human resources—and in many countries are now elected rather than named by the central power—means a political capital that has allowed them to get involved in new spheres, including forestry and environmental issues, despite not always having a clear mandate to do so.

This book represents the first serious attempt to analyze recent experiences of municipal participation in forest management in Latin America. It is the product of a series of investigations in Bolivia, Brazil, Costa Rica, Guatemala, Honduras and Nicaragua in which more than 30 national and international researchers participated. It will unquestionably be required reading for anyone concerned with municipal administration and natural resource management.

The studies paint a very diverse reality since each municipality has its own particularities. In fact, it is to be expected that much more complex situations will occur if each municipal government can make important decisions regarding management of and access to the forests than with a single national policy. Although the reality is very diverse, however, it is not a random diversity. For example, municipalities with a very active civil society, with peasant, indigenous or environmental movements and/or many NGOs, usually take more measures to conserve the forest resources and democratize access to them. Municipalities with large urban centers generally have a more structured environmental administration. Those on the agricultural frontier have significant economic dynamism linked to logging and the expansion of livestock raising in forested areas. In such cases, municipal governments tend to give less support to sustainable forest management than in municipalities that have already lost a large part of their forests or make their living from extraction of the various forest resources.

The authors emphasize that if negative results have been obtained in some areas because the municipalities have become involved in forest management, it is not a consequence of democratic decentralization, but rather the very lack of it. In some countries, the national government has assigned the municipal governments new attributions regarding forest issues without the corresponding financial and human resources. Many national forestry agencies refuse to accept the municipal governments' new role, since they see it as a threat to their own authority and budget. Many institutional and judicial mechanisms to ensure that municipal governments make transparent decisions that respond to the local population's concerns and interests are also still lacking. Before abandoning the idea of decentralizing natural resource management, it must at least be tested more seriously and coherently than has been done so far.

In any event, the key question is not whether municipalities should or should not be involved in forestry issues. Everything indicates that they already are, and that the process will soon be irreversible. The more urgent question is how to improve municipal participation to make it advantageous for the local communities and the forests. This book offers many clues in that direction.

It has been a great pleasure and source of pride for the Center for International Forestry Research (CIFOR) to have had the opportunity to participate in these studies alongside other national research centers, independent researchers and technical and financial cooperation agencies. I would like to thank the authors for their work and to invite readers to enter a new world where mayors are responsible not just for constructing public plazas and collecting the garbage, and municipal officials are dedicated not only to issuing birth certificates. Ours is a world of conflicts, interests, innovations, successes and failures; it is full of loggers, cattle ranchers, miners, peasants, indigenous peoples and employees, all participants and all responsible for the sustainable management of our resources.

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Introduction

**Lyès Ferroukhi,
Anne Larson,
Pablo Pacheco**

Many governments in developing countries have implemented public policy reforms in the past decade, including the decentralizing of their state administrations. These reforms are the product of both internal political democratization processes and the influence of international agencies. Although the decentralization model varies from one country to the next, these initiatives generally respond to common concerns: reduction of the central government bureaucracy and public sector expenditures, liberalization of the economy and the need to respond to civil society's demands for more participatory and democratic state management (Onibon *et al.* 1999, Fisher 1999).

The most common formal decentralization model emphasizes the provision of public services such as education or health. Nonetheless, many countries have begun to grant local governments greater rights and responsibilities regarding natural resource management, including forest resources. In fact, during the 1990s, municipal governments[1] in various Latin American countries took initiatives linked to logging, reforestation, protected area management, fire control and many other forestry-related activities with or without formal policies decentralizing forest management to them (Kaimowitz *et al.* 2000).

The main objective of this publication, then, is to evaluate the municipal government role in forest management, based on the experiences of six Latin American countries: Bolivia, Brazil, Costa Rica, Guatemala, Honduras and Nicaragua. The central questions we look at are:

- What powers have been transferred to local governments and why?
- What forestry initiatives have local governments taken?
- What have the outcomes of these experiences been, and what factors influenced those outcomes?

The book is divided into three parts. i) This introduction analyzes the opportunities and threats offered by the decentralized forest management model and some of the most important challenges that have arisen in practice. It also summarizes the context in which this book is written and the main characteristics of the countries in which the case studies were undertaken. ii) This is followed by one chapter per country, which analyzes the municipal forest management experience. The order in which they appear corresponds to the degree of forest sector decentralization, starting with the most decentralized country. iii) The conclusion analyzes the main lessons learned from these processes.

Some conceptual clarifications about decentralization

Decentralization refers to the transfer of power from a central authority to lower levels in a political, administrative and territorial hierarchy (Crook and Manor 1998). This transfer can take different forms. Administrative decentralization, also known as deconcentration, refers to a transfer of powers from the central public bureaucracy to its own regional or local offices (Fisher 1999). This form of decentralization does not seek a real redistribution of authority and, according to Crook and Manor (1998), rather tends to extend the central authority to a territorial level through a simple relocation of its agents.

[1] Municipal government is used interchangeably here with local government to refer to elected local representatives and their legal territorial jurisdiction, which includes both urban centers and the surrounding rural territory. Similarly, municipality refers to this broader jurisdiction.
(In the United States, the most similar equivalent would be county.)

Valverde (1999) holds that deconcentration seeks to transfer attributions or competencies to dependent bodies of the central administration, while "democratic decentralization" assumes a transfer of functions and competencies from the central administration to territorial, regional or local authorities to increase their autonomy, reduce their dependence on central administration and redistribute power. The decentralization that most interests us in this book is the latter: democratic decentralization. According to Ribot (2002), with whom we agree, decentralization demonstrates its greatest potential for improving efficiency and social equity only through democratic mechanisms.

To be democratic, decentralization requires that the territorial authorities be legally recognized and have certain decision-making autonomy and the power to make discretionary decisions (Crook and Manor 1998). It also requires that the authorities who receive these powers represent the population that elected them and be accountable for their actions to that population through transparent local administration (Manor 1999, Agrawal and Ribot 1999).

The World Bank sustains that decentralization should improve resource distribution, efficiency, accountability and equity (World Bank 1988).[2] Local governments know citizens' needs and desires better than central governments do, and the population finds it easier to hold local representatives accountable (World Bank 2000). Decentralization also helps promote democracy by "bringing the state closer to the people" (World Bank 1997).

The goals of decentralization coincide with what many experts have proposed as the conditions necessary for sustainable natural resource management. For example, local people are more likely to identify and assign priority to their environmental problems accurately. Resource allocation should be more efficient and information costs lower, and local groups are likely to feel greater "ownership" of decisions made locally, such as rules for resource access and use. Marginal groups could have greater influence on local policies and access to the benefits of exploiting forest resources. Decentralization could also permit more effective and efficient coordination around local resource problems, as the formal and informal contacts among different people and institutions are likely to increase when they are working in the same locale (Carney 1995, Kaimowitz *et al.* 1998, Larson 2002, Margulis 1999).

With respect to natural resource management, and forest management in particular, numerous mechanisms exist for delegating or transferring functions in the name of decentralization, but not all of these constitute democratic decentralization. One common example is the transfer of central government functions to nongovernmental organizations (NGOs) for managing protected areas through various kinds of joint administration projects. As NGOs are not popularly elected or necessarily accountable to local populations, this type of decentralization rather constitutes a delegation of tasks, defined by the central government, to civil society organizations.

Competencies for administering protected areas have also been transferred directly to local communities. This may or may not constitute democratic decentralization, depending on the organization and leadership structures in the communities that receive the

[2] See also Manor (2002) on equity.

responsibilities.[3] In the past decade, governments and international funding agencies appear to have put greater emphasis on the transfer of natural resource management rights or responsibilities to communities than to local governments (Agrawal 2001). Nonetheless, community-based natural resource management experiences suggest that local governments, as elected and representative bodies, can and should play an important role (Ribot 1999, Carney and Farrington 1998). Ribot (2002) also notes that the majority of community-based management projects have been promoted, financed and controlled to a certain point by international donors and NGOs, which hinders their generalization and long-term sustainability.

As mentioned, the initial motivations for transferring rights and responsibilities regarding forest resources to the local level have been to reduce government bureaucracy, democratize decision-making about forest management, distribute the benefits obtained from forest resources more equitably and regulate forest management activities more efficiently (Ribot 2001). Nonetheless, these benefits have not always been evident in practice. The transfer of responsibilities to local governments, where this has actually occurred, has produced ambiguous results that sometimes contradict what policy promoters had in mind (Andersson 2002, Pacheco *et al.* 1998, Ribot 1999). This suggests that decentralization not only offers opportunities for better forest management but also entails potential dangers.

In practice, it has been seen that democratic decentralization faces two types of limitations and risks. The first relates to the very decentralization processes promoted by the central government. Despite the theoretical benefits of democratic decentralization, implementation of the model is highly limited, particularly with respect to natural resource management. The local governments' sphere of autonomy is usually limited by having no real power to make significant decisions about resources. In general, the new competencies transferred are purely administrative, and even then are unaccompanied by the funds or clear operational mechanisms needed to assume them.

In fact, there is a danger in transferring responsibilities to municipal governments without simultaneously transferring the information, training and financing needed for them to carry out their new functions. Failure to do so could even discredit decentralization itself. In the Latin American context, many municipalities lack the necessary technical and administrative capacities to play an effective role in managing natural resources. When the needed training and support is unavailable or ineffective, as is often the case, it is difficult for many local governments to develop and implement natural resource management activities that are both efficient and of an acceptable quality (Pacheco *et al.* 1998).

The second type of danger is related to this local context. In addition to capacity problems, the greatest potential risks are those associated with both the threat of specific population sectors or elites monopolizing local power and the limited organizational capacity of other local groups to pressure for a representative and effective local administration. In such cases, decentralization could serve to strengthen the local elite (large farmers and ranchers, as well as logging interests) instead of local democracy. In fact, elite capture can weaken not only the democratization process itself but also local government legitimacy. The sustainability of forest resources could also be threatened if local elites promote irrational natural resource use.

[3] This is often referred to as devolution. Nonetheless, this term has been used with such diverse meanings and intentions that we have chosen to avoid its use.

The challenge for the future is to promote decentralization processes that build municipal governments with real power that can be and is assumed both capably and responsibly. These governments, as local coordinators and leaders, should become catalysts of sustainable local development interests and policies in response to interests and policies defined at the central level. It is therefore essential to create decision-making and problem-solving mechanisms that permit a balance between national and local development interests and needs in a way that favors resource sustainability and equitable access to the benefits of natural resource management in each region. How to achieve that balance is one of the greatest challenges in designing and implementing decentralized forest management in Latin America.

The experience of forest management decentralization in Latin America

Highly centralized forestry administrations have achieved limited results in effectively regulating forest resources in almost all countries of the region, mainly due to a lack of funding, scant physical presence in the field, limited access to informal information flows and poorly motivated field personnel (Pacheco *et al.* 1998).

At the same time, municipal governments have played an increasingly important role in forest management and it is probable, given the past decade's evidence and the growing importance of local governments in general, that this trend will continue. It is thus a priority to begin analyzing these municipal forest management experiences, to better understand the risks and opportunities and be able to support and promote incipient processes with a good chance of achieving positive results in the future.

So far, few studies have examined municipal forest resource management in any depth. In addition, most of these experiences are new, so it is not yet clear whether their results will be beneficial or harmful in the long run. This publication is part of a first effort to assess the outcomes and lessons learned to date about decentralizing forest management into the hands of Latin America's municipal governments. It is the result of an initiative of the Center for International Forestry Research (CIFOR) and the International Development Research Centre (IDRC), in collaboration with the many different institutions mentioned in the acknowledgments, to analyze the evolution of municipal forest management in different regional, national and local contexts. The book's general objective is to further the debate regarding the potential role of municipal governments in local forest management.

The six cases analyzed in this book were chosen based on two main criteria: the variety of forest sector decentralization policies among the countries and the dynamics observed in the municipalities themselves. Four of the chapters are based on research previously undertaken in Bolivia, Brazil, Nicaragua and Costa Rica by some of the institutions that contributed to this work. The Honduran and Guatemalan cases were incorporated because of the importance of recently promoted decentralization policies in those two countries.

Each country case study describes and analyzes the current municipal forest management situation as well as the opportunities and challenges these decentralization experiences

present. Each study analyzes the following issues: the national forestry context; the legal structure of decentralization in the forestry sector within the context of national decentralization policies in general; the experiences of municipal forest management, including different local initiatives and the relations of local governments with both central agencies and local stakeholders. Each chapter concludes with a final analysis and recommendations.

To place the reader in the general setting of the six countries, we present below a brief summary of the most salient characteristics of decentralization in each.

BOLIVIA

Since the mid-nineties, Bolivia has made important progress toward democratic decentralization to the municipalities as the result of a process associated with institutionalizing greater popular participation. At the same time, important efforts have been developed to decentralize forest management, although a significant portion of decision-making authority remains centralized. In other words, although municipal governments have become key protagonists in forest management, their powers and capacities to make discretionary decisions are still limited. Despite this, Bolivia is one of the Latin American countries that have decentralized functions to municipal governments to the greatest degree.

The decisive step for transferring forest responsibilities to the municipalities resulted from the approval of a new Forestry Law in 1996 that permits local governments to request and supervise up to 20% of the national forests within their jurisdiction. These Municipal Forest Reserve Areas (AFRM) must be turned over as forest concessions to what have been named "Local Social Associations" (ASL). In practice, that mechanism permits the formalization of rights to forest exploitation for small-scale loggers and other traditional forest users. The law also establishes that indigenous groups are the owners of the forest resources within their legally recognized territories.

These changes were motivated by both the central government's interest in reducing illegal forest exploitation by local populations and the need to improve forest management control and oversight systems. There was also strong local and departmental pressure to re-channel fiscal revenue from forests to those levels. The Forestry Law granted 25% of forest exploitation license fees to the municipalities, earmarked to support the Municipal Forestry Unit (UFM) that each forested municipality must create. The UFMs are in charge of establishing the AFRMs and providing technical assistance to the ASLs. They must also inspect forest concessions and sawmills, oversee fulfillment of forest management plans, establish preventive measures for activities that endanger the forest, request the seizure of illegal products and establish registries of forest plantations and native forests.

The decentralization implemented under this law has redefined local power relations; in many cases, the local elite have gradually been forced to recognize the presence of groups that were previously marginalized and must now even negotiate with them. Decentralization has created some new opportunities for indigenous groups, settlers and small-scale loggers to access forest resources and somewhat weakened the position of concessionaires, hacienda

owners and absentee landowners living outside the municipality. Nonetheless, the complexity of local power dynamics makes it difficult to generalize about the benefits of decentralization for marginalized groups; indeed, there are clear cases where decentralization has instead helped strengthen certain local elites whose presence was already strong.

Bolivia's municipal governments have responded to decentralization in diverse ways. Almost all municipalities with forests now have a UFM. These units have been quite active in delimiting municipal forest areas; many have become involved in forest management and the control of illegal felling or have promoted forestry projects. Despite the progress achieved, however, regulatory powers over forest resource use remain concentrated at the central level, and municipal governments have very little influence over these decisions.

HONDURAS

With the promulgation of the Law for the Modernization and Development of the Agricultural Sector (1992), the Municipalities Law (1990) and the General Environment Law (1993), private forest ownership was recognized in Honduras and the basis was established for decentralizing forest management. In particular, municipal governments became the owners of forests located on municipal lands, which are known as *ejidos* and account for some 28% of the country's forests.

This situation is unique in Latin America, as it implies that municipal governments are de jure owners of important forested areas from which they could generate significant income. Management of *ejidal* forests is subject to the same conditions as any other forest property: the power to draft forestry norms and approve management plans for logging resides with the State Forestry Administration (AFE-COHDEFOR).

The transfer of *ejidal* property rights to the municipalities has helped strengthen the municipalities and improved coordination with COHDEFOR. Municipal governments also have responsibilities in controlling and reviewing management plans in national and private forested areas, although coordinating with COHDEFOR does not always work well in practice.

Despite the municipalities' new responsibilities, their management skills are still generally very weak, their budgets are meager and there is little technical and institutional capacity to effectively handle the management and exploitation of municipal forest resources. More than a dozen international aid projects have invested resources to support municipal forest management via cooperation agreements with the Secretariat of Natural Resources (SERNA), COHDEFOR, municipal associations and the municipalities themselves.

GUATEMALA

The decentralization of forest management to municipal governments in Guatemala has been promoted through several specific mechanisms that foster local forestry activities. These include technical assistance and technology transfer programs to the municipal governments, as well as financial mechanisms such as the Forest Incentive Programs (PINFOR) and the transfer of 50% of the tax revenue on concessions and exploitation licenses. Strong international aid projects have provided essential support to these initiatives.

The Forestry Law establishes that the country's 331 municipal governments must have municipal environmental offices whose main role is to support and collaborate with the forestry policies and strategies implemented by the National Institute of Forests (INAB). Municipal governments enjoy certain responsibilities related to controlling and overseeing forest resources as well as supporting reforestation and forest management; for example, the formulating, approving and implementing development plans for municipal forest resources as well as local tax collection.

Guatemala is the only country in which the central forestry agency is clearly leading the process of decentralizing forest management to municipal governments. One of the most important initiatives is the Municipal and Communal Forestry Strengthening Project (BOSCOM). This project, financed and administered by INAB, is aimed at improving the municipal governments' technical, administrative and economic capacities so they can effectively assume their forestry-related responsibilities as well as improving rural communities' opportunities to participate in local management of their resources. Various municipal environmental offices have been created through this project.

Despite this progress, the decentralization of forest management in Guatemala still faces important challenges. The municipal government offices have no real decision-making power over forest resources, as decentralization policies focus only on transferring the responsibility to coordinate with and support INAB. In addition, although Guatemala's municipalities receive the highest percentage of national budget transfers in Central America, they still face serious economic limitations due to inherited debts.

Even with this, positive local trends can be noted. Various municipalities become involved in forest management initiatives, either because they receive support from outside projects or simply because municipal governments have been pressured by local populations to do so. In this regard, local governments are becoming increasingly involved in reforestation activities, fire control, provision of technical services, establishment of tree nurseries and conflict mediation.

NICARAGUA

Nicaragua's local governments have significantly increased their power and authority since the first municipal elections in 1990. In particular, the reforms incorporated into the Municipalities Law in 1997 increased local government competencies and autonomy. Nonetheless, the real possibility for effective autonomy is limited by the extremely low budgets with which many of them must attempt to implement their mandates. In addition to the low percentage of central government budget transfers (approximately 1% in 2001, the lowest in Central America), many municipalities face serious limitations in being able to increase local income through taxes.

With respect to forest management, the Municipalities Law assigns local governments the responsibility to "develop, conserve and control the rational use of the environment and natural resources as the basis for the sustainable development of the municipality and the country…." Despite this general mandate, however, Nicaragua's forestry and environmental legislation promotes centralized management and relegates the municipal government

offices to a secondary role. Among the powers they do have are the following: to render an opinion on proposed logging contracts, receive 25% of the fiscal income generated by such contracts, establish municipal parks, organize fire prevention and control campaigns, promote environmental education and projects, participate in national park management and promote civic participation in environmental affairs.

Regarding the decentralization process, the municipalities feel that the central government has transferred the burden of environmental management but not the benefits in terms of either authority or income. Despite existing limitations, however, numerous municipalities have taken important initiatives: approving or objecting to logging contracts; granting domestic felling permits (on small volumes); promoting environmental, agroforestry and reforestation projects; organizing forest fire and pest control campaigns; developing environmental and land use plans; declaring protected areas; hiring technical personnel and forest rangers; approving ordinances to normalize forest and other resource use; charging taxes and fines for legal and illegal logging; and managing forestry funds. In addition, the majority of the country's municipalities have established Municipal Environmental Commissions, which currently operate as the primary mechanism for local participation and inter-governmental coordination on environmental issues.

BRASIL

Of the six cases presented in this book, there is no doubt that Brazil's municipal governments have far greater political, administrative and financial powers in the health and education sectors than those in other Latin American countries. In contrast, however, natural resource or environmental management has not specifically been decentralized to local governments, although they can and do have important indirect effects on forest resources because of the overall autonomy level they enjoy and their authority over other relevant decision-making arenas—for example, the development of municipal infrastructure and management of credit funds.

In general, Brazil's current regulatory framework for forest management is inadequate and highly centralized. The state institute responsible for the environment and forests, IBAMA, has little political support, few resources and is in no capacity to exercise real control over logging or oversee the implementation of forest management plans. This situation is joined by the fact that the Brazilian municipalities receive important economic transfers from the federal government and thus are not always as motivated as other countries to get involved in forestry activities in the search for income.

In the Amazon region, many residents favor a development model that promotes reducing the forested area. For example, powerful local leaders, including some mayors, are frequently loggers or cattle ranchers and oppose the creation of protected areas or extractive reserves or the delimitation of indigenous territories. Even so, some municipalities have programs for forest fire prevention and control, environmental education, modernization of the timber industry and/or forestry and agroforestry promotion. The majority of local governments involved in such activities enjoy the support of nongovernmental organizations or central government projects. There are also municipal leaders who have promoted forest

certification and the consolidation of extractive reserves, especially where the extraction of non-timber products is important for the subsistence of local populations.

COSTA RICA

Of all the countries studied, Costa Rica represents the most centralized model with respect to administration of the country's forest resources. This is explained by the state's long centralist tradition, which has historically been relatively successful in Costa Rica, and the fact that both the population and the economic activity is largely concentrated in the central valley where the capital, San José, is located.

This country's legal framework for forestry, which gives municipal governments only very general competencies, has a completely centralized structure that leaves them little space to play an active role. The state body responsible for forest management is the National Conservation Areas System (SINAC), which belongs to the Environment and Energy Ministry (MINAE). The State Forestry Administration's decentralization policies are limited to deconcentrating SINAC through the creation of 11 conservation areas and regional and sub-regional offices in each area.

The municipal governments have no direct forest management responsibilities, but this has not always been the case. The 1996 Forestry Law established that municipal government offices were to grant felling permits for "trees in pastures." Nonetheless, this responsibility was transferred without any technical or administrative training to prepare the municipal governments to assume it. The problems that generated led to the re-transfer of the competence to the Regional Conservation Area Councils. In practice, however, SINAC now grants the permits because of problems that arose in the creation of those councils.

The existing legal framework establishes various kinds of collection mechanisms to transfer revenue generated by forest activity to the municipalities. In practice, however, local governments have come up against numerous political and legal obstacles when they have tried to take advantage of these mechanisms.

Despite limited authority and funds, there are several examples of municipalities that have undertaken important forest management activities and, in some cases, have even consolidated municipal environmental offices. In general, these initiatives have occurred when there is pressure from local civil society groups or a certain political stability within the municipal government, as well as a good working relationship between local government and the officials of SINAC's sub-regional offices.

Bibliography

Agrawal, A. 2001. The Decentralizing State: Nature and Origins of Changing Environmental Policies in Africa and Latin America, 1980-2000. Paper prepared for the 97th Annual Meeting of the American Political Science Association, San Francisco, August 30 to September 2.

Agrawal, A.; Ribot, J. 1999. Accountability in Decentralization: A Framework with South Asian and West African Cases. Journal of Developing Areas 33(4): 473-502.

Andersson, K. 2002. What motivates municipal governments? Uncovering institutional incentives for municipal governance of forest resources. Journal of Environment (paid announcement). Resource Management and Institutional Change. Routledge, London.

Carney, D.; Farrington, J. 1998. Natural Resource Management and Institutional Charge. Routledge, London.

Carney, D. 1995. Management and Supply in Agriculture and Natural Resources: Is Decentralization the Answer? ODI, London. ODI Natural Resource Perspectives 4.

Crook, R.; Manor, J. 1998. Democracy and Decentralisation in South Asia and West Africa. Cambridge University Press, Cambridge.

Fisher, R.J. 1999. Devolution and Decentralization of Forest Management in Asia and the Pacific. Unasylva 50(4): 199.
www.fao.org/forestry/FODA/UNASYLVA/PREV-e.stm

Kaimowitz, D.; Vallejos, C.; Pacheco, P.; López, R. 1998. Municipal governments and forest management in lowland Bolivia. Journal of Environment and Development 7(1):45-59.

Kaimowitz, D.; Pacheco, P.; Mendoza, R.; Barahona, T. 2000. Descentralización y gestión de los recursos forestales: gobiernos municipales y manejo del bosque en Bolivia y Nicaragua. Bosques y Desarrollo no. 22.

Larson, A. 2002. Natural Resources and Decentralization in Nicaragua: Are Local Governments up to the Job? World Development 30(1): 17-31.

Manor, J. 1999. The Political Economy of Democratic Decentralization. World Bank, Washington, DC.

Manor, J. 2002. Democratic decentralization and the issue of inequity. Conference on Decentralization and the Environment. World Resources Institute. Bellagio, Italy.

Margulis, S. 1999. Decentralized Environmental Management. In Burke SJ, Perry GE (eds.). Decentralization and Accountability of the Public Sector, Annual World Bank Conference on Development in Latin America and the Caribbean. World Bank, Washington, DC.

Onibon, A.; Dabiré, B.; Ferroukhi, L. 1999. Descentralización y transferencias de la ordenación de los recursos naturales en el Africa occidental francófona. Unasylva 50(4): 199. www.fao.org/forestry/FODA/UNASYLVA/PREV-e.stm

Pacheco, P.; Kaimowitz, D. (eds). 1998. Municipios y gestión forestal en el trópico Boliviano. Bosques y Sociedad no. 3.

Ribot, J. 2002. Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation. World Resources Institute, Washington, DC.

Ribot, J. 2001. Local Actors, Powers and Accountability in African Decentralizations: A Review of Issues. Paper prepared for International Development Research Centre of Canada's Assessment of Social Policy Reforms Initiative.

Ribot, J. 1999. Accountable Representation and Power in Participatory and Decentralized Environmental Management. Unasylva 50(4):199. www.fao.org/forestry/FODA/UNASYLVA/PREV-e.stm

Valverde, J. 1999. Manejo descentralizado de los recursos naturales. In Gestión ambiental descentralizada: gobiernos locales y sociedad civil en la experiencia del Área de Conservación la Amistad Caribe. FUDEU, San José.

World Bank. 2000. World Development Report 1999/2000: Entering the 21st Century. New York, Oxford University Press.

World Bank. 1997. World Development Report. New York, Oxford University Press.

World Bank. 1988. World Development Report. New York, Oxford University Press.

Municipalities and local participation in forest management in Bolivia

Pablo Pacheco

Introduction

Decentralization is one of the public policy reforms that many governments have aggressively applied in recent years as part of domestic processes to democratize their country's political system, or in response to pressure from international agencies or both. Although decentralization has focused mainly on the provision of social services, numerous countries have begun to give local governments more rights and responsibilities over their natural resources, including forests.

Some studies show that decentralization has diverse and sometimes contradictory results in practice, depending on variables such as the political economy of the municipalities, the composition of their government and the importance of forest resources to their economy, among others (Andersson 2002, Pacheco and Kaimowitz 1998, Ribot 2001). This suggests that decentralization is a process that brings with it both opportunities and threats. The important thing is to recognize both to make this process contribute more efficiently to improving the distribution of forest resources among the populations that subsist from them, facilitate more democratic decision-making and conserve the forests better.

This chapter identifies the opportunities and limitations of decentralizing forest management in Bolivia. To that end, it evaluates the country's decentralization model and its implications, in association with other factors such as the system of civic participation and the existing forestry regulations within which municipalities carry out the forestry functions delegated to them in the mid-nineties.

Important steps have been taken to construct democratic decentralization in Bolivia as the result of a municipalization process associated with popular participation that got underway in 1994. At the same time, there have been important efforts to decentralize forest management, although many decisions about these resources are still made at the central level. In other words, the municipal governments' functions and discretional decision-making capacity are still limited despite the leadership role they have acquired in forest management. This aside, Bolivia is one of the region's countries that has made the greatest progress in deconcentrating forest management functions to municipal governments.

This analysis covers the lessons learned from decentralizing forest management in Bolivia's lowland municipalities, where the bulk of the forests are found. Some of the reflections presented here are based on the results of research conducted by the Center for International Forest Research (CIFOR) in collaboration with the BOLFOR Project, the Center for Labor and Agrarian Development Studies (CEDLA) and TIERRA, with financial support from the U.S. Agency for International Development (USAID). The information comes from interviews with key informants, particularly concentrated in nine lowlands municipalities, in three different periods between 1997 and 2001.

Following the introduction, the chapter is divided into five parts. The first briefly describes the lowland forests and the conditions under which the main social stakeholders have access to the forestland and its resources. The second describes the legal and institutional context of municipal forest management, as well as the decentralization model

promoted in Bolivia. The third recounts the municipalities' forest management activities and the fourth indicates the results of decentralization and analyzes the factors that explain them. The last part contains final reflections, analyzes the elements of decentralization that are indeed functioning and proposes some activities that should be implemented to improve their results.

The forest context in Bolivia

LOWLAND FORESTS AND THEIR STAKEHOLDERS

Nearly 70% of Bolivia's 1,098,581 km^2 of territory is less than 500 meters above sea level (Montes de Oca 1989). The departments of Santa Cruz, Beni and Pando comprise a large part of these lowlands (see map), which contain around 80% of the country's 534,000 km^2 of forested area (48.6% of the national territory).

The lowland region's main economic activities are agriculture and medium- and large-scale commercial livestock raising, small-scale agriculture by numerous settler families, coca production, the extraction of timber and some non-wood forestry products such as rubber, chestnuts and palm hearts, as well as mining and natural gas production.

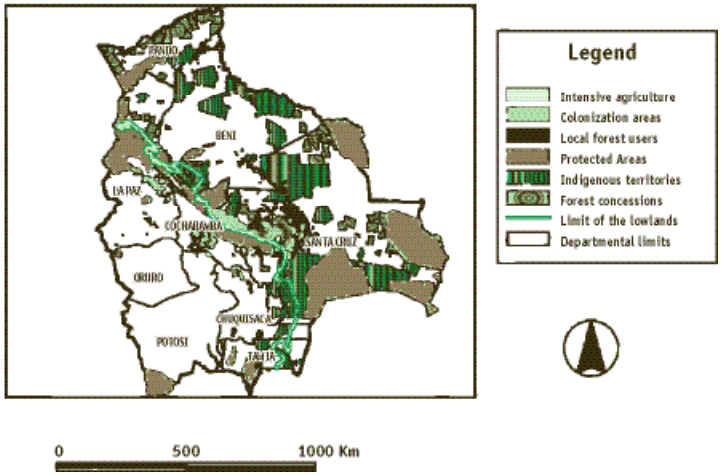
A sizable part of the lowland forests has been selectively exploited, an activity that became important in the seventies and grew rapidly during the nineties. Only four tree species—mara (Swietenia macrophylla), cedar (cedrela sp.), oak (Amburana cearensis), and ochoó (Hura crepitans) represent 60% of the lumber produced between 1985 and 1996 (Quiroga and Salinas 1996). Exploited at rates that impeded their natural regeneration, these species are now the least abundant, so the lumber companies and small loggers have begun using those of lesser commercial value despite the less attractive market conditions for them (Dauber *et al.* 1999).

Most of the deforestation occurs in the lowlands and has tended to increase rapidly in the past decade. Deforestation for the country as a whole was around 80,000 ha per year during the eighties, increasing at an annual rate of 0.4% to 250,000 ha per year between the mid-eighties and mid-nineties (Steininger *et al.* 2000). That increase has been particularly due to the expansion of mechanized agriculture, mainly for soy production, one of the lowland's principal agricultural export crops, and to a lesser extent the expansion of livestock and small-scale agriculture in the colonized areas of Santa Cruz, northern La Paz and Chapare (Pacheco 1998a).

The accelerated degradation of the forests as well as growing concern about conserving the biodiversity led the Bolivian government to implement an ecological zoning system accompanied by soil use plans and plans to extend the protected areas. Toward the end of the nineties, the three departments that cover the lower part of the lowlands already had a soil use plan (PLUS) and some soil use planning exercises were being initiated at the municipal level. In addition, the part of the lowlands incorporated into the National System of Protected Areas (SNAP), which became important in the mid-eighties, currently represents 17% of the national total, though only a small portion has an effective protection system (World Bank 2000).

By the mid-nineties, Bolivia's lowlands had approximately two million inhabitants, of whom nearly 800,000 live in the rural areas, with a population density of less than one person per square kilometer. The indigenous population is between 180,000 and 200,000 and most of the rest are small farmers settled in colonization areas north of the city of Santa Cruz and in the higher valleys of Cochabamba and La Paz (Muñoz 1996). The region's urban population (above all in the departmental capital of Santa Cruz and some intermediary urban centers) shows high growth rates. Improvements in the transport system have linked the lowland region more to other areas, sparking greater migration and increasing pressure on the forests.

Land distribution in the lowland region



The region has very heterogeneous land systems, ranging from private ownership systems to community systems in indigenous areas. The indigenous populations, small farmers or settlers and a diverse group of small-scale loggers as well as those who collect non-wood forestry products are the social groups that subsist to some degree on forest resources. Medium- and large-scale farmers and hacienda owners, as well as the forest concessionaires and sawmill owners who mainly reside in the region's principal cities, form an influential group within rural society.

The information available on land tenure is not very reliable. Estimates based on official statistics are that around 23 million of the 76 million ha making up the region were provided to medium and large farmers or cattle ranchers (Pacheco 1998a). The indigenous groups have demanded that some 22.3 million ha be recognized as Original Community Lands (TCOs), of which only 5 million have forest potential (Stocks 1999). By the end of the nineties only 3 million ha had been titled as TCOs (Martínez 2001). In 1996, the lumber companies reduced the area they occupied as concessions from 20 million ha to 5.4 million and that in turn shrank to 4.9 million in 2001 due to the return of 8 concessions to state dominion. In addition, nearly one million ha were tagged for municipal forest reserves by 2000 (SF 2002).

The lowland settlers are organized into agrarian unions that form part of larger organizations at the departmental and national level. The indigenous peoples, in turn, are organized into traditional authority systems made up of extensive pan-regional organizations. Before the start of the decentralization process, both groups used to file their demands at the departmental and national levels, so paradoxically had little influence on 'local politics," which was dominated by local elite groups. This situation has changed substantially after decentralization, as will be analyzed below.

The decentralizing of forest management

This section discusses the characteristics of decentralization in Bolivia. It first presents the background to the broader decentralization process and then describes the main elements that motivated the decentralization of forest management. Following that it analyzes the main regulations growing out of the forest policy reforms of the mid-nineties, and finally describes the responsibilities and powers in forest management transferred to the municipal governments.

BACKGROUND TO THE PROCESS

Bolivia has a long tradition of centralized government. Before decentralization, decisions were made by the central government, which nominated "prefects," the main political authority of the departments, or provinces. Mayors were also designated from above; their

responsibilities were confined to a limited range of services in the urban municipal seats and they answered to the prefects, by whom they had been elected to occupy their post.

Until the early sixties, given their minimal economic importance and scant population, the lowlands were marginalized by the national political center located in the capital city of La Paz. That situation changed with the expansion of oil and natural gas exploitation and the growth of commercial agriculture and logging, factors that encouraged the emergence of a new regional oligarchy, increased the region's contribution to fiscal income and increased its importance in strategic development plans.

By the end of the seventies, in response to growing pressure from different regional groups, the government finally took the first significant step toward decentralization, establishing departmental development corporations to implement regional planning and invest in development projects. The income for these corporations originated in the royalties from oil, gas, minerals and timber, as well as national treasury revenues. Although sitting on the boards of these corporations offered the regional elite an opportunity to influence investment decisions, the process was one of administrative deconcentration rather than decentralization; the central government continued naming the corporation presidents, who also answered to the departmental prefects (Kaimowitz *et al*. 1999).

In 1985, a reform to the Municipalities Law instituted elections for the municipal governments. This reform, however, established no mechanism by which mayors and municipal councilors would be accountable to their constituency for their actions, and in practice they continued answering to the hierarchies of their respective political parties.

Not until the mid-nineties did decentralization take center stage on the public policy reform agenda, and then due mainly to growing pressure from groups in the regions to gain more control over their own affairs, although the general decentralization trend in neighboring countries and its increasing importance on the international aid agenda also had an influence (Kaimowitz *et al.* 1999). Decentralization was promoted through the Law of Popular Participation (No. 1551), and the Administrative Decentralization Law (No. 1654), both approved in 1994. The first modified the functions of the municipal governments and the second those of the prefectures or departmental governments.

The Law of Popular Participation expanded the municipal governments' jurisdiction beyond the urban centers to all territory covered by the department's sections that correspond to a municipal jurisdiction. It made municipal governments responsible for health and education services, highways and potable water. To finance these responsibilities, the national government assigned 20% of its budget to the municipal governments, distributed on the basis of their population size. This law also transferred management of the urban and rural cadastres to the municipal governments, together with the tax income on real estate and automotive vehicles.

Under this decentralization model, the municipal governments were put in charge of planning part of public investment, oriented by plans formulated with participation by the different local stakeholders under municipal government leadership. All social organizations, whether indigenous or peasant communities, agrarian unions or urban neighborhood

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committees, are legally recognized under the category of Grassroots Territorial Organization (OTB), and acquire the right to participate in Oversight Committees, an entity created to monitor the use of municipal finances and the actions of the mayors and municipal councilors (SNPP 1994).

The Administrative Decentralization Law, in turn, abolished the regional development corporations and transferred their functions and most of their assets to the prefectures, which at that point became responsible for regional development planning. This law has not had effects as dramatic as those achieved by popular participation in a very short time, nor did it modify the fact that the central government still elects the prefects, which means they must still report their actions to the central level. Although councils have been created with the participation of departmental delegates, they are only consultative.

DECENTRALIZATION OF NATURAL RESOURCE MANAGEMENT

The transfer of natural resource management responsibilities was partly an indirect consequence of the broader decentralization process, partly the result of regional struggles to ensure that forested regions would benefit from the lumber use and, to a lesser degree, a response to the growing international consensus favoring greater local participation in forest management (Kaimowitz *et al*. 2000).

Regarding the first aspect, although the Law of Popular Participation granted the municipal governments no new explicit function related to natural resource management, it indirectly helped some of them get more involved in natural resource issues through the greater authority they received from the central government. Such issues include the inspection of lumber transport within their municipalities and charging royalties on lumbering activities so as to retain part of the benefits for their municipalities. In addition, as the municipal governments became progressively more influential, the national government and international donors began to seek them out as partners in environmental projects.

As for the second aspect, the regional organizations fought for nearly forty years to gain greater participation in forestry policy formulation and the distribution of lumber royalties where this resource was extracted. Provincial civic committees, which grouped together diverse local civil society groups, had an active role in this ongoing battle. At the beginning of the eighties, they succeeded in getting an 11% lumber royalty established, to be used for regional development, although control of these funds was centralized in the departmental capital and the funds frequently did not make it to the producing areas. In 1993, it was approved that the companies would pay 80% of their royalties in kind directly to the provinces from which the lumber had been extracted (Kaimowitz *et al*. 2000).

In the mid-eighties, regional civic movements influenced the deconcentration of the national Forest Development Center (CDF) and demanded the creation of departmental forest policies. Deconcentrating the CDF and creating departmental services did not make the forestry service any more effective or efficient, but did contribute to the formulation of departmental forest policies. The institution maintained its reputation as corrupt and ineffective (Quiroga and Salinas 1996).

A third factor promoting the decentralization of forestry resource management was the international trend to promote greater community participation in resource management and administration of protected areas. Although this factor was less important than the others, it helped place decentralization on the agenda of reforms. In Bolivia, the aid agencies exerted no direct pressure to get it underway.

In 1996 the forestry legislation was reformulated through approval of a new Forestry Law (LF No. 1700), which replaced other legislation that had been in effect for 20 years but barely implemented due to political interference and high-level corruption.

The new Forestry Law assumes that sustainable forest management is possible through the implementation of appropriate management practices. To that end, a monitoring system was created for lumber management and extraction, together with some market regulations and tax reforms to make unsustainable and illegal forest operations less attractive. That same year the National Agrarian Reform Service Law (known as INRA Law No. 1715) was approved, aimed at clarifying the rights of agrarian ownership through a process of write-offs and titling; the creation of a rural property cadastre was also approved. The National Agrarian Reform Institute (INRA) is responsible for applying this process.

FOREST MANAGEMENT REGULATIONS

The new Forestry Law established what was called the "forestry regimen of the nation," which is defined as "a set of norms that regulate the sustainable use and protection of forests and forestland, and the legal system that defines the rights of private individuals, clearly stipulating the defined rights and obligations " (Forestry Law, art. 3e).

The public institutional system is made up of the Ministry of Sustainable Development and Planning (MDSP) as the normative entity, the Forestry Superintendence (SF) as the regulatory entity, and the Forest Development Fund (FONABOSQUE). The Forestry Law also created the Natural Resource Regulatory System (SIRENARE) to regulate and control natural resource use.[1] The SF is a key piece in the system given that it is in charge of assigning forest concessions, authorizing forestry permits, approving raw material management and provision plans, monitoring the transport of forest products and confiscating illegal lumber, as well as supervising forest management (SF 2000).

The following are the main forestry regulations:

1) Public forests may be assigned to companies through a system of long-term concessions for a 40-year period, renewable every 5 years.
2) Small-scale loggers may apply for concessions within the areas to be declared municipal forest reserves, which correspond to up to 20% of the total public forests existing within each municipal jurisdiction, although to do so they must organize into what are called Local Social Associations (ASLs).

[1] Three sectoral regulatory systems have been created in Bolivia: 1) the Sectoral Regulation System (SIRESE); 2) the Financial Regulation System (SIREFI), covering the Superintendence of Banks, Pensions and Insurance and that of Hierarchical Resources, and 3) the Natural Resource Regulatory System (SIRENARE), on which the Forestry and Agrarian Superintendences depend.

3) Indigenous peoples have the exclusive right to use the forest resources within their territories.
4) Individual landowners acquire ownership rights to the forest resources on their property.
5) All above-mentioned forest users must pay a forest license fee (US$1 per hectare/year), which applies to all forested areas in the case of forest concessions, the area intervened in the case of private owners (including indigenous communities) and a combination of the two in the case of ASL concessions (see chart).[2]

[2] A bill titled Support to Sustainable Development, which among other aspects proposes a new method for calculating the registration fee applicable to forest concessions based only on the area intervened annually for forest management, is currently in the Bolivian Congress. Estimates suggest that introduction of this new calculation method would imply a 40% -60% reduction of the fees.

Summary of the main forestry regulations in Bolivia

POLICIES	INSTRUMENTS	EXPECTED RESULTS
1. Type of forestry law		
Forest concessions	• Public forests are assigned as forest concessions for a 40-year period, renewable every 5 years. • Forestry concessions are renewed once the results of forestry audits conducted for that purpose are made known.	Long-term forest concessions stimulate the growth of investment in sustainable forest management, contributing to more integral use of forest resources.
Private owners	• Forest use is permitted on private property. • Tree clearing is allowed in areas classified for agricultural use and specified as such in the land use plans.	Forest management on private properties generates additional income for producers, reduce resource use conflicts and, above all, reduce deforestation as a way to justify property rights.
Indigenous territories (TCOs)	• Indigenous communities have the exclusive right to use the forest resources within the areas recognized as TCOs. • Indigenous communities residing within the TCOs have the right to contract commitments with other economic agents to exploit their resources.	Recognition of indigenous territories stimulates long-term forest resource conservation and avoids the invasion of indigenous areas. It also helps improve the living conditions of indigenous communities based on income originating in forest resource use.
Municipal forest reserves	• The municipalities may grant up to 20% of the public forests within their jurisdiction in concessions to local forest users.	Making access to forest areas by local groups possible and diminishing illegality provides incentives to small-scale loggers to engage in sustainable forest management.
2. Management regulations		
Forest management	• A forest management plan is obligatory. • Concessionaires must report the implementation of their plans annually and update the plans themselves every five years. • The use of chainsaws is prohibited.	Forest management plans are an efficient instrument for developing sustainable forest management, including species little known within the management operations, and for reducing logging costs.
Control and inspection	• Forest inspections are the responsibility of SF officials and UFMs. • Privatization of control posts • Forest control by citizens.	Effective forest control operations help reduce illegality and tax evasion. Civic participation helps reduce institutional corruption levels.
3. Taxation policies		
Forest registration fees	• Forest taxes are based on size for concessions (US$1 hectare/year) and on areas intervened for private owners. • Forest license fees paid by ASLs depend on the size of the concession area intervened annually. • Fees for clearing trees equal 15% of the value of the forest registration fees.	Changing the tax system from one by volume to one by size helps reduce corruption and inspections, ensuring that companies pay the forest taxes and reducing the concentration of forest areas.

Source: Prepared by author based on Forestry Law No. 1700 and Forestry Law Regulations (DS. 24453).

According to the legislation, non-commercial use of forest resources does not require authorization, but all commercial operations to extract timber and other forest products require a management plan. In this second case, both forest concessionaires and private owners are obliged to design management plans (including forest inventories, species mapping and estimates of the forest potential) as the main regulatory instrument for logging. The management plans must follow technical criteria prepared for that purpose, of which the main ones are:

1) Forest management must respect a 20-year cutting cycle between operations in the same area.
2) A minimum diameter must be respected for cutting.

The approach for non-timber products is quite similar to the logging norms, except that the user license fees are 30% lower than the forest fee (US$0.30 per hectare/year). Forest concessionaires may sign contracts with third parties for the use of non-timber products, but forest concessions for such products may only be recognized in areas where these resources predominate. Their exploitation must also respect management plans with annual targets.

Clearing forest areas also requires formal authorization, following the evaluation of annual clear-cutting plans that must be formulated based on plot-level land use plans known as POP. Forest clearing license fees are 15 times the value of the forest license fee (US$15 per hectare), plus the equivalent of 15% of the value of the timber cut. The clearing of up to five ha of land surface, considered cumulatively, is tax exempt .

Some of the conditions established in the Forestry Law and its regulations were hard to apply in practice. Although the forest concessions shifted gradually to the new system, that process was more conflictive when it involved small and medium rural owners and small loggers who up to then had engaged in their activities in an informal setting. To promote a more progressive adjustment by the forest users, particularly private owners and small-scale loggers, the Forestry Superintendence (SF) approved some additional measures as part of what was called a "system of exception."

The three main transitional measures promulgated by the SF:

1) allowed the use of lumber on private properties equal to or under 200 ha in size without presenting the respective forest management plan, a measure extended to August 1998.
2) allowed small-scale loggers to exploit areas of under 3 ha without presenting a POP.
3) authorized temporary exploitation for groups of small-scale loggers without prior approval of a forest management plan in areas that would potentially be declared as municipal forest reserves.

THE FOREST MANAGEMENT ROLE ASSIGNED TO MUNICIPAL GOVERNMENTS

Different issues came up during the definition of the municipal government's role under the new institutional forest sector framework. The most important were those linked to illegal exploitation in permanent forest reserves or protected areas by groups without formal access, the need to improve the forest management control and inspection systems with

local government participation and the proportion of forest fiscal income to be earmarked for benefiting the populations residing in the regions where these resources had been generated (Pavez and Bojanic 1998).

The decentralization process was already underway when the regulations were designed, and municipal authorities had earned greater authority within the national political system. During the reform process, the municipal governments assumed the regional demands that more of the income generated by forest resource exploitation be allocated to the departments and municipalities where the exploitation took place and spoke on behalf of small producers and loggers to improve their access and legalize their rights to forest use.

The institutional forestry system thus could not fail to consider the municipal governments as relevant stakeholders in the new system. In addition, shifting responsibilities to them could help resolve conflictive aspects related to forest use monitoring and include the local demands being generated regarding both legalization of the populations' forest use rights and benefits from the income generated by forest exploitation. Furthermore, the central government was interested in controlling illegal logging in public forests, which could be achieved by recognizing the rights of groups that were informally pressuring for access to these areas and by involving the municipalities in the inspection.

While new functions were transferred to the municipalities, the central government retained for itself decision-making on assigning and distributing forest resources, formalizing of forest permits and defining forest management and use regulations. In this context, although the policies make local governments key actors in implementing the forestry system, they still have limited powers to make autonomous decisions about the forest resources within their jurisdiction and are usually viewed as implementing agencies for centrally defined policies.

Decentralization has involved transferring responsibilities and certain decision-making authority to the municipal governments regarding benefits from local forest resources. Nonetheless, the central level (read MDSP and SF) reserves for itself an important set of functions, among them decisions about assigning the bulk of the forest reserves and establishing the political and legal framework for resource management, as well as defining the technical norms for forest resource exploitation. The system for monitoring activities and controlling forest crime is also a central responsibility, albeit shared with the municipalities. Research activities as well technical assistance and support to local institutional development were delegated to the prefectures.

The funds from the forest use and clearing license fees provide the resources for implementing these functions. According to the Forestry Law (art. 38), use license fees are distributed as follows: 35% to the prefectures, 25% to the municipalities, 10% to FONABOSQUE and 30% to the SF. Of the fees for clearing licenses, 25% is earmarked for the prefectures, 25% for the municipalities and 50% for FONABOSQUE.

The following chart summarizes the forest management competencies transferred from the central level to the municipal governments and the capacities those governments could

require in theory to implement these new functions. Under the new Forest Law, municipalities may request and administer up to 20% of the total public forests under their jurisdiction, creating Municipal Reserve Forest Areas (AFRM) that must be turned over to the Local Social Associations (ASLs) as forestry concessions. In practice, this is the mechanism planned to formalize the small-scale loggers' right, previously denied them, to operate legally. The term ASL covers a broad spectrum of local groups, such as chainsaw operators and informal workers.[3]

Classifying public forests as AFRMs starts with mapping and classifying all public forest land under the MDSP's responsibility; to be declared public forests they must receive a "certificate of true availability" following INRA evaluation. In addition, the Municipal Council members recommend that groups of ASLs should receive a concession, a suggestion that must be approved by the Oversight Committee and ratified by the MDSP so the SF can formalize the concessions. Once the areas are approved, the respective municipal government must prepare a program of concessions for the ASLs.

In addition to delimiting the AFRMs, the municipal governments are supposed to inform the ASLs of their rights and duties and aid them in drawing up and implementing their forest management plans, using the resources to be consigned in their Municipal Development Plans (PDMs) for that purpose. Such resources should be used for forest and agroforest plantations, and for protecting native forests in coordination with local groupings. The municipalities are also responsible for protecting and conserving the AFRMs until they are conceded to the ASLs.

The Forestry Law transfers a broader set of oversight tasks and control of forest resource use to the municipalities, among them:

1) To inspect the activities of the forest concessions and sawmills.
2) To inspect fulfillment of the terms and conditions established in the use of authorizations and clearing permits.
3) To have preventive measures of immediate compliance regarding activities that jeopardize the forestry norms.
4) To request from SF the preventive seizure of illegal products and means of perpetration.
5) To develop the inspection and control activities delegated to it by the SF.
6) To establish records of forest and agroforest plantations, native forests and seed plots on private holdings.

[3] The ASLs may include "traditional users, peasant communities, indigenous peoples and others from the area that utilize forest resources" (LF, art. 1.II). To be considered as such, ASLs must follow a qualification process with the MDSP based on the proposal made by their respective municipal government (RLF, art. 82.b).

Competencies of the municipalities and expected results

COMPETENCIES	FUNCTIONS	EXPECTED RESULTS
Judicial	Propose the delimitation of municipal reserves earmarked as concessions for ASLs.	Legalizing the access of small-scale logger groups to forest areas ensures sustainable forest management.
	Inspect and control all forest activities (management and conversion) within their territorial jurisdiction.	Control systems are more efficient and effective when local stakeholders with greater access to information are included in inspecting and monitoring informal forest activities.
	Report violations of forest regulations and non-fulfillment of other regulations or norms.	Gains the advantage of locally generated knowledge for monitoring fulfillment of the forest regulations and norms.
Technical	Provide support to the ASLs in preparing and implementing their management plans.	The local logging groups have management plans prepared so they can implement sustainable forest management.
	Establish the registry of forest and agroforest plantations, native forests and seed plots on private properties found within their jurisdiction.	The municipalities have information based on the natural resources within their jurisdiction as an instrument to head up more comprehensive planning processes.
	Develop soil use plans corresponding to the departmental use plans.	The municipalities have planning instruments that consider the best soil use capacities.
Socioeconomic	Organize training events for ASLs.	The ASLs have technical instruments and information to sustainably manage the forests.
	Facilitate and promote commercial undertakings and private sector participation in local forest development.	Local stakeholders have technical support for developing business ventures.
Conservation	Protect and conserve the municipal reserve areas until they are conceded to the ASLs.	The forest areas returned by concessions are protected until they are turned over to local user groups.
	Participate in SNAP protected area management committees and the creation of protected areas outside of SNAP.	Local authorities are co-responsible for and support the management of conservation initiatives stimulated from the central level.

Source: Prepared by author based on Andersson (2001), Forestry Law No. 1700 and Forestry Law Regulations (DS. 24453).

The municipalities receive 25% of the forest use and clearing license fees to develop these activities. These funds must be "distributed in accord with the use areas granted in their

respective jurisdictions for supporting and promoting sustainable forest resource use and implementing social works of local value, as long as the municipality complies with the objective of this contribution" (Forestry Law, art. 38b).

Within six months after receiving these funds, each municipal government or association of municipalities must establish a Municipal Forestry Unit (UFM), following the minimum implementation level determined by an SF Technical Directive (No. ITE-002/97). The SF is empowered to request that the National Senate withhold funds from the UFMs if they do not fulfill their functions and to assume the attributions of these units. Financial resources are required to effectively implement the functions transferred to the UFMs, particularly for the tasks of inspecting and controlling forest management and clear-cutting. In addition, the technical functions of supporting the local groups' forest management demands certain knowledge of the forests' bio-physical, socioeconomic and institutional characteristics in order to prepare the management plans, as well as a good relationship with the local populations and conflict negotiation skills. Skill in negotiating with private agents or aid agencies is no less an important requisite.

As already mentioned, the Forestry Law transferred 35% of the use license fees and 25% of those for clearing to the prefectures as forestry royalties. It also transferred new responsibilities associated with this revenue, among them the development of UFM support programs, as well as delegating forest research tasks and the design of development plans for the forest sector in their respective departments.

Municipal governments and forest management

This section discusses the municipal governments' main forest management-related actions. In general, the forestry units have concentrated on classifying forest areas and supporting the formation of ASLs by local logging groups, as well as drawing up management and clearing plans. They have given less priority to activities such as controlling exploitation operations without forest permits and inspecting illegal clearing. The drafting of soil use plans is also less important to the municipal governments and their relationship to the protected areas has been ambiguous.

THE MUNICIPAL FOREST UNITS (UFMs)

Municipal governments began to receive revenue from forest licenses around the end of 1997. Nonetheless, the limited transfer of funds from the SF to the municipal governments before that did not prevent some from creating their UFMs or allocating funds to forest-related activities from their regular budgets and/or externally financed projects. Among these cases are the municipalities of Riberalta, Villa Tunari, Rurrenabaque and Ascención de Guarayos. The support they also received from forest projects or NGOs became a factor that stimulated getting these units underway.

The willingness of these municipalities to dedicate their own resources to forest management activities at least partly reflects a genuine interest in the issue, although it also resulted from their belief that spending money on such activities would help attract additional funds from outside agencies in the future. Some municipal governments are unwilling to spend their resources to cover the UFMs' operating costs and are only willing to fulfill their minimal financial requirements, partly because they have limited financial resources and their priorities are not necessarily focused on the forest sector.

In certain cases, the UFM is the municipality's only technical unit, particularly in outlying municipalities with small populations, such as those in the department of Pando and/or north of La Paz, many of which have important forest resources. Although this generates greater demand pressure on these units, it has also led to recognition of the value of the work many of them can do in the municipal public investment planning processes, formulation of development proposals and support to local groups. In some cases, creation of the UFMs has been a slow process, but a large part of the 109 municipalities that receive part of the forest license income have already established one.

Local governments have usually focused investment in urban development programs and projects, the majority of which are located in the municipal seats, and in constructing road infrastructure. They have gradually been paying more attention to investment in educational infrastructure and health programs and have made significant investments in the social field, but their support to the productive sectors is still quite weak. In general, local government investment in social welfare has followed a short-term logic focused on dealing with their municipality's most urgent demands, in principle coming from the urban populations or the municipal seats, and only afterward on the rural communities (Pacheco and Kaimowitz 1998). All this makes them see the forestry sector as a very low priority for spending allocations.

The resources that municipal governments have received from forest license fees were greater in 1998, when a little over US$2 million came in, then dropped to nearly half that in the succeeding two years and by 2001 the resources effectively transferred amounted to just under US$460,000. This has largely been because the companies with forest concessions have not been complying with the payments for the forest use licenses, which means that those resources have dropped for the whole of the public forest system. Payment of the forestry license fees by the concessions was under discussion as of mid-2000.[4]

[4] The forestry concessions' non-payment of license fees is one cause for the return of these areas to state domain. The SF has opted to negotiate collection of the fees arguing that returning concession areas to the state would weaken the forest system as a whole. This raises doubts about whether the current system of financial underpinnings for the public forest system is the best, or whether it should in fact receive resources from outside the sector.

The amounts that municipal governments receive from forestry licenses are quite unequal. Between 1997 and 1999, only 30 municipal governments had received more than 80% of the total revenue due them. Consequently, a good part of the municipalities do not have enough resources to set up UFMs in optimum conditions and, as was mentioned, the municipal governments, with few exceptions, are unwilling to invest part of their own resources in them.[5] In the cases of municipal governments that received more from the license fees earmarked all of it for the functioning of these units, given that other sectors have more urgent investment needs (Flores and Rider 2000, de Urioste 2000).

Personnel and equipping of the Municipal Forestry Units (UFMs)

In 1997, the SF issued a Technical Directive (No. ITE-002/97) determining a minimum implementation level for the UFMs. It established a set of requisites that included minimum personnel and equipment that all UFMs should have as an eligibility condition for receiving the forestry license revenue for them. A UFM technical team must include a director (forestry or agronomic engineer), two foresters, a driver and a secretary. They must also have a vehicle, a motorcycle, a set of maps and technical instruments such as GPS, compass and clinometer, as well as field equipment.

In practice, the UFMs have fairly heterogeneous characteristics. A survey applied by the SF to 32 directors of these units in 1999-2000 found that the UFM director is the only employee in 20 of them, another 11 have one support technician and only 1 (that of San Ignacio de Velasco) functions with two technicians, none of whom are professionally trained. It is infrequent to find forestry engineers as UFM directors, with only 8 of the 32 directors interviewed having that professional formation while 20 are agronomic engineers and the other 4 have other preparation. A similar thing happens with the 13 support technicians, only 1 of whom is a forester.

Only three municipalities fulfilled the equipment requirements stipulated by the SF (among them Chimoré, San Rafael and San Ignacio de Velasco); 10 municipal governments had been able to partially outfit the UFMs and the remainder only had minimal equipment (the GPS, compass and clinometer).

Source: *Prepared by author based on the results of the SF survey of (1999/2000).*

In many cases, the Municipal Forestry Units have no work plans or do not fulfill them even if drawn up. In addition, the work plans usually suffer severe budget cuts when they are

[5] The implementation cost for a UFM, according to the SF directive, averages the equivalent of US$32,154, and even in 1998, the peak year in terms of receiving these resources, only 24 municipal governments received forestry license revenue greater than that amount (Gandarillas 1999:28).

included in the Annual Operational Plans. With few exceptions, the municipal governments only assign minimum resources to finance the personnel and most urgent operating expenses of their forestry units (Pacheco 2000).

Few UFMs are able to fulfill all the functions for which they were created because of other municipal investment priorities and above all the fact that not all municipalities receive enough income from the forestry license fees to be able to finance all the requirements of these units. Even when they do, only part of that money is allocated to the UFMs, mainly due to the municipal governments' lack of political will (Flores and Ridder 2000, de Urioste 2000).

The municipal governments that have earmarked resources for hiring personnel and equipping their forestry units are those that, in general, received greater average income from the forestry license fees between 1997 and 2000, which to some degree reflects the importance of the economic activity of forests in those municipalities. Other factors that also influenced the municipal governments to support their UFMs were the municipal governments' political will, the foreign aid available and the demands of local populations to start up these units (Flores and Ridder 2000, Pacheco and Kaimowitz 1998).

FOREST MANAGEMENT PROMOTION BY LOCAL GROUPS

The role of the UFMs has been essential to developing forestry operations by the Local Social Associations (ASLs), above all in the municipalities where informal logging by local groups was traditionally relevant (the cases of Rurrenabaque in the department of Beni, San Buenaventura in La Paz and the three municipalities of Velasco province in Santa Cruz).

The number of ASLs that presented their classification request to the Ministry of Sustainable Development and Planning (MDSP) totaled 41, of which the ministry qualified 20 between July 1999 and May 2000, while the rest had to complete their documentation (Pacheco 2000). In 2000, the municipal governments assigned 680,000 ha to be conceded to ASLs and the next year the SF granted 407,000 ha in concessions to 15 ASLs and approved the management plans for those areas (Guzmán 2001). In 1999, ocal small-scale logging groups had produced 16,000 m^3 of lumber, which represented 5% of the authorized lumber production (Contreras and Vargas 2000).

From the request for legal standing through to their final qualification by the MDSP, the process of qualifying the ASLs has been characterized as particularly slow and bureaucratic. The main difficulty was the lack of clarity about the procedures to be followed by both the ASLs and the different MDSP entities.[6] For the most part, the process for an ASL to be able to obtain its legal recognition took nearly a year, and one association had to wait some 20 months to get MDSP approval.

During the initial period of creating the ASLs, numerous leadership disputes flared up in the organizations (in some cases leading to internal splits) or conflicts linked to

[6] In accord with the Forestry Law Regulations, ASLs must fulfill the following requisites to become legally recognized: 1) possess their own objective for existence, based on a socioeconomic function and/or common territory for their members, 2) a proven minimum five-year seniority up to the time of the request; 3) effective residence of the group's members in the municipality, and 4) a minimum of 20 members (RLF, art. II).

discretionary financial resource management by their directors. These problems were aggravated by a lack of democracy within the associations and by the decision-making monopoly exercised by their founders. In general, these groups emerged with little clarity about the internal mechanisms to be used for decision-making, use of their resources and distribution of the benefits (Pacheco 2000). These problems were not irreparable and many ASLs took advantage of the lessons learned.

The forestry units collaborated actively with the ASLs in preparing the documentation required by the MDSP, providing information on the procedures and facilitating information to the Municipal Councils to streamline the initial steps for approving the associations. Although the UFMs had no control over the rest of the process, they became mediators between the MDSP and the ASLs in their jurisdictions.

The forestry units became responsible for delimiting the Municipal Forestry Reserve Areas (AFRM) as a prior step to qualifying and assigning concessions to ASLs that requested forest areas. This was also a long and complicated process and many municipal governments have not yet succeeded in defining their municipal forest areas. Despite the fact that many UFMs with potential areas to be declared municipal reserves received collaboration from forest projects, as was the case of the Bolivian Forestry project (BOLFOR),[7] and from some NGOS for mapping and delimiting the areas, the real problem originated in the lack of clarity about property ownership rights in those areas.[8]

[7] The BOLFOR Project originated in 1992 at the initiative of the Government of Bolivia and the US Agency for International Development (USAID), based on the priorities established in Bolivia's Environmental Action Plan. An agreement between USAID and the Government of Bolivia's Ministry of Sustainable Development and Planning for implementation of the project, financed by UAAID and PL-480, was signed on August 26, 1993.

[8] A program underway in Bolivia to straighten out the agrarian property was initiated in 1996 by the National Agrarian Reform Institute (INRA), which includes various in demnification modalities. This program has made very slow progress and not all areas with tenure conflicts have yet been provided guarantees. The MDSP's declaration of municipal forest reserves must be backed by a report from INRA known as a "certificate of certain availability," declaring the area to be free of third-party ownership rights. This makes the whole process depend on the progress of the indemnification.

Conflicts over superimposition of rights in Municipal Forest Reserve Areas

In August 1998, the municipal government of San Buenaventura requested the creation of an AFRM, which was denied because it totally superimposed the territorial demand of the Tacana peoples, which INRA had accepted in January of the same year. The ASLs strongly criticized the municipal government for having delayed in presenting the request dossier for the area to the MDSP. The municipal government tried to negotiate with the leaders of the Indigenous Confederation of the Tacana Peoples (CIPTA) to get them to recognize its request.

In March 1999, an agreement was signed with the Forestry Superintendence permitting approval of the Annual Forest Operational Plan (POAF) of the ASLs within the requested AFRM, but only for administration that same year. In September, the municipal government called a meeting of the Provincial Civic Committee and representatives of the MDSP, INRA, CIPTA and ASLs to discuss the perspectives of creating the AFRM. In the meeting, it was agreed to set up a new meeting in March 2000 to reach definitive agreements. That was not possible, however, because in June 2000 the study of the spatial needs for titling the Community Land of Origin (TCO) of the Tacana people had just gotten underway. That year, the SF did not approve the POAF presented by two of the ASLs pending definition of the conflicts of superimposed rights with the indigenous area.

In Rurrenabaque, the municipal government requested an area of 43,102 ha to be assigned to four ASLs created in that municipality. According to a December 1998 INRA report (D.N.EXT-C-1079/98), 19 private properties totally or partially overlapping the AFRM were found in approximately 80% of its extension. Three of these were fully within the AFRM, although none had its property title in order.

Towards the end of 1998, three ASLs (among them Eighteenth of November, San Miguel del Cauchal and the Association of Lumber Workers - ASTRAMAR) sent the SF their POAF but all were rejected because they contained technical errors; these were corrected and new version were sent to the SF in March 1999. According to a note dated in June 2000, although the ASLs "...have fulfilled the technical requisites for preparation of these administrative instruments, ...the SF cannot approve them until the MDSP remits the program for the forest areas that must be granted to these ASLs and they must make the corresponding representation to that ministry." Given the absence of definitive results from INRA, the MDSP found it impossible to approve creation of the area and the UFM could not draft a concession plan in that area for those associations.

Source: *Author's interviews with Luis Fessi G. and J. Guerrero, the respective directors of the UFMs of the municipalities of San Buenaventura and Rurrenabaque in June 2000.*

The tenure conflicts and the local governments' incomplete information about the real availability of public forests in their municipality were partially sorted out through municipal government requests for areas from "the account for greater expanse," a resolution that opened the possibility of demanding areas over time to complete the 20% of public forests under their jurisdiction. Under the protection of that resolution, the UFMs moved forward in delimiting the municipal reserves and preparing forest concession programs for assignation to the ASLs (Pacheco 2000).

Barely three years after the Forestry Law was approved, the MDSP asked INRA to initiate the measures referring to "certification of certain availability" of the areas requested by the municipal governments based on prior INRA reports. During that lapse, strong pressure on the municipal governments by the ASLs was noted, particularly in northern La Paz, where the conflicts over the superimposition of use rights were strongest. In contrast, the identification of available public forests was easiest in the areas of "la chiquitanía cruceña", forest concession areas that had been returned as part of their adjustment to the new forestry system, which led to sizable lags in implementing the law in some areas.

As of March 2000, 16 municipalities had filed requests with the MDSP to determine their AFRMs. Considering all these proceedings, the total land identified for municipal forest reserves reached 2,433,000 ha, of which 2,266,00 had been requested from INRA. By that same date, the MDSP had processed 1,156,000 ha (Pacheco 2000). Nearly two years later, toward the end of 2001, the steps had been concluded for an area of only 681,315 ha (see chart).

Municipal forest reserves approved by the MDSP

Municipality	No. of areas	Size (ha)	Date	Status of proceedings
Exiamas	1	115,163	July 26, 2001	Concluded
San Ignacio	4	267,859	July 11, 2001	Concluded
Concepción	2	54,220	July 11, 2001	Concluded
San José de Chiquitos	3	97,085	July 11, 2001	Concluded
San Rafael	3	146,989	July 11, 2001	Concluded
Total	**13**	**681,315**		

Source: Dirección General de Desarrollo Forestal Sostenible (http://www.snids.gov.bo/forestal/ASIs.htm*)*

Following the approval of the AFRM, one of the major challenges to the UFMs was providing support to the local groups in preparing the forest management plans. The technicians of these units have generally been in no condition to assume these activities on their own. The progress in preparing these plans for almost all the ASLs that managed to get a forest concession was thanks to the collaboration of foreign aid projects, above all the BOLFOR Project, which in 1999 defined support to the forestry management initiatives of the ASLs as one of its priority lines of activity.

INSPECTION OF ILLEGAL FOREST ACTIVITIES

The UFMs' response regarding the monitoring of forest resource use and conversion has been ambivalent. In general, the municipal governments have been more interested in controlling illegal clearing than inspecting informal forest activities because they receive no direct benefit from auctioning off confiscated lumber and because the municipal authorities have an ambiguous relationship with those engaged in illegal logging activities.

When the forestry units participate in controlling informal activities, they generally do so at the request of the Forestry Superintendence, rather than at their own initiative. They are more inclined to intervene in cases where illegal logging affects the interests of local groups and/or occurs within areas designated as municipal forest reserves, which are frequently threatened by illegal logging. In addition, the municipal governments have been more interested in inspection aimed at controlling lumber dealers from outside the municipalities.

The municipalities still have doubts about the SF's effectiveness in controlling informal logging, and in some cases are afraid to make preventive confiscations due to the SF's slow reaction capacity. The idea of delegating confiscations to the UFMs has not prospered either, because the SF does not think the UFM directors have a good technical profile for that, and above all because of the highly politicized municipal administration, which could affect the decisions to intervene or not to control the illegality.

Despite that, a few municipal governments have seized the machinery of lumber companies caught working outside their area, although such confiscations are not legally permitted. In addition, the governments are extremely critical of the auction system, which in their view only serves for the lawbreakers to buy back the lumber they illegally extracted and thus obtain legal rights over it at the low cost it usually goes for during the third auction, given the little competition.

The ambiguous UFM attitude toward illegal exploitation prevents the Superintendence from seriously considering these units in the inspection activities, or it tries to involve them just in cases in which it has to legitimate its own actions to the local populations. Nonetheless, there is growing interest within the SF to improve its relations with the UFMs in controlling and inspecting illegal logging, sparked in part by the desire to share costs with the municipalities, given its increasingly limited budget for such activities.

The municipal governments' role in controlling illegal clearing is more active, in part due to the direct benefits that controlling unauthorized clearing, above all by medium- and

large-scale producers, bring to the municipal income. The municipal governments have not set up a control system for illegal clearing, and most often operate in response to accusations. The UFMs' interest in controlling clearing is in some cases tripped up by the limited information flows between the UFMs and the SF, in that the latter is in charge of processing the requests and issuing the clearing authorizations.

Because the majority of producers did not fulfill the requisites for approval of a clearing plan, they tended to request a "certificate of possession" granted by the mayor's office, to dispense with presenting a plot-level land use plan (POP) for clearing requests under three ha. The UFMs have been collaborating actively with small producers in the presentation of their clearing plans, together with the operational forest units of the Forestry Superintendence.[9] Although doing so implies benefits for the municipal governments, it represents administrative costs that some UFMs cannot assume. In that regard, some NGOs are increasingly collaborating in the preparation of land use and community plans and clearing requests.

MUNICIPAL SOIL USE PLANS

Starting in 1995, an important push was given in Bolivia to the preparation of department-level soil use plans (PLUS) so all departments now have such a plan, executed under the leadership of the departmental prefectures. Nonetheless, the scale of these plans (1:250,000) makes them inappropriate for regulating soil use in greater detail at the municipal level. The decrees that accompanied the Popular Participation and Administrative Decentralization laws specifically declared that municipal governments must formulate soil use plans for their jurisdiction based on the departmental PLUS. These, in turn, should be taken into account so that rural property holders can prepare their POP (Andaluz 1998). In this framework, land use plans should be the main tool for classifying areas for forest use and those for other soil uses.

But the proposed system has not functioned in practice. Regional development planners rarely consult the PLUS for their department. It is also assumed that to be a useful instrument they should be appropriated at the municipal level, yet the majority of the municipalities lack the needed resources or the technical skills to produce their own plans and it is not even a high priority for the bulk of them. The preparation of POPs has made slow progress, although a good number of medium and large agricultural property owners already have one. This measure has not been easy to implement among small producers originally exempted from drafting such plans.[10]

The Santa Cruz Prefecture made the main effort to develop a municipal soil use plan in the mid-nineties with GTZ support in the northern portion of the Santa Rosa and San Carlos municipalities. This area was chosen for its multiple and long-lasting conflicts among

[9] The regulations for clearing and controlled burning (Ministerial Resolution No. 131/97) indicate that the procedures for obtaining a clearing authorization must include three basic requisites: 1) the title that credits the applicant's right, 2) the POP, and 3) a clearing work plan.

[10] In 1999, the Agrarian Superintendence (SA) issued Resolution No. 046/99 allowing landowners to prepare their clearing plan for up to 3 ha without presenting the POP until the end of that same year. One of the demands to the government in an indigenous and peasant march held in June 2000 was the inclusion of a fund for preparing the POP. The government responded to that request, establishing in DS. No. 25847 that "the work plan for clearings...will not be required when the request is for areas under five ha in wooded areas" (art. 1.I). Only the dispositions for greater areas was maintained, in which the state would cover the cost of preparing the POPs through FONABOSQUE and the BOLFOR and PAFBOL projects (art. 1.III). In practice this support has only been declarative.

governmental agencies, settlers, lumber companies and oil companies. The effort, in addition to pulling together a lot of information on soil use, provided a negotiation forum for the diverse actors, generating a soil use proposal accompanied by an implementation plan. The mayoral offices did not head up the process but were key actors in it (Prefectura del Departamento de Santa Cruz – PRODISA – Consorcio IP/CES/KWC 1996).

That situation has not changed much, except for the work carried out by the Sustainable Natural Resource Management Project (MASRENA), an extension of the Micro-regional Development Program of the Ichilo and Sara Provinces (PPRODISA). Until 2001, MASRENA supported five municipalities—Cabezas, Yapacaní, Santa Rosa, San Carlos and Charagua—in formulating their Land Use Plans (PLOT). Only in the first two cases, however, was the entire territory of the municipal jurisdiction included.[11] The major objective of this work consisted of developing a methodology compatible with the National Territorial Planning Department's norms, so that the Prefecture could then advise the rest of the department's municipalities in preparing their PLOTs.

POSITIONS ON CONSERVING PROTECTED AREAS

The main way municipal governments get involved in managing protected areas is as members of the parks administration committees called "Management Committees," created to promote the participation of local groups in administering the areas. The main functions of these committees are to discuss the management plan for the areas and collaborate in its implementation.

The municipal governments' reaction to the establishment of protected areas has been contradictory. In some cases, establishing or expanding protected areas has restricted the preexisting activities, some of them quite old, of loggers, agricultural settlers and indigenous communities. For example, expansion of the Amboró Park and the Noel Kempff Mercado National Park (PNNKM) created serious conflicts with peasant communities located within the areas' new limits. Other areas, such as the Pilón Lajas Biosphere-Indigenous Territory Reserve (RB-TI) and the Isiboro Sécure Indigenous Territory and National Park (TIPNIS), have been simultaneously declared indigenous areas and protected areas, thus generating conflicts between the parks administration and the populations over how these areas could be used.

In some protected areas, such as Pilón Lajas RB-TI and the Madidi National Park, both in northern La Paz, the situation was further complicated by the presence of informal chainsaw operators and loggers, for whom timber informal exploitation was an important income source that the administrators of the protected areas restricted. At the same time, these groups were competing for the wood with lumber companies that were also set up within the protected areas (Pávez 1998).

When such situations occur, the municipal governments usually seek to protect the interests of the groups negatively affected by the restrictions on their activities, either because the authorities directly represent these groups or are under pressure to respond to

[11] In Santa Rosa and San Carlos, the PLOT was prepared for the area declared as an Agroforestry Unit in the soil use plan of the department of Santa Cruz, located within the El Chore Forest Reserve. In Charagua, only the settlement area of the Guaraní captainships—Isoso, Charagua Norte and Parapitiguasu—was considered in the PLOT, together with the central zone where Mennonite colonies are found.

their interests. For example, the municipal governments involved usually supported the peasant federations in the Amboró Park, while in the PNNKM, the San Ignacio municipal government supported the land demands of communities whose tenure rights were threatened by the area's expansion (Pacheco 1998b). The Rurrenabaque Municipal Council also pressed for the chainsaw operators to be allowed to operate in some parts of the Pilón Lajas RB-TI (Kaimowitz *et al.* 200), although their position became more neutral later given an administration less willing to negotiate.

This does not mean that municipal governments always have negative attitudes towards protected areas. With the consolidation of the National Protected Areas System (SNAP), municipal governments have found it difficult to turn around a reality that offers them some benefits through the possibility of attracting outside funds and technical cooperation. It is considered that the protected areas could stimulate tourism and limit the intrusion of outside groups. The mayors' offices have actively backed the reactions of the area administrators in the Pilón Lajas RB-TI and the PNNKM parks to the presence and/or arrival of lumber and mining companies.

Still other municipal governments seem quite indifferent to the protected areas, especially when they do not involve fundamental conflicts or benefits. This applies, for example, to San Borja's attitude regarding preservation of the Lajas RB-TI, the vision of San Ignacio de Moxos about the Isiboro-Sécure National Park and the relationship of Samaipata and Yapacani to the Amboró National Park (Flores 1998, Kaimowitz *et al*. 2000).

The case of the Pilón Lajas Biosphere Reserve – Indigenous Territory

The Pilón Lajas RB-TI has been one of the most conflictive protected areas within Bolivia's system. It was created in April 1992 in a 400,000-hectare area covering almost 70% of the Rurrenabaque municipal jurisdiction and parts of the Sud Yungas and Franz Tamayo provinces in the department of La Paz. This area was also recognized as indigenous territory in the mid-nineties, which means that the indigenous communities must subject their resource use activities to the norms stipulated in the area's management plan.

The area has been important for the exploitation of valuable forest species such as mahogany (*Switenia macrophila*) and cedar (*Cedrella sp.*) since the end of the seventies. An important part of the population in the urban center traditionally earned a living extracting and quarter-cutting logs with a chainsaw, earning the nickname cuartoneros (quarter-cutters) or *motosierristas* (*chainsawmen*). Six lumber companies also operated in the area with some kind of logging authorization obtained before it was declared a biosphere reserve, although some of them with questionable legal origins. Two of those companies adjusted to the system promoted by the 1996 Forestry Law while the others gave up their areas due to problems of judicial insecurity.

The *motosierristas* have traditionally enjoyed a lot of influence with the local Rurrenabaque government, since theirs is the municipality's main economic activity. This group, together with the settler communities surrounding the protected areas, systematically and unrelentingly boycotted Veterinarians without Borders (VSF), an international NGO that had obtained the rights to administer the Pilón Lajas RB-TI in 1996. Despite attempts by VSF to form a management committee, administration of the area failed because of this systematic opposition from a local population that felt its immediate source of subsistence threatened.

Toward the end of the nineties, the area was restored to the national Protected Areas Service (SERNAP). The new administration dissolved the management committee to avoid local political interference. It also established strong links with the indigenous communities residing within the area and formulated a tourist development project with indigenous participation aimed at generating direct benefits for the conservation of these communities. A new management committee was then proposed with majority participation by representatives of the indigenous communities in the area to reduce the pressure from other local stakeholders.

The area's new administration strongly fought the informal activities of *motosierristas* within the reserve and was quite successful thanks to support from the SF and backing by the indigenous organization. The possibilities of creating a municipal forest reserve was a factor that partially helped reduce the pressure on the reserve from the *motosierristas*. In the new setting, the area's administration expanded its alliances with local groups, including the municipal government, to keep the logging companies from coming inside the area with forest concessions. This situation remains in a fragile equilibrium because the companies were pressuring the central government to reinstate their lumbering operations within the reserve.

Sourse: *Prepared by author based on interviews with ASTRAMAR founder J.D. Negrete (December 1996) and Pilón Lajas RB – TI director L. Marcus (July 2000), and Pavez (1998).*

UFM RELATIONS WITH OTHER ENTITIES

The Forestry Superintendence has shown greater interest in the work of the UFMs over time, particularly regarding the tasks of controlling and inspecting the logging activity in their jurisdictions. This interest has been mainly motivated by the SF's lack of sufficient resources to control the illegal logging themselves while the UFMs have financial resources assigned to collaborate in such tasks with that entity.

Despite the SF's interest in generating greater collaboration with the UFMs, particularly in controlling and inspecting the forest activity, that interest does not always translate into concrete collaborative activities at the local level. In certain cases, the SF's Operational Forest Unit (UOB-SF) has established good coordination relations with the UFMs based on the need to expand its operational capacity and legitimize its actions with the populations and municipal governments, to which end it has formally delegated functions to the UFMs. In other cases, the entities are quite cool to each other and there is no favorable attitude toward coordination, due to inadequate information flows, personal mistrust and previous experiences of unfulfilled functions, among other factors.

The SF has not yet requested the freezing of funds for any UFM despite having arguments to do so in some cases. The first of the two main reasons for this is that no system of following up evaluating the UFM's performance has been put into affect and only partial tests were conducted aimed at implementing such a system. The second is that intervening the UFMs could be politically damaging to the SF given the environment of fragile political equilibrium in which this regulatory entity carries out its work.

The prefectures' collaboration with the UFMs has been more limited, despite the fact that the Forestry Law transferred specific functions and resources to it to help strengthen the UFMs. The Santa Cruz prefecture, through its Municipal Forestry Strengthening Department (DFFM), is the only one that has developed a support program for municipal governments, which lasted until mid-2000.

In 1998, the DFFM emphasized support for the creation of UFMs in some municipal governments and the assignment of a part-time agronomy engineer, as well as concurrent funds to cover 40% of the costs of equipping 14 UFMs created in the department. Nonetheless, institutional changes in the prefecture the following year were accompanied by budget cuts and the virtual paralysis of work. Support from the other prefectures has been more limited given the low priority assigned to these tasks in the departmental budgets, in which the revenue from forest license fees was shifted to other activities.

The BOLFOR project also developed cooperation activities with the UFMs in support of the ASLs in 2000. BOLFOR has supported 19 municipalities in mapping to identify AFRMs with its Geography Information Systems (SIG) laboratory, and in training ASL members in procedures for preparing inventories and census, forest management practices and others. The respective workshops were coordinated with the UFMs and local NGOs. The three municipalities of the Velasco and Ixiamas provinces received the bulk of this support. Other municipalities that received some type of specific collaboration were Concepción, San José de Chiquitos, Roboré, Puerto Suárez and Yapacaní.

The BOLFOR project has helped 18 ASLs prepare their POAFs, mainly by providing technical personnel and financial resources representing 50% of the cost of the inventories and census. An agreement with the ASLs has been signed to this effect, in which both BOLFOR and the ASLs pledged to provide personnel, materials and equipment for conducting the inventory and censuses and pay part of the personnel participating in these activities. BOLFOR also pledged to provide technical assistance for the design of the forest management instruments, and to collaborate in commercialization of the products taken out.

In 1997, when the first UFMs began to be formed, the main collaboration initiatives with NGOs and forest projects were also just getting established. Early the following year it became clear that the UFMs that had done some work enjoyed the support of outside resources. Such was the case of Riberalta's UFM, which, like Rurrenabaque's UFM, got Dutch government financing. Others, received support from projects or NGOs such as the VSF in Rurrenabaque, the FAO's forestry project in Chapare, the Forest Management Program of the Bolivian Amazon (PROMAB) and the Institute for Man, Agriculture and Ecology (IPHAE) in Riberalta and Pando (Pacheco and Kaimowitz 1998).

In addition to this institutional support, other public and private initiatives also existed in municipalities with forest resources. For example, the Rural Community Development Program (PDCR II), implemented by the Vice Ministry of Strategic Planning and Popular Participation (VPEPP), is supporting the creation of environmental units in some municipal governments, among them Rurrenabaque, Ixiamas, San Buenaventura, Reyes, San Borja and Santa Rosa, and will finance the pre-investment phase of a menu of projects they are developing. The majority of municipal governments are proposing at least one project linked to community agroforestry issues and/or the creation of nurseries.

Progress and difficulties

Decentralization has entailed important challenges for the municipal governments, many of which are not prepared to deal with them. It has also, however, unleashed an intense mobilization of resources and local capacities linked to forest management. The first part of this section analyzes the results of the overall political decentralization of the forest resources, and the second concentrates on the most direct impacts resulting from the transfer of forest management functions to municipal governments. The third part recounts the factors that limit greater devolution of powers to these governments.

IMPLICATIONS OF THE OVERALL DECENTRALIZATION PROCESS

The overall decentralization process has made the municipal arenas more democratic by improving civic participation in municipal elections and allowing peasant and indigenous leaders to opt for positions of authority. It has also opened the possibility for the population to take part in public investment planning processes in the municipalities and in monitoring spending. As a result, the traditional municipal elite must now negotiate with previously sidelined groups.

Civic participation has had better results in municipalities with a greater accumulation of social capital because the civil society organizations have increased their negotiating power in local politics. The strong peasant and indigenous organizations have succeeded in getting their best leaders elected as Municipal Council members and in a few cases as mayor. This has not always been possible and in some circumstances political parties have co-opted leaders and through that increased their volume of votes to elect traditional political leaders. In other organizations, grassroots leaders must "lend themselves" to the party initials, exchanging political favors in order to participate in the municipal elections.

In general, the municipalities have prioritized investing their resources in providing education and health services, and in basic infrastructure in the urban centers. To a lesser degree they have received investments to promote productive activities or those linked to natural resources. The social composition of the municipal governments thus has a relative influence on how these resources are spent. For example, municipalities influenced by peasant and indigenous organizations have oriented investment toward rural areas and the municipal governments have supported their broader demands. Some municipalities have supported indigenous territorial demands and other have actively defended and been important spokespeople for the demands of local groups wanting access to forested areas for logging.

Decentralization inevitably affects the balance of power among different groups involved in resource management, which in turn has important implications for resource conservation. For example, if the decentralization strengthens indigenous territorial rights and indigenous peoples conserve their resources more effectively, decentralization will have indirectly supported conservation, even when this was not the explicit goal. If on the other hand decentralization helps consolidate the local elite, whose interest lies on the side of non-sustainable logging, it could easily have the opposite effect. It is difficult to determine a priori what the results will be.

Municipal governments can do little about natural resource distribution or about altering the regulations to set norms for their use. They have only become a negotiating platform for the local groups to interpose their demands, either to the departmental or central government. Beyond that, the local government's role is quite limited, because all these decisions continue to be concentrated at the central level. This suggests that municipal governments are seen as useful instruments for reducing the implementation costs of the inspection system for forest crimes, but their opinions are barely considered. In addition, the central government usually ignores or is unaware of the economic and social costs to both the municipal governments and local groups of fulfilling the norms.

IMPACTS OF DECENTRALIZATION ON FOREST MANAGEMENT

The reforms have opened new opportunities for the indigenous populations, at least on paper, in that these groups can now get use rights to the resources in their territories, although the effective delimiting and titling of them is very slow. In municipal governments

with important and increasingly influential indigenous participation in local politics, they have won a base for consolidating their demands.

Nonetheless, the indigenous groups that develop commercial foresting operations have been obliged to adjust their practices to the new set of regulations related to rotation cycles, cut log diameters and others issues. These groups tend to face great capital limitations to financing the preparation of their forest inventories and lack the abilities necessary to negotiate their production advantageously. It is currently thought that the indigenous communities could make better use of their resources by establishing agreements with logging companies and other private capital for use of their forest resources.

Allocating 20% of the public forests to small-scale loggers offers an interesting opportunity to these groups. Fifteen ASLs have now formally gained access to forest resources within municipal reserves, have management plans and are developing logging activities. Nonetheless, the process of delimiting and assigning municipal reserves has been quite slow and bureaucratic and some groups have not gotten access to these areas as expected, mainly due to the superimposition of rights in areas requested by the municipal governments.

An important number of ASLs lack the administrative and accounting skills needed to efficiently manage their groups and the producers belonging to them have no associative tradition, which could affect their chances of success. Part of these disadvantages have been compensated by the support programs implemented by the UFMs, but the latter do not have enough resources to provide the support these groups require to put their management plans into effect. Consequently, this scheme has been extremely dependent on the financial and technical assistance of international aid, forest projects and NGOs. Although these organizations tend to supplement the work of the UFMs over the long haul, that indirectly helps develop capacities among the local technicians.

The activities to control informal forest activities have made life difficult for the settlers and small loggers who subsisted from these activities, because they did not have all the requisites to adjust their activities to the new system, above all for approval of their clearing plans, which has been the preferred way to justify logging. The UFMs have become key actors supporting these producers in preparing and processing their clearing plans, partly helping these producers resolve their demands. After a negotiation process between the peasant organizations and the central government, small producers have benefited from greater flexibility in the regulations covering soil use. In addition, the UFMs have become involved in facilitating the application of alternative methods approved by the Forestry Superintendence to permit logging by small producers.

In synthesis, although UFMs receive limited resources that in some cases are insufficient to finance them, they have become actively involved in supporting the ASLs and facilitating forest exploitation by small producers, above all when those groups influence municipal government decisions. Municipal authorities have also been interested in controlling illegal clear-cutting, due to the benefits they receive from charging for license fees, while their responses have been more ambiguous regarding oversight of illegal logging. The reaction of local governments to the protected areas has also been ambiguous for various reasons. In

addition, initiatives related to soil use planning are still not considered relevant at the municipal level.

The forestry regulations and the responsibilities transferred to the municipalities have exaggerated the emphasis on controlling informality and forest crime. Few efforts have been made to promote an economic and institutional environment that favors sustainable forest management initiatives. Along those lines, very little has been done so far to improve user access to productive infrastructure, credit networks, market information, technology transfer and other aspects that could help increase the benefits of forest management. Although there is no doubt that this effort must be promoted mainly from the central and departmental levels, the municipal governments should be linchpins in supporting these initiatives.

It is relevant to note that in the current scheme, the municipal governments, through the UFMs, are seen as implementation agencies for the forest functions transferred from the central level and still have little room for decision-making. For example, they have little or no say in decisions about how forest use rights should be granted and to whom (the creation of municipal forest reserves has been an advance in this regard), or about the kinds of sanctions that should be imposed on illegal logging and the destination of these resources.

FACTORS THAT LIMIT THE TRANSFER OF POWERS

Three factors in the central government limit greater transfer of powers to local governments:

1) Given the local governments' limited capacities, it is thought that they must be strengthened through high-cost initiatives operating from the central level.
2) The exaggerated politicization of the municipal governments, which could lead local authorities to protect the activities of groups (whether large-scale loggers, motosierristas or settlers) that do not manage the forests sustainably or to intervene in business activities for reasons outside of the technical sphere.
3) The central government's interest in reserving for itself the allocation of public forests given the state income and indirect economic benefits that these resources could generate for the economy and society.

With respect to the first argument, the central government has invested significant resources in a long process of developing local administrative capacities with relative success since the approval of administrative decentralization, but developing specialized technical abilities is a much more complex process and depends on strong local investment in institutional development. The municipal governments do not invest more in natural resource management because those benefits are perceived as limited. It would be difficult to get the technical units to function at reasonable operational levels with the resources they receive from the license fees, while forest conservation offers no tangible results.

Politicization of the municipal governments has always been a factor that limits institutional development and favors the persistence of social patronage networks, whether by frequent changes in the priorities and lines of action given changes in the administrations

or by favoring small groups with special privileges. Nonetheless, politicization is not limited to municipal administrations; it is usually encouraged from above. In addition, various decisions by the superintendence on regulating resource use also respond to political pressures from influential power groups operating at the central level, making such politicization even more damaging to the interests of diverse local groups.

The final factor that makes the central government monopolize forest resource norm-setting and administration functions has to do with the potential income from forest resources for the national fiscal accounts. Along those lines, the forest policies, despite having helped improve local group access to forest resources, has favored forestry businesses as the main forest management agents, facilitating their conversion to the new system. Establishing limits to the extensions that municipal governments can demand as municipal forest reserves in the name of local groups forms part of that logic.

The three enunciated arguments have functioned to keep the Forestry Superintendence from granting greater functions to the UFMs (such as intervening illegal forest operations or seizing their machinery) or introducing more flexible forest use norms, among other things. Those arguments, not always verified in practice, are a strong excuse used by the central technocracy to limit the transfer of discretionary powers over resource use to the municipal governments, something that would help build a more democratic decentralization.

Conclusions and recommendations

It is quite difficult to separate the effects of decentralization from those that come from other processes, such as reforms to sector policy or changes in the economy. It is possible, however, to examine how the municipal governments' role in forest management may be modifying the stakeholders' role and the benefits they obtain from the forest resources. This is closely related to the powers and responsibilities that have been transferred to the local level and how they are applied in practice.

The experience analyzed shows that strengthening the municipal governments' role in forest management can lead to more equitable access to forest resources, although it also reveals that these results are not ensured because the implementation process could lead to different results. The implications of decentralization with respect to sustainability are harder to determine because they require more long-term systematic evaluations.

The decentralization of forest management in Bolivia has involved some positive results, such as the transfer of forest income to the local level, submission of part of the forest resources to municipal administration and the possibility of local groups managing them, not to mention the municipal governments' opportunity to oversee forest management. This has unquestionably opened up arenas for participation by previously marginalized groups.

Nonetheless, the decisions about standards remain concentrated at the national level and local governments still have little to do with decisions about natural resource use. There are still barriers that impede the transfer of greater discretionary power to local authorities.

The central level usually limits the transfer to local governments of more power to exercise greater resource management authority by arguing the latter's limited capacity, the extreme politicization that could lead them to protect groups that do not manage the forests sustainably and the central government's desire to reserve for itself decisions about the most valuable forest resources. So far, municipal governments have had a mainly instrumental role in implementing the forest system, whose benefits they do not clearly share.

Although it is impossible to evaluate the degree to which decentralization has contributed to resource conservation, experience indicates that more resources have been progressively allocated to forest and agroforest projects. In addition, municipal mayors have shown greater interest in protected areas because of the potential benefits they could generate in the future. In addition, the creation of forestry areas and the support provided to forest user groups doing sustainable forest management is an important advance in this regard.

RECOMMENDATIONS: PROPOSAL FOR AN AGENDA OF ADJUSTMENTS

Different activities can be undertaken in Bolivia to construct more democratically decentralized natural resource management, specifically forest management. Some of these are proposed below without order of priority in three different areas: the first of a legal nature, the second related to forest management and the third linked to the system of civic participation:

On normative and regulatory aspects

- Grant greater discretionary powers to the municipal governments for decisions regarding the allocation and/or use of natural resources within their jurisdictions, or at least provide them greater participation in deciding on the administration and inspection of public forests within their jurisdiction that are not given out as concessions.
- Simplify the norms (whether they be for forestry management plans or land use plans) that discriminate against poorer groups and prevent them from making better use of the few resources available to them. This also assumes making the rigid control of forestry activities that discriminates against small producers more flexible.
- Capital, credit incentives and a financial base must be offered to the less favored groups so they can take advantage of the benefits of more profitable and dynamic forestry activities, such as those derived from processing secondary products.

On forest management

- Link forest management promotion actions with more comprehensive forest sector development perspectives, such as market information and other supports so that producers (above all small ones) can handle the risk deriving from their forest activities and reduce their vulnerability to market changes.

- Suggest creative compensation measures to the municipalities for conservation activities such as direct payment for forest conservation actions, thus allowing them to incorporate the forest sector into their agenda of priorities and spend resources on conservation.
- Develop inexpensive systems for monitoring the conversion of forests to other uses with the aid of information from remote sensors. It is also necessary to update cartographic bases and cadastre information on rural landholdings to support these monitoring systems.
- Disseminate the use of integrated socioeconomic and geographic information systems in the municipal governments and develop information exchange networks among them to support the planning of local intervention and development activities.

On the political system and civic participation

- Make the civic exercise possible through more direct forms of participation by the population (be they plebiscites, town hall forums or other forms) in critical decisions about public financial and natural resource use, as these decisions have been made by local authorities up to now, usually without consulting the local population.
- Eliminating political party mediation in the election of municipal authorities could improve the legitimacy of these authorities with their electoral constituency and help them be accountable for their acts to that constituency rather than to their political bosses.
- Improve local institutional collaboration networks to support forest monitoring and management initiatives, information sharing for forest management and training of local technicians from the institutions present in the municipalities.

Although some of the suggested proposals do not directly relate to the area of competence of the mayor's office, they refer to aspects that directly or indirectly affect the municipal government's field of actions in forest management. Rethinking the forest norms or proposing greater civic participation in local policy are factors closely related to better municipal performance in forest management. Some of the proposed reforms have a political content, require agreements among the actors and could have a difficult maturation process, but others could be taken up and resolved more easily, above all those that demand few resources, technical skills and/or political agreements.

Abbreviations and acronyms

AFRM	Municipal Forestry Reserve Area
ASL	Local Social Association
ASTRAMAR	Association of Lumber Workers
BOLFOR	Bolivian Forestry Project
CDF Forest	Development Center
CIPTA	Indigenous Confederation of the Tacana Peoples
FAO United Nations	Food and Agriculture Organization
FONABOSQUE	National Forest Development Fund
INRA	National Agrarian Reform Institute
LF	Forestry Law
MASRENA	Sustainable Natural Resource Management Project
MDSP	Ministry of Sustainable Development and Planning
NGO	Nongovernmental Organization
PLOT	Municipal-level Land Use Plan
PLUS	Departmental-level Soil Use Plan
PNNKM	Noel Kempff Mercado National Park
POAF	Annual Forest Operational Plan
POP	Plot-Level Land Use Plan
PRODISA	Micro-regional Development Program of the Ichilo and Sara Provinces
PROMAB	Forest Management Program of the Bolivian Amazon
RLF	Forestry Law Regulations
SIRENARE	Natural Resource Regulatory System
SF	Forest Superintendence
SNAP	National Protected Areas System
TCO	Community Land of Origin
UFM	Municipal Forestry Unit
VSF	Veterinarians Without Borders

Bibliography

Andaluz, A. 1998. Los Conceptos Clave de Estado y los Planes de Ordenamiento Predial. Santa Cruz: Proyecto BOLFOR.

Andersson, K. 2002. Explaining the Mixed Success of Municipal Governance of Forest Resources in Bolivia: Overcoming local information barriers. CIPEC, Indiana University. Indiana, USA (unpublished draft).

Andersson, K. 2001. An Institutional Assessment of Two Emerging Cornerstones in Bolivia's Decentralized Forest Regime: Municipal Governments and Indigenous Territories. CIPEC-CERES. University of Indiana, Bloomington, USA.

BOLFOR. 2000. Diagnóstico de Unidades Forestales Municipales (UFMs) y Agrupaciones Sociales del Lugar (ASLs). Santa Cruz, Bolivia (unpublished data).

Contreras, A.; M. T. Vargas. 2001. Social, Environmental and Economic Impacts of Forest Policy Reforms in Bolivia. Forest Trends / CIFOR. Washington, D.C. (unpublished draft).

Dauber, E.; Guzmán R. A.; Terán J.R. 1999. Potencial de los Bosques Naturales de Bolivia para Producción Forestal Permanente. Superintendencia Forestal. Santa Cruz, Bolivia.

de Urioste, J. L. 2000. Informe final. Proyecto de Apoyo a la Gestión Forestal Municipal. Superintendencia Forestal/Cooperación del Gobierno de Canadá. Santa Cruz, Bolivia.

Flores, G.; Ridder, M. 2000. Experiencias con el Proceso de Fortalecimiento Forestal Municipal en Santa Cruz. FAO-PAFBOL. Santa Cruz, Bolivia.

Flores, G. 1998. Samaipata: Manejo de cuencas y recursos forestales. In P. Pacheco and D. Kaimowitz (eds.). Municipios y Gestión Forestal en el Trópico Boliviano. CIFOR/CEDLA/TIERRA/BOLFOR. La Paz. pp. 395-434.

Gandarillas, E. 1999. Mecanismo de evaluación de las atribuciones forestales municipales. Superintendencia Forestal/Cooperación del Gobierno de Canadá. Santa Cruz, Bolivia.

Guzmán, R. 2001. Municipios y Agrupaciones Sociales del Lugar: Sinergia para la Conservación de los Recursos Forestales. Boletín BOLFOR No. 23. Santa Cruz, Bolivia.

Kaimowitz, D.; Ribot, J. 2002. Services and Infrastructure versus Natural Resources Management: Building a Base for Democratic Decentralization. Submitted for Conference on Decentralization and the Environment. World Resources Institute, Bellagio, Italy.

Kaimowitz, D.; Flores, G.; Johnson, J.; Pacheco, P.; Pavez, I.; Roper, J.; Vallejos, C.; Velez; R. 2000. Local government and biodiversity conservation: A case from the Bolivian Lowlands. A case study for Shifting the Power: Decentralization and Biodiversity Conservation. Biodiversity Support Program. Washington, D.C.

Kaimowitz, D.; Pacheco, P.; Johnson, J.; Pavez, I.; Vallejos, C.; Vélez; R. 1999. Local Governments and Forests in the Bolivian Lowlands. Rural Development Forestry Papers (RDFN) No. 24b. Overseas Development Institute. London.

Martinez, J. 2001. Proceso de titulación de las tierras comunitarias de origen (TCOs). In M. Urioste and D. Pacheco (eds.) Las Tierras Bajas de Bolivia a Fines del Siglo XX. Programa de Investigación Estratégica en Bolivia. La Paz.

Montes De Oca, I. 1989. Geografía y Recursos Naturales de Bolivia. Ministerio de Educación y Cultura. La Paz.

Muñoz, J.A. 1996. Access to Land and Rural Poverty in Bolivia. In Bolivia: Poverty, Equity and Income. The World Bank Group. Washington, D.C.

Navia, C. 1989. El Proceso Forestal Beniano. Instituto Latinoamericano de Investigaciones Sociales (ILDIS). La Paz.

Pacheco P. 2000. Avances y Desafíos en la Descentralización de la Gestión de los Recursos Forestales en Bolivia. CIFOR/BOLFOR. Santa Cruz, Bolivia.

Pacheco, P.; Kaimowitz; D. 1998. Municipios y Gestión Forestal en el Trópico Boliviano. CIFOR-CEDLA-TIERRA-BOLFOR. La Paz.

Pacheco, P. 1998a. Estilos de Desarrollo, Deforestación y Degradación de los Bosques en las Tierras Bajas de Bolivia. CIFOR, CEDLA, Fundación TIERRA. La Paz.

Pacheco, P. 1998b. San Ignacio de Velasco: Madereros informales en el nuevo régimen forestal. In P. Pacheco and D. Kaimowitz (eds.). Municipios y Gestión Forestal en el Trópico Boliviano. CIFOR/CEDLA/TIERRA/BOLFOR. La Paz, pp. 265-314.

Pavez, I. 1998. Rurrenabaque: Motosierristas y dilemas para la conservación de los bosques. In P. Pacheco and D. Kaimowitz (eds.). Municipios y Gestión Forestal en el Trópico Boliviano. CIFOR/CEDLA/TIERRA/BOLFOR. La Paz, pp. 227-264.

Pavez, I.; Bojanic, A. 1998. El proceso social de formulación de la Ley Forestal de Bolivia de 1996. La Paz: CIFOR/CEDLA/TIERRA/PROMAB.

Prefectura del Departamento de Santa Cruz / PRODISA / Proyecto de Protección de los Recursos Naturales (Consorcio IP/CES/KWC). 1996. Plan de Ordenamiento Territorial para la Unidad Agroforestal del PLUS (AF) al Norte de los Municipios de Santa Rosa y San Carlos. Santa Cruz, Bolivia.

Quiroga, M.S.; Salinas, E. 1996 Minerales y Madera, Temas para el Debate Ambiental. La Paz: Grupo de Acción y Reflexión sobre el Medio Ambiente.

Ribot, J. 2001. Local Actors, Powers and Accountability in African Decentralizations: A Review of Issues. Paper Prepared for IDRC, Assessment of Social Policy Reforms Initiative. Washington, D.C., World Resources Institute (unpublished draft).

Secretaría Nacional de Participación Popular (SNPP). 1994. Ley de Participación Popular No. 1551. La Paz.

Steininger, M. K.; Tucker, C. J.; Townshend, J.R.; Killeen, T.R.; Desch, A.; Bell, V.; Ersts, P. 2000. Tropical deforestation in the Bolivian Amazon. Environmental Conservation. Vol 28(2):127-134.

Stocks, A. 1999. Iniciativas Forestales Indígenas en el Trópico Boliviano: Realidades y Opciones. Technical Document 78/1999. Proyecto BOLFOR. Santa Cruz, Bolivia.

Superintendencia Forestal (SF). 2002. Informe Anual 2001. SIRENARE. Santa Cruz, Bolivia.

World Bank. 2000. Project Appraisal Document. Support of the First Phase of the Sustainability of the National System of Protected Areas Program in Bolivia. Report No. 21447-BO, Washington, DC.

Municipal forest management: A new alternative for Honduras

Mario Vallejo Larios

Introduction

Municipalities in Honduras have participated very little in managing the forests and have obtained only meager benefits from the products derived from them, since forest resource management was totally centralized until only a few years ago. Starting in the nineties, however, a decentralization process was initiated that, at least in the legal sphere, has considerably increased municipal participation in administering the forests. Although the majority of Honduras' municipalities have forested areas in their territories or at least areas best suited for forests, few have tried to use their new attributions to gain more control and greater benefits from management of their forests.

This chapter evaluates the progress in decentralizing Honduran forest management by analyzing the institutions and stakeholders involved, as well as the positive and negative experiences that have resulted. It also offers some conclusions and recommends certain actions to decentralize and democratize municipal forest management further.

The municipal and forest context

SITUATION OF THE FOREST RESOURCES

It is calculated that 87.7% of the country's total area (112,498 km^2) is best used for forest, but only half of that still has a forest cover. In 2000, it was estimated that pines of different species covered 2.5 million ha and broadleaf forest another 2.9 million (SAG 2002).

With respect to the ownership system, forested areas are classified into public and private. The first covers state and ejido, or municipal areas, and the second forests in private hands and areas ceded in trust to indigenous communities under state guardianship. Although the data are inexact, it is estimated that the legalized distribution of land into these categories is as follows: 36% national lands, 28% *ejidal* lands and 36% private domain (UNAT 1999). The titleholder of the domain also owns the forests it includes and is responsible for their management and administration.[1]

In recent decades, deforestation has reached alarming heights, becoming Honduras' main environmental problem. It is estimated that 108,000 ha of forest disappear each year (UNAT 1999). The main non-industrial forest problem is firewood, which produces 65-70% of the energy consumed in the country. Firewood is used by 29% of the urban population and 100% of the rural population (Jones 1993), and the value of the firewood sold is equivalent to 87,000 full-time jobs (FAO 1999).

Despite Honduras' immense forest vocation, this sub-sector contributes barely 4% of the gross domestic product (SAG 1996) for various reasons: the statistics do not calculate all goods and services provided by the forest, the value added of forest products is low, there is excessive waste and the economic activity is not managed appropriately[2] (Valdivieso, pers. comm.).

[1] Although the majority of municipal lands have an *ejidal* tenure, some municipalities, such as Catacamas, have land that has been bought from individual owners and is thus designated as "municipal private land."

[2] According to Manuel Valdivieso of the Honduran Forestry Development Corporation (COHDEFOR), his organization maintains accounts for incorporating forestry costs into the Central Bank's national accounts only on the extracted lumber it receives through auction, which represents only 36% of the real market volume.

THE LEGAL AND INSTITUTIONAL FRAMEWORK OF FOREST MANAGEMENT

Existing legislation

Honduras has at least three important legal norms that refer to forestry aspects. The Forestry Law (Decree No. 85 of 1972) regulates all technical and administrative aspects of forestry and the functions of the State Forestry Administration (AFE). It also contains dispositions involving municipal governments, referring among other things to their role in declaring protected areas, protecting forests in cases of fire, pests or diseases and receiving income in ejido areas.

Decree Law 103 of 1974 created the Honduran Forestry Development Corporation (COHDEFOR) as the AFE's representative institution. This law limited the general population's access to the forests and put them under the administration of the state, which assumed the power to carry out all management activities: industrialization, transformation and marketing. In the wake of this reform, landowners, among them the municipal governments, became indirect beneficiaries of forest resources, with the right to receive a small devolution for use of their forest.

The Law for Modernization and Development of the Agricultural Sector (Decree 31-92 of 1992) returned the forest area to the landowners. The forests became part of the patrimony of individuals on private lands and of the municipal governments on ejido lands. The state's role was limited to directly administering the national areas through COHDEFOR.

There are also at least 20 legal norms with dispositions applicable to forestry. These include constitutional articles, environmental laws, tourism laws, municipal laws, the Penal Code, the Civil Code, the Law of Concessions and the Law of Incentives for Renewable Energy Sources.

Bills linked to municipal forest management

It should be noted that Honduras' set of forestry laws is extensive and dispersed and many of their dispositions are not very clear and are even obsolete. Some bills prepared to correct this situation are currently being debated in the National Congress, of which at least four are directly or indirectly related to municipal forest management: the Forestry Law, the Protected Areas and Wildlife Law, the Territorial Planning and Human Settlements for Sustainable Development Law and the General Water Law. All these bills are in the Findings Commission and have a good chance of passage.

The new Forestry bill and the one on Protected Areas and Wildlife are the most closely related to municipal forest management, since they contain management norms designed to strengthen local governments' capacity to administer ejido Program of Support to the Small and Medium Producers of Olancho lands apt for forest. The Municipalities Association of Honduras (AMHON) and some municipal mayors participated in the project concertation phase, which began in 199 and has been facilitated by the forum titled "Honduran Forestry Agenda."

One of the project's main innovations is to provide funds to municipalities to finance forestry projects, so they can deal with the responsibility of managing the forests in their jurisdiction. The idea is that each municipal government can build its own fund with 30% of the value of the forest exploitation in municipal areas, 100 of the value of forestry fines and 10% of the income from exploitation conducted in state forests within the municipal sphere.

Main institutions linked to state forest resource management

The main public institutions involved in national forest administration are the Secretariat of Agriculture and Livestock (SAG), which has norm-setting functions and defines forestry policy; the Secretariat of Natural Resources and Environment,[3] which sets policy on protected areas and wildlife; and COHDEFOR, responsible for implementing these policies and the National System of Protected Areas (SINAPH) structure.

COHDEFOR is a decentralized institution with legal status and its own patrimony. It is the agency that implements the state's forest policy and its objective is to achieve optimum exploitation of the forest resources, ensuring their protection, improvement and conservation. It must also generate funds to finance state programs. In addition to its central offices, COHDEFOR has 12 regional offices, which are subdivided into Management Units and Sub-units, giving it a presence throughout the country that offers national, regional and local coverage.

Municipal government in forest management

THE ORIGINS OF DECENTRALIZATION

Honduras' first Municipalities Law dates back to 1927, but a contraction of public administration in the fifties reduced municipal autonomy to a minimum and the Ministry of Government and Justice directly named mayors and district chiefs. Forest management became the responsibility of the Ministry of Natural Resources, with very little local participation. This situation changed significantly in 1990, with the new Municipalities Law, which returned autonomy to the municipalities and permitted decentralization of decision-making.

In 1992, local governments obtained greater leadership roles with the promulgation of the Law for Modernization and Development of the Agricultural Sector, as it allowed them to recover domain over *ejidal* forests. In 1993, the General Law of the Environment decentralized different environmental and natural resource protection actions to the municipalities and in 1994, the Executive Commission for State Decentralization was created to coordinate the National Decentralization and Municipal Development Program. This program was generated with the acceptance that territorial decentralization was fundamental to strengthening the municipalities and transferring responsibilities to them.

[3] This environmental authority was created in 1993 as the Secretariat of the Environment (SEDA); three years later, by virtue of the State Modernization Program, it was converted into the Secretariat of National Resources and Environment (SERNA).

THE MUNICIPAL STRUCTURE AND DECISION-MAKING

Honduras is divided into 18 departments, which contain 298 autonomous municipalities. In addition to its seat, each municipality includes cities, villages and hamlets. A governor named by the executive branch exercises legal power in the departments, while the municipalities are administered by a popularly elected government known as a municipal corporation, and the mayor is charge of administering and legally representing the municipality.

The consultation mechanisms for adopting decisions in the local sphere are plebiscites and *cabildos abiertos*, or town hall forums. Many institutions and projects, such as the Honduran Social Investment Fund (FHIS) and National Local Development Program (PRONADEL), base their planning and allocate their resources in response to the decisions of community representatives. The planning phase of aid projects is also supported by the *cabildos*.

Another decentralization tool set up by Honduras' legal framework are the agreements for delegating competencies. Municipal governments sign them together with the national authorities who administer natural resources and they can become indispensable decision-making mechanisms, as the consensus of both parties is required to decide on use of the municipality's natural resources.

The Municipal Development Councils (CODEM) and the Local Councils of Protected Areas (COLAP) are two important pieces of the municipal structure linked to decision making in the local sphere. These councils involve the municipality's leading forces in solving its problems.

THE MUNICIPALITIES' ECONOMIC RESOURCES

The Municipalities Law groups municipal income sources into two categories: tributary, or taxes, tariffs, services and contributions; and non-tributary, made up of income received through sales, transfers, subsidies, inheritances, donations, fines, surcharges, interests and loans.

The General Income and Expenses Budget of the Republic earmarks 5% of the tax income[4] to be shared among all municipalities in quarterly payments proportional to the number of their inhabitants as determined by the latest population census. There are various ways to obtain additional income from forest management, through taxes and transfers and through direct exploitation of the forest. In the case of the *ejidal* forests, municipalities may exploit them directly or sign an exploitation contract with a third party, obtaining earnings indirectly. If the forest is national, COHDEFOR must transfer 1% of the value of the direct exploitation to the municipality in which it is conducted; if the exploitation takes place through direct sale or auction, the municipality gets 10% of the income generated.[5]

Although municipal governments do not receive percentages of the exploitation of private forests, they can always benefit by charging factories, commerce and services, including

[4] In practice, the municipalities do not always receive the corresponding amount, either because they do not take the necessary steps or because of central government disinterest.

[5] This measure to strengthen the municipalities was taken in December 1998, right after Hurricane Mitch

forestry companies, for authorizations to function. In addition, the Municipalities Law allows them to tax natural resource extraction and exploitation within their territory, including the exploitation of timber and other forest products such as resin.

Municipalities also have the option of receiving income in the form of taxes for the service of firefighters. In the case of forest management, this applies if fire brigades are formed. They also receive income through the sale of urban lands[6] and the usufruct of vacant *ejidal* land, which is more frequent in forest terrain.

THE MUNICIPAL ENVIRONMENTAL UNITS

Municipal Environmental Units (UMAs) are answerable to the municipal governments and support the Secretariat of Natural Resources and the Environment (SERNA) on different issues: the preparation of project terms of reference, environmental impact evaluations, environmental follow-up and control and the verification of fines for infractions of environmental and natural resource protection.

These units originated with the National Environmental Impact Evaluation System's regulations. They are obligatory, but are generally formed according to the municipality's development level. The formation process has been slow and gradual, beginning in 1995 with the incorporation of 20 municipal governments under the Environmental Development Program implemented by SERNA with financial support from the World Bank. Another 40 municipalities joined the process later, in the framework of diverse programs of the Municipal Development Foundation (FUNDEMUN).

According to data provided by SERNA's General Environmental Management Division, there were 183 Municipal Environmental Units in 2001, representing 61% of the country's municipalities. These units have different organizational levels, with some created very recently while others are fully consolidated and frequently enjoy the support of some outside project or program.

AMHON and FUNDEMUN have had a key role in forming the UMAs, the first by accompanying the process and the second by taking direct responsibility for forming units in 40 municipalities of 16 departments. In addition, several NGOs and a large number of projects linked to different international aid agencies give support to the UMAs.

Management capacity and functions of the UMAs

Municipal Environmental Units have the power to negotiate projects or implement forest management-related activities such as watershed management, forest management and administration, and to draw up lumber processing projects (for example, a municipal sawmill).

[6] Municipal governments have a limited field of action, since in the urban areas, very small vacant lots are usually titled and in the rural ones the sale and titling corresponds to the National Agrarian Institute. Nonetheless, the municipal government receives direct income in the first case and indirect income in the second.

The forest administration functions that these units may develop, established in Decree 323-98 and in the UMA regulations, are presented in the following insert.

UMA functions related to forest management[7]

- Motivate the area's influential people to participate in forest preservation.
- Receive and deal with charges about problems affecting the forest and apply the pertinent corrective measures.
- Promote and organize educational campaigns on forest preservation.
- Promote actions to control forest fires, pests and diseases.
- Plan and implement activities related to forest resource management.
- Promote reforestation activities in the micro-watersheds and other areas of the municipality.
- Implement and provide follow-up to forest management plans in the municipal sphere.
- Propose exploitation and sales norms for the forest resources and monitor their fulfillment, the contracts and the operations
- Prepare the technical basis for exploiting and marketing municipal natural resources.
- Propose policies to improve forest resource management in the municipality.
- Promote and carry out municipal forest resource inventories.
- Supervise and implement reforestation programs in the municipality, in coordination with COHDEFOR.

[7] Taken from the Municipal Environmental Unit Regulations (ANED 1999).

THE MUNICIPAL FORESTRY OFFICES

Some mayor's offices have created Municipal Forestry Offices (OFM), which generally operate together with the UMAs. OFMs are responsible for drafting and following up on forestry management plans and coordinating the corresponding activities. In general, they receive technical support from the forestry projects working in the area, but as they become stronger, they operate autonomously, as is the case of the municipalities of Lepaterique and Yuscarán in the departments of Francisco Morazán and El Paraíso.

The OFM's own activities are the following:

- Draft forestry management and operational plans
- Prepare and implement protection plans
- Establish tree nurseries
- Train the forest users
- Provide technical assistance to community businesses

MECHANISMS AND MODALITIES OF PARTICIPATION

The decentralization processes and growing civic participation have generated different mechanisms for participating in municipal natural resource management, some of them oriented to forest management. The following box represents 11 of these mechanisms, the first 5 of which were created by law while the rest were encouraged by programs or municipal support projects, with participation by the municipal governments and local organizations.

MECHANISM	DESCRIPTION
Trustee boards	These are the most important mechanism, because influential local individuals have an impact on different areas of the municipal mission through them. At times, the municipal government itself pushes for their creation.
Plebiscites	Through this instrument, all residents have a chance to decide on important issues, among them national resource management or defense.
Open forums	These are assemblies of representatives of local organizations to discuss aspects affecting the community. It is the most direct communication mechanism between the municipal government and the citizenry.
Association of municipalities	These associations organize to improve their political advocacy and institutional coordination, share capacities and join efforts to satisfy a common interest.
Protected Areas Council	This is a participation mechanism to administer protected areas functioning in the national, regional and local spheres.
Forestry Consultative Council	It was created with the participation of COHDEFOR and some forestry and related projects to optimize resources and forest management efforts.
Ethnic organizations	These organizations exercise strong pressure related to forest resource management in municipalities with indigenous communities.
Community Forest Committee	This is the municipality's advisory committee on forest issues in Yamaranguila and other municipalities bordering El Salvador, and is made up of groups interested in community development.
Local Forestry Forum	Its objective is transparency in forestry activities, and it is chaired by a moral authority, frequently the Catholic Church. It functions in some municipalities of Olancho.
Agroforestry Cooperatives	These are peasant groupings that do logging and use resin, wood and other products in national or *ejidal* forests with municipal authorization. In addition, they provide forest protection.
Trusteeship with Forest Management Program	This is a financial support tool used in 17 municipalities of Olancho to finance forest activities.

MUNICIPAL GOVERNMENT FOREST RESOURCE MANAGEMENT COMPETENCIES AND RESPONSIBILITIES

Municipal management in ejidal forests

Honduras' legal forestry framework establishes that municipal governments may grant resource exploitation contracts in cases of productive forests. Nonetheless, the Municipalities Law (article 11, numeral 13) states that when COHDEFOR has interests in the exploitation, the responsibilities and rights of each party must be defined. In practice, this disposition has been interpreted differently for national forests and *ejidal* ones. In the former, COHDEFOR does the management plan and markets the cut lumber; in the latter, the municipal government may directly exploit the *ejidal* forest or cede its rights to a third party through a contract, following the drafting of a management plan that COHDEFOR must approve.

In general, both the Municipalities Law and other judicial norms, especially the environmental and forestry legislation, grant diverse competencies that permit municipal governments to manage the forest resources in their jurisdiction. The following insert presents by thematic area the local governments' main competencies for administering *ejidal* forests.

Competencies of the municipal governments in managing the *ejidal* forest areas

THEMATIC AREA	COMPETENCE
Exploitation	• Rationalize the use and exploitation of municipal resources.
Protected areas	• Create municipal areas subject to conversion. • Provide a hearing for the procedure of including *ejidal* forest areas in the Inalienable Public Forest Catalog.
Economic resources	• Obtain resources and invest them in environmental protection. • Charge taxes for extracting or otherwise exploiting forest resources.
Protection	• Protect the municipal ecosystem and the environment. • Preserve the forests and other elements that intervene in the hydrologic process. • Manage, protect and preserve the watersheds and water sources and deposits. • Participate in the prevention of forest fires, pests and diseases.
Administration and norms	• Grant permits for the establishment of forest industries. • Assist in administering the jurisdiction's protected areas. • Grant permits or contracts together with the forest authority, when both concur on forestry exploitation.
Civic participation	• Report to the population on *ejidal* forest management and administration. • Recognize the work of citizens who collaborate in protecting the municipality's environmental and forest resources.
Reforestation	• Promote reforestation projects. • Implement reforestation works at the sources of water supply.
Control and vigilance	• Supervise compliance with the norms related to waste industries and treatment. • Monitor the protected areas and sources of water supply.

In addition to the competencies described in the box above, the Law of Incentives to Forestation, Reforestation and Forest Protection, approved in 1994, opens the possibility for municipal governments that administer *ejidal* forests to obtain incentives for that initiative. According to this law, the state must create a Forest Fund, contributing over US$600,000 in capital augmented with forest management resources, to be administered by COHDEFOR. Although the law establishes that the Fund should be regulated and applied within six months, this has not yet happened and the incentives system has not functioned. This indicates a lack of political interest in regulating the law and even less interest in creating the Forest Fund; furthermore, the access mechanisms for the incentives mentioned in the law are unclear.

Municipal management in national and individual forests and protected areas

Although municipal governments have no direct competencies in managing national and private forests, they are supposed to know about the exploitation being conducted in them and coordinate the forest management activities with COHDEFOR. For this, they must sign agreements delegating competencies or cooperation agreements.

Some of the municipal governments' general competencies in the national and private forests are:

- To offer an opinion on the creation, modification or elimination of protected forest areas and participate in their administration and development.
- To prevent and control contamination, including that produced by the forest industry.
- To participate in planning and developing forest protection campaigns.
- To receive the income derived from the operation of forest industries and from the extraction and exploitation of forest products in their jurisdiction.
- To receive from COHDEFOR 1% or 10% (depending on the modality used to market the wood) of the value of forest exploitation conducted in national forests located on municipal territory.

The competencies and coordination relationships are established in co-management agreements in which COHDEFOR, as the entity in charge of administering public protected areas, delegates its responsibilities to the municipal government (or some NGO) to implement the management either totally or partially. When the delegated function falls to an NGO, the mayor must endorse the agreement, as was done in Tela, La Ceiba, Trujillo, Guaymaca and other municipalities.

The National System of Protected Areas (SINAPH) structure has three administrative levels: strategic managerial and operational. AMHON participates in the first two and the municipal governments make up the third, acting as coordinators in the local sphere.

Municipal forest management experiences

EXPLOITATION IN THE *EJIDAL* FORESTS

As has been noted, municipal governments may administer and exploit *ejidal* forests, but they must prepare a management plan for approval by COHDEFOR. For example, in the Francisco Morazán Forestry Region, management plans prepared by the municipal governments of the jurisdiction are reviewed, and if they meet the requisites, are approved within 60 days (Fonseca, pers. comm).

In some cases, COHDEFOR, in addition to approving these plans, provides technical assistance in preparing them and providing follow-up. For example, the municipalities of Lepaterique and Yuscarán have received training and technical support from COHDEFOR and from development projects. Once the management plan is approved, the municipal

corporation decides what to do with the forest resource: either sell it to a sawmill or sign a contract with some organization to make use of it.

Municipal governments face many technical, administrative and economic limitations that reduce their possibilities of managing forest resources efficiently and make the exercise of their competencies for managing the *ejidal* forests irregular. The majority has failed to develop adequate norms for managing the forest resources, except when they have certain economic solvency and can contract technical advice or when projects operating in their jurisdiction include a forest or environmental component.

Despite their limitations, however, municipal governments have shown creativity in planning, coordinating and implementing activities oriented to forest resource management. Examples of this are the 92 agroforest cooperatives working in *ejidal* forests in coordination with the municipal governments, covering over 100,000 protected ha and generating close to 15,000 direct jobs. In Lepaterique, La Ceiba, Sabá and other sites, forest management funds have been established and the Puerto Cortés municipal government is implementing a project to manage the Río Tulián watershed.

Municipal governments that have succeeded in implementing a forest management system often suffer social conflicts linked to land tenure or to the communities' relationship to companies that have exploitation contracts. Furthermore, the idea persists in many areas that the lead state entity exercises the true authority. For example, municipal government authorization to cut a tree within the urban perimeter in both Santa Rosa de Copán and Marcovia was invalidated and the municipal officials were threatened with lawsuits for abuse of authority (Cabrera and Umanzor, pers. comm).

MANAGEMENT OF THE FOREST AND PROTECTED AREAS

The most efficient mechanism for controlling forest activities is the management plan that each owner must present beforehand. The law establishes that municipal governments must be aware of management plans operating in their jurisdiction (their opinion is not binding) and ensure that the established limitations and technical prescriptions are respected. Because municipal governments often do not know about these plans and COHDEFOR takes little interest, the law is not obeyed and thus little control is exercised over such activities.

The UMAs have been appropriated to provide follow-up to municipal forest activities; in Marcovia, they control all activities related to mangroves and protected areas in the jurisdiction. The OFMs have also filled this function in the sites where they operate. The problem with the UMAs is their vulnerability to political changes. For example, in the country's southern region, only 5 of the 14 people who were heading an UMA last year are still in their posts, probably for political reasons rather than lack of capacity.

Lepaterique's Municipal Forest Fund is an interesting case. This municipality maintains a record of all forest products extracted, which has been a very useful control mechanism for forest activities. The municipalities could also use the COHDEFOR statistics system to control forest activities and charge taxes in their jurisdiction.

As for managing protected areas, the municipal governments could be said to have successfully exercised their competencies to create and administer protected areas and protect the watersheds. The municipal governments of San Marcos de Colón and Campamento, in the departments of Choluteca and Olancho, have created special protection zones or municipal micro-watersheds that have allowed them to seek outside support.

Nonetheless, municipal participation in forest management is still scant, and there is a real national demand for municipal governments to play a more direct role in managing both national and private forests. In many cases, local stakeholders (NGOs and producer organizations) who want to simplify the exploitation, transport or marketing procedures for forest products consider that greater municipal government participation could help speed up the procedures and improve the controls. Such is the case of the Mixed Reforesters Cooperative of the Southern Zone, which has been trying for some years to get a certificate to market the products obtained in plantations established as early as 1982. If these procedures were handled in the municipalities, the cooperative's work would be much simpler and more profitable.

The communities themselves have demanded that municipal governments participate more actively in approving and following up on management plans. In 1995, COHDEFOR formally promised to send management plan documents to the respective municipal governments, but has not done so.

The Pro *veda* communal movement, made up of influential people (from boards of trustees, schools, churches, communal organizations) in at least 10 municipalities of the department of Olancho[8] is an example of community interest in increasing local control of forest management. Its objective is for the National Congress to establish a total prohibition in the area as the only way to stop the depredation of the forests. It is demanding more control and equity in forest exploitation and requesting that local governments manage and grant the exploitation contracts. With this, it hopes to increase municipal income and ensure greater control over forest management

MANAGEMENT OF MUNICIPAL INCOME FROM FOREST ACTIVITIES

Honduras' legal framework has opened spaces for municipalities to exploit their forests and generate income to be plowed back in locally. They can sell lumber by the running foot or become creditors paid for environmental services. The municipality of Lepaterique received 50-60% of its annual budget just through the sale of lumber (Fúnez, pers. comm). This municipality, like Yuscarán, Guaymaca and many others, receives important income through the exploitation of diverse forest products: lumber, pine resin and seeds.

The sale of cut lumber is an important source of income for 17 municipalities of Olancho. Supported by the Program of Support to the Small and Medium Producers of Olancho (PROLANCHO), they have a trusteeship with a Forestry Development Program that provides them with a reinvestment fund aimed at making the forest activity sustainable. Agroforestry

[8] Despite their great forest wealth, these municipalities are among the country's poorest, according to the 2001 Human Development Index.

cooperatives were formed in the municipality of San Isidro, in Intibucá, to manage a sector of the forest and pay the municipal coffers a percentage of the benefits obtained from the logging activities.

The majority of local governments, however, have not taken full advantage of the forest management potential as a development tool. In Olancho, the municipality of Guayape, which has approximately 12,000 ha of forest, only used 20% of its annual exploitation quota of 8,500 m^3 for the 1996-2000 period[9] before the management plan expired. The same thing is happening in La Unión, Jano and Yocón.

Cooperation projects are one of the main financing and technical assistance sources for developing municipal forest activities. One example is the Project of Support to Community Forestry (AFOCO),[10] which supports the Yuscarán municipal government in implementing a sustainable exploitation system. Various projects promoted by the American Cooperative of Remittances Abroad (CARE) generated interesting management models in Belén and Yamaranguila, fostering municipal development through sustainable exploitation of the forest resources. These projects help increase the income of the rural populations and their municipalities.

As already mentioned, municipal governments can tax forest exploitation in their territory. The municipality of Guajiquiro charges for lumber exploitation permits for domestic use and for commercializing wild blackberries (Vallejo, pers. comm); the Yuscarán municipality, in the department of Paraíso, brings in important tax revenue for the extraction of pine resin and other forest products.

Some municipalities also impose fines for forest infractions, but this faculty is not well defined and gets confused with COHDEFOR's competencies. One case that illustrates this confusion occurred in the municipality of Opatoro, department of La Paz, when a cattle rancher was accused of illegal logging and COHDEFOR imposed a fine of approximately $1,500. The infractor turned to the municipal government, which told him that the fine was really $60 and should be paid there; in the end, no fine at all was ever paid.

A theme closely linked to managing the economic resources generated by forest management is the existence of effective accountability systems. In Honduras, although municipal governments are subject to public administration control mechanisms, audits are not a common practice save in very large municipalities or those that handle many resources. Open town forums, consultative forestry councils and even UMAs themselves function as accountability mechanisms, however.

With respect to forests or protected areas, the agreements signed between COHDEFOR and the municipal governments have clauses making both sides responsible for the commitments contracted; there are also follow-up mechanisms. Nonetheless, mayors frequently concentrate the negotiating power and directly market the exploitable lumber quotas themselves, together with the loggers. Furthermore, although it is stipulated that the income from exploitation activity should be reinvested to protect the municipal ecosystem, the funds are used to cover any kind of need.

[9] The Permissible Annual Quota is the total cubic meters that can be extracted from the forest each year and still ensure the resource's perpetuity.

[10] Project of Support to Community Forestry, AFOCO (COHDEFOR/GTZ)

THE MUNICIPAL GOVERNMENTS AND FOREST CONFLICTS

Conflicts related to use or abuse of the forest are common all over the country and municipal governments are frequently the obligatory stakeholder of reference. Many of these conflicts are related to deforestation and illegal exploitation of forest products. The municipal government's intervention could range from playing a relevant role in the negotiation to simply filing a charge with COHDEFOR, the Environmental Defense Attorney or some other public office.

In the cases of exploiting *ejidal* forests, conflicts linked to exploitation contracts are common, generally related to demands by those with usufruct rights or people settled on the land. The conflicts generate different kinds of problems and hinder the implementation of logging activities to the point of paralyzing them. In the municipality of Jano, a conflict with a sawmill has impeded logging for three years. In Yocón there has only been one exploitation in five years, due to serious problems linked to land tenure.

Both municipalities belong to the department of Olancho, where land use conflicts are very frequent, and the municipal governments are unable to achieve satisfactory arrangements that permit forest exploitation. With a surface of 23,905 km^2, mainly apt for forests, this department is the most extensive in El Salvador. It has a complex set of forestry problems, because in addition to its forest wealth, it is strongly pressured by the agricultural frontier. The following insert illustrates the conflicts over use (or abuse) of the department's forestry resource.

The Corridor of Death

This is the name of a stretch of highway between the community of Limones, in the department of Olancho, and Mame, in the department of Colón. It is an important forest corridor since it crosses municipalities with great forest wealth: Salamá, La Unión, Jano, Yocón and Mangulile, and links with another forest corridor located in the route from Campamento to Juticalpa, Gualaco, San Esteban and Santa María del Real. Agriculture, livestock raising and logging in huge pine or broadleaf forests are done throughout the zone.

Interesting management initiatives have emerged in these municipalities, which have a very low socioeconomic level but great forest wealth. In 1998, various mayors in the region jointly requested an increase in the percentage that COHDEFOR must transfer to municipalities for forest exploitation within their territories, but without result. Some cattle ranchers from the area thus resolved to charge all trucks carrying lumber through the region 500 lempiras ($30), justifying this illegal charge by the fact that loggers only exploit the forest and leave no benefit in the municipalities.

The productive potential of the municipal forests in these corridors is very important. For example, the cutting capacity of the forests in northern Olancho could exceed 60,000 m^3 of pine per year; but recorded cutting rates in the past two years did not reach half

of that figure and various municipalities did no cutting at all due to various problems (conflicts with occupants in Guayape, contract problems in Jano, lack of management plans in Manto, Guata and Silca).

During the past five years, the municipal governments have improved the management and administration of their forests with the support of the Municipal Forestry Development program. At least 13 municipalities have worked in protection and micro-watershed conservation activities and prepared assessments and work plans to declare various micro-watersheds in Guarizama, Manto, San Francisco de La Paz, El Rosario, La Unión and Guayape. In addition, Environmental Units have been duly organized in more than 10 municipalities. These units tend to develop activities based on forest management plans: demarcation of micro-watersheds, fire fighting and prevention, exploitation, reforestation and others.

In 1996, 17 municipalities jointly created the Foundation for Municipal Development, focused on forest management. The effort was not successful, but it demonstrated the municipal governments' interest in framing their activities within the sustainable development concept. Municipalities such as Guayape, Concordia, Silca, Yocón, La Unión and Guata have formulated and are implementing their own operational and management plans for exploitation of the *ejidal* forests.

The area's municipal governments have a trust fund called the Fund to Support Municipal Development, which was backed at the beginning by the PROLANCHO Program (SAG/European Union). This fund permits them to contract local technical assistance to work on the annual operational plans, forest fire prevention and other activities related to managing their forests.

Some of the problems these municipalities face are: the politicization of their authorities, falling lumber prices, conflicts over land use and difficulties getting COHDEFOR to approve the operational and management plans. But the most serious problem is the illegal extraction of forest products, which has generated a popular movement called Pro Veda, partly backed by the municipal governments themselves, to get total prohibition of exploitation of the area's forests.

The municipal governments have made an effort to strengthen their management capacity and generate wealth through exploitation of their forests and there are some successful cases of sustainable management. The current situation is chaotic, however, with a high degree of ungovernability, since neither national nor municipal authorities have found a viable way to develop the region through rational and sustainable resource exploitation.

Nonetheless, the region's potential is so great that its current problems will surely be surmounted. To do so, all the stakeholders must unite, setting aside their personal or group interests in favor of a management that ensures the perpetuity of the resource.

Relationship between governmental and local actors

MUNICIPAL GOVERNMENT RELATIONSHIPS WITH THE FOREST AUTHORITY

There is no official forestry management coordination policy between Honduras' central agencies and municipal governments. In fact, the coordination that exists in preparing and approving the management plan and other issues tied to forest management responds more to the will of the officials involved than to an established policy. This fact is exemplified in the following testimony: "Efforts have been made to coordinate, but it has been difficult. In the municipalities we deal with, there was a desire to organize community fire prevention brigades, but despite the good will of COHDEFOR field technicians, nothing could be concretized due to indecision in the institution's upper echelons" (Cabrera, pers. comm).

There have also been multiple and serious discrepancies between the State Forest Administration and local governments. Some municipal governments resent COHDEFOR imposing legal criteria to support decisions that frequently oppose local interests. For this reason, they often accuse the forestry authority of complicity in irrational forest resource exploitation. As these charges are not investigated, COHDEFOR has lost credibility and often appears as the main cause of forest depredation.

A case that illustrates this type of conflict occurred in La Campa, a small municipality in the department of Lempira. Due to presumed arbitrariness by COHDEFOR personnel in the area,[11] the community, with support from the mayor's office, decided to expel the institution's employees and prohibit timber and pine resin extraction in the municipality. Years later, during the 1995 Forest Campaigns with Local Governments, the mayor of La Campa invited the COHDEFOR general manager to visit the municipality and relations were reopened.

Despite these difficulties and the absence of clear policies, there are concrete experiences of coordination between COHDEFOR and municipal governments that have had good results both in forest management and exploitation and in administering protected areas. Through COHDEFOR's delegation, municipal governments grant slash and burn permits to landowners who want to do controlled burning on their lands; together with the permit, they are given instructions to prevent forest fires. In some cases, as in the localities in the southern part of the department of Lempira, the municipal governments have helped eliminate this practice.[12]

The Forest Campaigns with Local Governments were held between 1994 and 1998, coordinated by COHDEFOR and financed by German cooperation (GTZ). These events, which represented a very important effort, had optimum results in the relations between municipal governments and the forest authority.

[11] In La Campa, COHDEFOR fined a carpenter the equivalent of $500.00 (his income for nearly two years) for cutting four pine trees. In contrast, the loggers were cited several times for serious violations, but never fined or closed (Tucker 1999).
[12] Lempira Sur Project.

MUNICIPAL GOVERNMENT RELATIONS WITH LOCAL STAKEHOLDERS

This section describes the local stakeholders involved in municipal control of forest management and discusses their perception of the local governments' role. The relationship between municipal governments and local actors depends on various factors, such as the articulation of the existing social forces and the municipal government's size and political and economic weight.

Local organizations

Patronatos, or civic patron boards, are local organizations through which citizens defend their common interests; they have had a leadership role in the forest issue. For example, in 1991, a sawmill was functioning in the municipality of La Iguala that the neighboring residents argued "brought no benefits, but a lot of problems."[13] The Pro-Municipal Development *Patronato* requested the mayor to close it, since the new Municipalities Law granted him the competence to do so. As the mayor did not welcome the request, the *Patronato* organized the residents, who went on strike and requested the departmental governor to suspend all municipal government members. The sawmill finally had to leave the municipality.

Women's groups that organize to implement specific forest activities are another interesting actor in the local sphere. In El Cajón, for example, the Cajón Dam Watershed Management Program (PROCAJON) has promoted these associations to develop activities related to tree nurseries, given their proven capacity and willingness to do the work.

Associations of owners and users of forests and private reserves have gathered force in recent years and are struggling to gain spaces that allow them to obtain greater benefits from their areas in usufruct or under dominion. Such is the case of the National Association of Forest Area Owners (ANAPRAF), whose application for legal status is currently being processed and which aims to work through the municipal associations.

The different groupings linked to municipal governments or promoted by national institutions to administer resources or work in disaster prevention should also be mentioned among local actors. These include the Municipal Development Councils (CODEM), the Local Councils of Protected Areas (COLAP), the Local Watershed Councils and the Water Boards.

Political parties and churches

The political parties still have weight in the local sphere and some have led fights to preserve the forest resources. For example, two leaders who died defending the forests in Yoro and in Catacamas belonged to the Democratic Unification Party.

Other actors traditionally linked to forest management are the educational institutions and churches. Local churches often contribute to the forest management processes; for example, the Catholic Church in Gualapo coordinated Local Forest Forums. In the Mosquitia, the Moravian Church supported Miskito organizations in forest conservation.

[13] Testimony of a neighbor of the municipality in the video, "La Iguala: rescate de un bosque" (COMUNICA 1992)

The private forestry sector

Other significant actors in the local sphere are logging companies, truckers and informal producers. This sector generates jobs and does important works such as roads, bridges and highways, which represents a benefit for the communities. In addition, the lumber manufacturers must pay rates or taxes for the activities they develop in the municipalities.

Even so, there are important conflicts between this sector and the communities, in which the populations often reject the companies' industries in the belief that they only come to extract timber, damage the water sources and destroy the wildlife habitat. These conflicts directly affect the municipal government, above all when the companies exploit *ejidal* forests. The municipalities can sign exploitation contracts with the lumber companies and impose conditions that benefit them; in addition, the contracts are an important source of income for their budgets.

If the community opposes commercial use of the *ejidal* forests and the presence of lumber companies, the municipal governments find themselves forced to choose between the income generated by the logging contract and the political cost of confronting a population that is against the activity. In addition they expose themselves to a series of legal conflicts such as land tenure disputes, claims to rights of possession and even a refuting of the contact that could complicate their relationship with both the population and the lumber companies even more.

This situation, which has come up in several municipalities, at times with regrettable consequences, deserves special attention, as it threatens the possibility of forest management being a motor force of local development. The reasons the communities reject the lumber companies must be analyzed and the quota of responsibility in each case accepted so the problem does not grow, reducing the development options of municipalities that have important income potential in their forests.

Nongovernmental Organizations (NGOs)

The NGOs with an environmentalist orientation are also important because they support the municipalities with resources and technical capacity. The case of MOPAWI (Development of the Mosquitia) is very interesting, as it shows how an entire region can be supported by an NGO's credibility and its managerial capacity to promote the region's development; in fact, nearly all activities projected for the Mosquitia seek an alliance with MOPAWI. In general, given their structure, with agile administration and the legal capacity to process projects, NGOs can contribute not only technical aspects to the municipalities, but also planning, social aspects and other elements needed for a successful initiative.

Although NGOs tend to have a lot of weight, few of them work directly in the forestry field and fewer still coordinate their activities with the municipal governments. The majority of them do very low-scale reforestation, producing plants in their own nurseries that they share with the municipal government or using plants the municipal nurseries produce. In general, NGOs are valuable allies of the municipal governments and support them significantly so they

can improve their ability to co-manage protected areas, above all in the cases of agreements where both parties share rights and responsibilities.

There have been some cases of NGOs that use the local governments to obtain funds then twist their mandate, misappropriating the resources or using them for their own interests, which makes some municipal governments reluctant to relate to them. It is more common, however, for NGOs to be important municipal government allies, supporting them technically and guaranteeing follow-up to projects that could not be implemented without that support.

Ethnic Groups

Indigenous groups have gained space and become protagonists in local forest management. In 1995, some groups belonging to the Coordinating Body of Indigenous and Black Peoples of Honduras (COPIN), together with six municipal governments in the departments of La Paz and Intibucá, opposed the transporting of lumber products. They succeeded in getting a 10-year forest prohibition imposed to halt tree felling in the area by lumber companies using traditional exploitation techniques and leaving no benefits for the communities.

In general, these groups have their own statutes, which have more legal force than the Municipalities Law. The indigenous or Garífuna groups try to enforce the International Labor Organization's International Convention 169,[14] which gives them the faculty to use the natural resources on their communal lands under authority from their own ethnic group.

The relationship of these groups to local government depends on the proportion of the indigenous or black population existing in the municipality and the municipal government's make-up. In the infrequent cases in which the municipal representatives are themselves from ethnic communities, they are respectful of these peoples' customs even if they act in the name of the municipal government, as is the case in Guajiquiro. In these cases, the ethnic group can ally with the municipal government to solve community problems.

There are, however, municipalities such as Tela and Trujillo, with a numerous indigenous population that is inadequately represented in the local government. There the relations between the ethnic group and the municipal government are quite tense, above all due to land tenure conflicts. In these cases, the groups pressure for solutions to their problems through national mobilizations.

[14] This convention on indigenous and tribal peoples in independent countries went into effect in Honduras in 1995.

Development projects[15]

Development projects implemented in the municipalities are one of the most important forces in Honduras' local forest management scene. While there are many examples, the case of Lepaterique is one of the most representatives (see insert). In general, such development programs and projects significantly support the local governments' forest initiatives, both those with an exclusive forest orientation and those that incorporate the forest component as part of their work plans.

These projects have promoted the design of different participation mechanisms that have been very successful. The Municipal Development Council in the municipality of Guajiquiro could be mentioned as an example. It has functioned for many years and has proven to be more effective than some legal mechanisms. The same is true of the local forest forums encouraged by the GTZ in various municipalities or the Forest Management Program supported by PROLANCHO.

In addition to short-term benefits, the projects amplify discussion around the forest issue. Municipalities that previously gave their forests no importance become reference points of forest management once the citizenry becomes more aware of this issue and access to new management technologies translates into more and better job opportunities.

Lepaterique: an example of local forest management

Lepaterique is a municipality in the department of Francisco Morazán. It has a population of over 16,000 and a territory of 498.8 km^2, mainly apt for forests. The municipality has 46,000 ha of *ejidal* forest made up of ocote pine (Pinus oocarpa) and to a lesser extent oak and evergreen oak (Quercus sp.). It is currently processing a management plan for 14,600 ha of forest.

Forest activity is very important in Lepaterique, with resources from the sector representing 50-60% of the municipal budget (approximately $92,300). The most important economic activity is resin extraction; the largest peasant resin company in the country (Cooperativa Agroforestal Lepaterique Ltda.) started there.

In 1992, with the arrival of the Sustainable Conifer Forest Management Program (MAFOR) implemented by COHDEFOR with support from the Government of Finland, the municipality's forest management got a big boost. Different activities were promoted to make the community aware of the issue and organizing was done around a training program. As a result, Lepaterique became a national and international forest management model.

The main institutions and organizations linked to forest management are the Municipal Forestry Office, the Forest Management Fund, the Cooperativa Agroforestal Lepaterique Ltda., the forest rangers, forest micro-businesses, truckers' associations and the Santiago Technical Institute. The agroforestry cooperative of resin producers has 900 members who extract over 500 barrels of resin a month.

[15] It is difficult to enumerate all the projects linked to the forest sector, but a recent document established that 15 different projects were functioning in 2002 (ESNACIFOR 2002).

The Municipal Forestry Office administers forest management through various activities. For example, it has a forester who reviews management plans and formulates recommendations for the mayor to either authorize or reject. The office has nine permanent employees and hires occasional personnel for various forest management tasks; it has dasometric and computing equipment, GPS and a motorcycle.

In 1998, the Santiago Technical Institute had its first graduating class: nearly 100 bachelors of forestry science. The institute depends on the Ministry of Education and has support from the National School of Forestry Sciences, the MAFOR Project and the European Union, which provide materials, equipment and student grants.

The Forest Management Fund is a non-profit association made up of organizations and individuals participating in forest management. It maintains a record of all forest activities conducted in the municipality and collaborates in the control work; the forest rangers work in close coordination with it. The fund's presence and the quality of its work, which it coordinates with the municipal government, generate confidence on the part of the COHDEFOR authorities.

In addition to this organizational structure, one of the main achievements of the forest activity in Lepaterique is the community's increased technical capacity. At least 20% of the population has received some type of training linked to forest management and there is strong awareness of the forest's benefits.

Despite these accomplishments, there have been problems with the forest management model the municipality has tried to promote. Such is the case of IMPROFOR and INDUMALSA, two national industries established in Lepaterique with community shareholding capital; both had to close due to administrative problems and bad technical assistance and the communities lost their investment, which largely discouraged the shareholders.

There are also aspects that must be dealt with to improve the forest management. For example, the Montaña Yerba Buena protected area is in Lepaterique; while it supplies nearly a third of the water used in Tegucigalpa, no economic mechanism has been designed to recognize the environmental service these forests provide.

Lepaterique stands out as a forest management model for the region and inspired the "Central American Process of Sustainable Forest Planning Criteria and Indicators."

Analysis of the municipal forest management processes

THE DECENTRALIZATION PROCESS

An important decentralization process that began in Honduras in the nineties and was sketched out in various laws and general and specific policies aimed at strengthening the local governments has had an important impact on the country's forest management. From the legal perspective, many competencies linked to forest activity were transferred to the municipal governments, direct management and administration policies for the *ejidal* forests were drawn up, assistance in implementing the national forestry policy was designed, and contracts, conventions and other elements related to management of the forests and protected areas were signed. This process has also opened spaces for strengthening municipal autonomy through the receipt of income generated by forest exploitation. It still must be further strengthened, however, if it is to fill the gaps it currently has deal with.

Coordination between COHDEFOR and the municipal governments

The central government, essentially through COHDEFOR, retains the majority of competencies linked to productive forest management in protected areas. In the case of *ejidal* forests, although the municipalities have been given more responsibilities, the majority of local governments have not assumed them or taken advantage of the opportunities these competencies could represent.

In addition, the mechanisms needed to permit local governments to assume the transferred competencies effectively have not been clearly defined. Those governments that have been able to implement their new responsibilities have had the support of cooperation projects or other outside actors such as NGOs. The majority of municipalities know very little about the new forest management competencies. In general, the mayor is the best informed, though there is an effort to train the UMA heads. Other municipal officials have little information on the subject, which leads them to commit errors, for example by adjudicating contracts to individuals or entering into competency conflicts with COHDEFOR.

Although COHDEFOR is the most important central agency on the forest issue, it has no policy for coordinating and transferring knowledge and technical capacity to the municipal governments. The limited coordination that has taken place has been due to the good will of the officials involved. In some cases, COHDEFOR officials stick to the hierarchical structures and try to impose their viewpoints, which has sparked conflicts with the municipal governments. In addition, COHDEFOR is dealing with internal problems that limit its advisory capacity and prevent it from assuming its function of collaborating with municipal governments in managing the forests with full responsibility.

The limitations in the forest management decentralization process are not due only to the central agencies' policies and actions, however. The municipal governments have their own limitations, such as the fact that their officials change every four years, which makes the

continuity of forest management difficult over time. In addition, their activities depend heavily on the political interests of the local actors and in the majority of cases, the sustainability of the forest is not a priority.

The municipalities' incentives and capacities

Probably the greatest element motivating municipal governments to get involved in forest management is the possibility of increasing their budget and improving the local economy through forest exploitation. A second mobilizing factor is the electoral constituency's interest in the forest issue. In fact, this interest has generated changes in the campaign messages of mayoral races, which are now more oriented to protecting the forest, in many cases the municipality's main resource.

The possibilities of pulling in income are abundant and varied, but do not fulfill the municipal government's expectations. Sometimes central government transfers do not reach the obligatory legal percentage (5% of the national budget). The transfer of 1% of the real value of the forest resources exploited in municipal territory is a very low percentage. With respect to exploitation of the *ejidal* forests, which offer wide-ranging possibilities, the municipal governments' lack of technical and economic capacities acts as an obstacle to their use.

In theory, municipal governments with more forest resources could significantly increase their budget by appropriately managing both the *ejidal* forests and the income they get from exploitation of national forests within their territory. The experiences have not been encouraging, however, and even those cases that have been successful, such as Lepaterique, have not proven to be sustainable.

Ignorance about the activity, traditionally linked to the private sector, could be one cause for the low forest income level. There are proven cases of inability to administer the resource efficiently. Municipalities with annual cutting quotas exceeding $60,000 have not managed to develop a basic capacity to manage and take advantage of the forest.

Another factor that influences low forest income is the lack of transparency in resource management in some municipalities. The excess power concentrated in the mayor, with no clear, obligatory and systematic accountability mechanisms, permits the flight of resources that should be going into the municipal coffers.

Municipal governments complain that the money from the fines imposed by COHDEFOR for forest infractions never get to the municipality where the infraction was committed. Indeed, they are not even collected, because COHDEFOR does not make the effort, thus encouraging impunity and lack of credibility in the system. The municipal governments think they could be more effective in dealing with infractions and invest the collected fines in local development.

Conclusions and recommendations

For nearly a century, centralized forest management in Honduras has not produced successful experiences and the current model is collapsing. Other formulas must be sought, and the recent participation of municipalities and communities, with defined roles and responsibilities and adequate control, is a gamble on sustainability.

A decade ago, the country lacked any real forest management capacity in the municipalities to complement the central government's actions. Today, in addition to the strengths of local governments themselves, both a public and private institutionality exists that favors decentralization and offers an attractive alternative for improving forest management.

Decentralizing and fostering participation have helped the municipalities get more involved in their territory's forest management and democratize information handling and access to resources. The following are some of the positive impacts of decentralization to the municipalities:

- Municipal governments have gained leadership both internally and externally, becoming obligatory interlocutors for outside programs, projects or institutions. Puerto Cortés and San Pedro Sula are leaders in mobilizing resources for environmental and watershed management.

- There is greater civic participation in forest protection activities coordinated by the municipal government, as observed in Lepaterique where, in case of fire, the auxiliary mayors can call upon all inhabitants to collaborate and they can be sanctioned if they do not respond.

- Municipalities with financial resources can implement concerted activities and include them in their plans. Such is the case of the trusteeship for 17 municipal governments of Olancho, which also lets them channel funds from other government institutions or outside cooperants.

- Structures such as municipal associations or unions are organized to resolve problems that affect more than one municipality, such as the Association of Municipalities for the protection of Lake Yojoa or the Commonwealth of Municipalities of Central Lempira.

- Coordination by municipal governments, organized groups and local communities is increasingly tighter and more fruitful. The evolution of forest management coordination schemes between municipal governments and other sectors indicates that it is fluid and reliable for both the community groups and the support projects submitted for municipal government consideration. The situation is a little harder with the private sector and the NGOs, because there is greater initial mistrust, but the relationship has improved even in these cases.

- One achievement of decentralization has been the creation of institutional structures to respond to the responsibilities involving the transferred competencies. Such is the case of the UMAs and the Forestry Offices, which have improved the municipal governments' performance in managing their natural resources.

- Municipal governments have increased their forest management capacity, formulating management plans and stimulating the generation of pilot programs such as MAFOR, PDBL and PROLANCHO.

But even though important progress regarding decentralization and forest management can be pointed to, much remains to be done. A constant seems to be that the state forest authority still assumes many competencies and takes space away from emerging sectors that could help improve the condition of the country's forests.

Most municipalities are poor and have no poverty mitigating strategy. There seems to be no awareness that promoting forest management within the community could be a way to reactivate the local economy and thus help overcome the poverty levels in the municipalities.

Although the local governments have not yet grasped the development potential implied in appropriate management of their forests, decentralization has triggered an intense process by these governments of mobilizing forest management-linked resources and capabilities and becoming the obligatory counterpart for the majority of environmental activities, programs and projects.

COHDEFOR is a key actor in the decentralization of forest management in Honduras. Nonetheless, centralization, the lags and loss of quality in the services provided by this institution have a negative effect on municipal governments because they do not get the advice needed to promote their own forest management. The main problem right now is lack of control over forest activities and inadequate coordination between COHDEFOR and the municipal governments to improve that control.

There are also processes underway that need to be strengthened, starting with decentralization itself. While decentralization has yet to demonstrate that it is the panacea some believe, it at least represents a different option that can breathe life into a relatively spent system. Although support to municipal strengthening has been a main focal point of national policies, the resources needed to implement that policy have been lacking.

Different municipal forest management experiences have been described in this chapter. In general, it can be stated that there is great potential for local forestry development in Honduras. Certain policies have to be improved, laws and regulations have to be changed or applied better and municipal officials have to be trained, but the municipalities as initiators of forest management are an alternative that must be seriously explored. Lastly, it should be noted that, due to the country's strong centralist tradition, forest management decentralization is a process that is too recent to permit absolute conclusions about its results.

RECOMMENDATIONS

1. Improve the decentralization process

To be able to comply with the policies and laws designed to decentralize forest management, the current management system must be evaluated and the possibility considered that local governments should be the main recipients of the benefits generated by sustainable forest management in their municipality.

It is recommended that a base study be done in all municipalities to evaluate the socioeconomic and environmental effects and impacts of municipal forest management in various development alternatives that include the necessary investments.

2. Expedite municipal forest management

The formation of municipal and communal businesses must be promoted and the necessary technical and administrative advice, adapted to their needs, should be provided.

Ejidal forest management must have its own norms. Municipal governments and local stakeholders must have a preponderant role, respecting the principle of transparency and the right to information by the whole population and expediting the functioning of social audits with an accountability mechanism. The Forestry Law must permit specific norms for *ejidal* forests, just as for national and private forests.

Those involved have to get beyond the conventional exploitation of raw materials, seeking greater value-added transformation that uses the resources more efficiently and strengthens the local economy. Options such as eco-tourism, forest certification and projects based on clean development mechanisms need to be explored.

Land use planning and local development plans should include the forest aspect and ensure the availability of land for that use and the instruments to guarantee its permanence.

3. Validate and disseminate conflict resolution mechanisms

The State Forestry Administration and municipal governments must design, discuss, validate and put into practice an appropriate mechanism for resolving conflicts that come up in forest management. Some already available entity such as the local forest forums could be used and rules established for its organization and functioning, granting it official status as a conciliation body that can provide validity to its resolutions.

4. Improve relations between COHDEFOR and the municipal governments

A mutually beneficial strategic alliance must be hammered out to improve the collaboration levels between municipal governments and the forest authority. A framework agreement could be signed in which the general conditions for the behavior of both parties regarding *ejidal* forests could be laid out, remembering that local governments also have

competencies and responsibilities in the national and private areas. Specific agreements could also be reached between the mayor's office and COHDEFOR that detail specific aspects such as advice and support levels.

Because these agreements must be equitable, they must be broadly discussed, incorporating the community to ensure their rights. They must be public documents that any interested citizen could consult, and have effective application mechanisms.

To assure compliance with the agreements, a follow-up strategy must be designed with precise objectives. In the municipal governments, the UMA could be the vehicle with forest authority, while in COHDEFOR a liaison office with the municipalities that has the infrastructure and resources needed to provide technical assistance, approve operational and management plans and exercise supervision and control functions could be created to handle issues related to *ejidal* forests.

5. Institutionalize Forest Campaigns with the municipal governments

COHDEFOR must provide effective and systematic technical assistance to strengthen the municipal governments' forest management and administration. The Forest Campaigns with Local Governments must be reinstated, involving those governments in planning and development so their real needs and possible resources can be considered.

The campaigns are very costly, so joint financing mechanisms must be sought, in which the municipal governments assume the costs of their participants and COHDEFOR assumes the part corresponding to organization, personnel displacement, publication of memoirs and other aspects. Financing for this activity, which should be held at least every two years, could also be sought from other sources, such as the agencies that support decentralization or forest management.

6. Increase the municipal income derived from forest management

Options could include:

- Increasing the percentage of the value of forest products extracted from the municipality; some municipalities have proposed that the current 1% be increased to 15%.
- Providing legal space so that municipal governments could collect the fines that COHDEFOR imposes on forest offenders, and the money collected would go into the municipal treasury.
- Participating in the auction of products or inputs seized for forest infractions and receiving a percentage of the benefits.
- Charging occupants for the lease of forestland and offering incentives when they make use of timber or other products.

In cases in which there must be a legal reform, the municipal governments could prepare an advocacy strategy to convince the National Congress to support it. The bills on Forestry, and Protected Areas and Wildlife currently being discussed in Congress include some options like those mentioned.

7. Strengthen the municipal governments' technical bodies

The UMAs and Municipal Forestry Offices are the municipal governments' technical bodies; the first are institutionalized and the second operate only in a few municipalities. Strengthening them includes providing basic infrastructure and the technical capacity municipalities need to manage their forests well.

When the UMAs and OFMs operate simultaneously, it is necessary to clarify the differences in their mandates; it is thus recommended that the competencies be delimited between the two and a single model designed for responsibly organizing forest management in the municipality in a way that complements rather than substitutes the UMA.

An OFM is justified in municipalities with important forest resources, while the UMA must be able to manage and control areas with few exploitable forest resources. The UMAs must be depoliticized, ensuring labor stability for the assigned personnel. Perhaps a single selection and hiring system will have to be worked out based on preparation and professional merit, in which the municipal associations or foundations with national coverage and credibility could contribute. The technical and administrative capacity must also be improved using the income received through fines for forest infractions. Although the UMAs are fully accepted in the municipalities, there is a perception problem, since the majority of mayors see them as linked to SERNA and not within the municipal structure; this perception would have to be changed.

8. Mechanisms to improve credibility

To increase the credibility of the municipal governments' forest management role, there should be a reliable mechanism to evaluate results from the technical and socioeconomic viewpoint; the local governments themselves must identify this mechanism.

The municipal governments could consider the public auction as a transparent procedure for selling *ejidal* forests and govern them by the norms of the State Contracting Law.

As an additional accountability mechanism, an audit could be recommended that functions on three levels to create more credibility: the mayor orders a duly accredited professional or firm to do the audit; the results are made known to the Municipal Corporation in full and, in the third instance, some community representatives are invited to examine them.

Abbreviations and Acronyms

AFE	State Forestry Administration
AMHON	Association of Municipalities of Honduras
ANED	National Development Advisers
CARE	American Cooperative of Remittances Abroad
CIDA	Canadian International Cooperation Agency
CODEM	Municipal Development Council
COHDEFOR	Honduran Forestry Development Corporation
COLAP	Local Protected Areas Council
ESNACIFOR	National School of Forestry Sciences
FAO	United National Food and Agriculture Organization
FHIS	Honduran Social Investment Fund
FUNDEMUN	Municipal Development Foundation
GTZ	German Technical Cooperation Agency
ILO	International Labor Organization
INDUMALSA	Industria Maderera Lepaterique S. A.
IDB	Inter-American Development Bank
MAFOR	Sustainable Forest Management of the Conifer Forests
MOPAWI	Development of the Mosquitia
NGO	Nongovernmental Organization
OFM	Municipal Forestry Office
PDBL	Broadleaf Forest Development Project
PROLANCHO	Program of Support to the Small and Medium Producers of Olancho
SAG	Secretariat of Agriculture and Livestock
SERNA	Secretariat of Natural Resources and Environment
SINAPH	National System of Protected Areas
UMA	Municipal Environmental Unit

Bibliography

ANED, 1999. Reglamento de Unidades Ambientales Municipales. Offprint of the Consultancy's Final Report. SERNA-PRODESAM/Banco Mundial. Tegucigalpa.

ASDI-BID, 2002. Mapeo y caracterización de la sociedad civil en Honduras. Informe Final. Tegucigalpa.

ESNACIFOR, 2002. Directrices para el Manejo Forestal Sustentable de Honduras. Consultancy financed by AID to support SERNA. Tegucigalpa.

FAO, 1999. Estudio de Consumo de Leña en el Sector Domiciliario de Honduras. Tegucigalpa.

Ferroukhi, L.; Aguilar, A.; Wo Ching, E. 2001. Gestión Forestal de los Recursos Naturales. Papel del MINAE de las Municipalidades. San José, Costa Rica.

Jones, J., 1993. Honduras: sustitución de energéticos.

PNUD, 2000. Índice de Desarrollo Humano de Honduras 2000. Tegucigalpa. Editorama, S.A.

SAG, 2002. Compendio Estadístico Agropecuario 2001. Secretaría de Agricultura y Ganadería. Tegucigalpa.

SAG, 1996. Características y perspectivas del Sector Agrícola Hondureño para el año 2000. Secretaría de Agricultura y Ganadería. Tegucigalpa.

Tucker, C., 1999. Manejo Forestal y Políticas Nacionales en La Campa. Mesoamérica No. 37. Vermont, USA.

UNAT, 1999. Plan Maestro de la Reconstrucción Nacional. Lineamientos del Sector Forestal. Unidad de Reconstrucción Nacional. Gabinete de la Reconstrucción, Tegucigalpa.

Vallejo, M., 1995. Guía de Legislación Ambiental Municipal. Preparada para la Fundación para el Desarrollo Municipal. Tegucigalpa.

Legal norms

ILO Convention 169 on indigenous and tribal peoples in independent countries

General Environmental Law

Forestry Law – Decree No. 85

Municipalities Law

Regulations for the Municipalities Law

Territorial Planning and Human Settlements for Sustainable Development bill (of April 2002)

Bill on Forestry, Protected Areas and Wildlife (of April 2002)

General Water Law

Individuals interviewed

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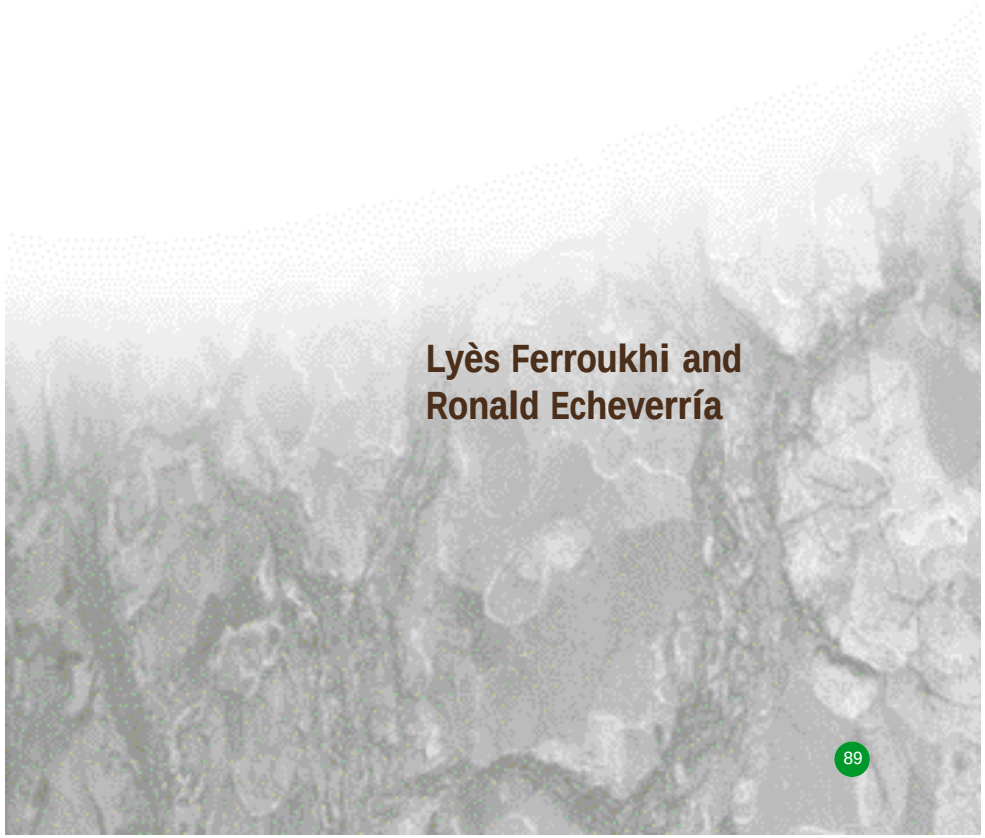
Decentralized forest management policies in Guatemala



Lyès Ferroukhi and Ronald Echeverría

Introduction

As a product of the 1996 peace negotiations that ended three decades of armed conflict, a new concept of nation began to emerge in Guatemala together with unprecedented arenas for social participation that have been slowly consolidating since then. Based on the country's current Constitution, civil society, the financial sector and the political parties reached important consensus to promote economic and administrative decentralization to help promote the country's regional development and to adopt the measures needed to conserve, develop and efficiently use its natural resources.

The Peace Accords[1] established the need to strengthen community participation in state management by decentralizing public administration and strengthening municipal government. The existing Municipal Code grants the mayors' offices the faculty to develop their administration, including that of natural resources, autonomously.

Promulgation of the 1996 Forestry Law opened new possibilities for the country's 331 municipal governments to participate more actively in forest resource management. New responsibilities were transferred to the municipalities and their capacities to support the central agencies in local management under the leadership of the State Forestry Administration were strengthened. These processes responded to the need to reduce the central government bureaucracy and more efficiently regulate forest management and control activities.

It has not been easy to evaluate the results of the decentralization policies in relation to local development, economic benefits, community participation and resource conservation, however. This chapter is an attempt to analyze the state policies geared to promoting municipal forest management, the municipalities' own forest management capacity as such and the municipal governments' role. It also discusses the efficiency of these policies and some of the limitations that must be considered in generating conditions for efficient municipal forest management.

The institutional forestry context

THE RESOURCE SITUATION

Guatemala's territory covers 108,889 km², of which 30,176 km² are broadleaf forest, 2,282 km² are conifers, 1,270 km² are a mixture of the two, 174 km² are mangroves and 3,600 km² are secondary forests. Protected areas total 28,658 km². Despite this extension, the forestry sector contributes barely 2.5% of the Gross Domestic Product (INAB 2000).

The forestry sector's main problems are a) the advance of the agricultural frontier, with the consequent loss of natural forest; b) excessive cutting of firewood, which exceeds both natural regeneration and the reforestation capacity; c) selective felling, which ultimately degrades the quality and regenerative capacity of the forest mass and d) the advance of urban zones and human settlements.

The advance of the agricultural frontier is the most extensive problem and has the greatest

[1] The Peace Accords, signed by the Government of the Republic and the Guatemalan National Revolutionary Unity (URNG) in December 1996 brought 36 years of internal war to an end.

negative impact on the forests. It has to do with a growing rural population that demands land to cultivate and firewood as the main energy source, given the lack of non-agricultural employment and income possibilities.

The policies to counteract deforestation have been designed strictly from a forestry perspective, without considering the socioeconomic factors linked to the advance of the agricultural frontier and increased rural poverty, rendering them unable to reverse the shrinkage of the forests. For the 1979-1999 period, the various reforestation projects and programs operating in the country only reforested 56,303 ha, well below the estimated 80,000 ha deforested each year (INAB 2000).

FOREST OWNERSHIP

Forest ownership in Guatemala is linked to that of the land: the landowner, whether individual or institutional, also owns the woodland, except in cases where the owner has ceded that right in some form of agreement. There is some confusion in the definition of tenure categories, which are quite complex; the most important ones are described below:

- Forests on state lands: Over 90% of the national forests are in the Maya Biosphere Reserve in the department of El Petén. The National Forest Institute (INAB) is responsible for administering and managing these forests and the municipalities have no decision-making power over them.

- Forests on *ejidal* lands (also known as *ejidos*):
  - Municipal forests – they are on municipal lands and administered by the municipal government. These lands are generally leased to residents for agricultural activity.
  - Communal forests – they belong to the local communities, which share the use rights collectively.

- Forests on privately owned lands – they are located on land whose ownership may be individual or collective, including the forests belonging to cooperatives.

- Forests on protected lands – these lands can correspond to any of the categories mentioned. Because they are within the limits of a protected area, however, the use and exploitation norms must respect the area's restrictions. The National Council of Protected Areas (CONAP) sets the norms and provides the exploitation permits.

On *ejidal* lands the municipal government can only make use and management decisions, but it can exercise promotion, monitoring, control and coordination functions on the other tenure categories.

THE LEGAL AND INSTITUTIONAL FRAMEWORK

The legal framework directly related to forest activities includes the Forestry Law (Decree 101-96) and the Protected Areas Law (Decree 4-89 and its reforms: 18-89; 110-96; 117-97). CONAP is the agency responsible for administering protected areas. To administer forests outside of the protected areas, the 1996 Forestry Law created INAB, a decentralized

autonomous entity with its own legal identity, patrimony and administrative independence. INAB is present in 9 regions and 31 sub-regions around the country. The promulgation of Decree 101-96 allowed municipal government involvement in forest administration.

Representatives of the Ministry of Public Finances, the National Association of Municipal Governments (ANAM), the universities, the Central National Agriculture School, the Forest Guild and the Association of Nongovernmental Organizations Linked to Natural Resources and the Environment (ASOREMA) sit on INAB's board of directors, which is coordinated by the Ministry of Agriculture, Livestock and Food (MAGA).

The Forestry Law considers reforestation and forest conservation a national emergency and stresses collaboration with the municipal governments. It also establishes the conditions under which INAB defines its plans, programs and projects in accord with the strategic guidelines of the Forest Action Plan for Guatemala (PAF-G) initiated in 1992 (Martínez 2000). This plan, geared to conserving and developing the productive natural forests and forest plantations, includes regulatory instruments and incentives.

The municipality's role in forest management

LEGAL COMPETENCIES

The Municipal Code (1999) establishes the following municipal functions: a) caring for its territorial integrity, strengthening the economic patrimony and preserving the natural and cultural patrimony, and b) promoting the inhabitants' effective, voluntary and organized participation in resolving local problems.

Article 8 of the Forestry Law assigns the municipal governments the following powers: a) to support INAB in carrying out its functions; b) to contribute to the formulation and conducting of educational forest programs and c) to speak on behalf of the policies, strategies and programs that INAB designs. It also establishes municipal government participation in INAB's management body through a representative of ANAM on its board.

Article 8 also establishes that municipal governments must collaborate with the state forestry administration in applying the law and thus must have environmental offices. The municipalities have various competencies related to forest management; for example, the formulation, approval and implementation of development plans for local forest resources. Article 58 of the Forestry Law establishes inspection systems to avoid illegal exploitation and obliges INAB to support this work and report to the local governments about authorized licenses and management plans in the municipality.

The following chart summarizes the municipal governments' competencies and responsibilities regarding local forest management established in various laws: Forestry Law, Protected Areas Law, Municipal Code, Law of Environmental Protection and Improvement.

SUMMARY OF MUNICIPAL FOREST MANAGEMENT COMPETENCIES

SUMMARY OF MUNICIPAL FOREST MANAGEMENT COMPETENCIES	
Management of protected areas	• Support the strengthening of the Guatemalan System of Protected Areas and areas of special interest due to their biodiversity and/or water resources. • Collaborate with CONAP and the Ministry of the Environment and Natural Resources (MARN) in environmental protection and management of protected areas. • Propose to CONAP areas located in its municipality to be declared protected and with water potential. • Co-administer the protected areas in its jurisdiction together with CONAP.
Management of economic resources	• Collect from INAB 50% of the taxes on the value of cut lumber and licenses authorized in the municipality to reinvest in local forest management. • Sell forester services to self-finance the municipal forestry offices (technical studies, regencies, plants, others). • Include the Municipal Forestry Office within the Municipal Investment Plan. • Invest in reforestation, forestry control and monitoring, forestry education and forest fire prevention and control, especially in municipally owned areas. Formulate forestry projects and raise funds for them through national agencies, NGOs and international cooperation offices. • Implement Forestry Incentive Program (PINFOR) projects.
Forest protection	• Protect the water sources of municipal interest. • Organize civil society for forest fire prevention and control. • Collaborate with INAB and CONAP in fire control.
Administration	• Promote forestry policy. • Formulate municipal forestry policies with the participation of leaders and representatives of the local interest groups. • Formulate, implement, follow up on and evaluate the Annual Operational Plans of the Municipal Forestry Offices. • Authorize municipal forestry licenses in the urban perimeters and for volumes of under 10 m^3. • Support the national forestry registry.
Control	• Collaborate with INAB and other bodies in control and inspection activities. • Promote community participation in the control of its resources. • Supervise the authorization of felling and family consumption
Community participation	• Call for and organize participatory consultations on the formulation of municipal forestry policies through workshops and open forums. • Promote community participation in the formulation, management, implementation and follow-up of forestry projects. Report to the communities on projects and progress in forest management. • Promote participation in the Municipal Forestry offices by the institutions present in the area.

FINANCIAL MECHANISMS

Guatemala's municipal governments have various mechanisms to help finance local forest management. Anyone granted an exploitation license must pay INAB a 10% tax on the value of the cut lumber, of which the municipal government has the right to 50%, to be used for control and inspection tasks and for reforestation projects. The local government also has the right to 50% of the amount obtained from concessions that INAB grants for national lands located within its jurisdiction. Article 71 of the Forestry Law allows the municipal governments access to the benefits of the Forestry Incentive Program (PINFOR), for which it must present reforestation or management plans approved by an authorized forester.

PINFOR is one of the best-known financial instruments, since some 18,000 ha have been reforested through it between 1998 and 2001. That very same amount of land was also reforested with previous programs, but it took 20 years and cost more (INAB 2000). INAB is in charge of administering PINFOR, which is financed with 1% of the state's ordinary income budget. The program has a 20-year duration (it concludes in 2017) and its main objective is to foster sustainable forestry production in the country, stimulating investments in forestation, reforestation and natural forest management. The incentives are directed to independent producers or organized groups dedicated to reforestation and maintenance projects on lands apt for forests or to natural forest management.

Thanks to PINFOR, various municipal corporations have implemented their own reforestation or natural forest management projects. The beneficiaries of the incentives must invest their own resources to initiate the reforestation or forest management activities, with INAB technicians supervising and verifying fulfillment of the approved plan. At the end of the first year, after proving the quality of the works implemented, the beneficiaries receive a direct payment that covers their reforestation or management costs. According to the project's characteristics, they receive economic compensation for maintenance in subsequent years up to a maximum of five.

INCOME SOURCES

The main municipal income sources are: a) ordinary revenue (real estate taxes, fines, rates for street cleaning, garbage collection, water distribution, marriage registry, etc.); b) central government transfers; c) loans and credits; d) income for forestry services and licenses and for reforestation projects through PINFOR; and e) contributions from international cooperation.

The transfers from the central government to the municipal governments are the highest in Central America: 10% of the national budget by constitutional mandate. Furthermore, the last fiscal reform created the Value-Added Tax for Peace (IVA-Paz) to bring in resources to finance social investments in the framework of the Peace Accords; a percentage of this tax, which exceeds the constitutional contribution, is earmarked to strengthen the municipal governments. For example, the transfers to the municipal governments were as follows in the first quarter of 2002:

10% constitutional contribution:	Q173 595 836[2]
IVA-PAZ:	Q217 792 892

[2] US$1 = 7.7 quetzals (Q) in December 2002.

Nonetheless, a constant in municipal governments throughout the country is their meager capacity to collect their own rates and taxes, leaving them highly dependent on the central government transfers. In addition, their indebtedness level has risen, above all due to spending on infrastructure and civic works. With respect to the Single Real Estate Property Tax (IUSI), there is no municipal cadastre or the needed technical and administrative capacity to collect the tax.

Some of the municipal revenue collection mechanisms established in the Forestry Law come from income generated by forestry activity. One of those is to tax the value of cut lumber, but the results are low compared to the central government transfers; between 1999 and 2001, only Q1,519,305 was transferred to the municipal governments annually through this tax. Another option is the incentives paid for reforesting or managing and exploiting their own forests. During the 1998-2001 period, the municipal governments obtained approximately Q7.1 million as forestry incentives, which they invested in reforestation and natural forest management programs. This figure represents 5.4% of the total PINFOR investment of Q132.2 million during this period (INAB 2000).

While the financial flow from forestry categories is generally low, however, there are exceptions: in one four-year period (1998-2001), the municipality of Sayaxché, Petén, succeeded in collecting Q2,182,323 for forestry activities (Carillo *et al.* 1998).

Municipal forest management

This section describes the dynamic observed in some municipalities based on analyzing ejido management and administration and presents the state-promoted efforts to support municipal forest management.

MANAGEMENT OF THE *EJIDOS*[3]

Ejidos represent an important land and forest area in several Guatemalan municipalities. The nature of the tenure is often confusing, since it is not known whether the land ownership is communal or municipal. In many cases, the only property title dates from the colonial period and municipal administrations rarely have a cadastre so cannot even offer exact information about the size of the communal and municipal areas.

Although no precise information could be found about the total extension of the *ejidos*, it is clear that they represent important areas under municipal administration;[4] in the Petén, *ejidal* forests cover approximately 138 000 ha. Due to the scant growth of forest resources, local authorities are up against problems such as increased demographic pressure, the advance of the agricultural frontier, deforestation and market changes. The solutions have ranged between totally prohibiting the use of forest resources, directly managing them, co-management and privatization.

[3] This section is largely based on the results of a research project conducted by the Latin American Social Sciences Faculty (FLACSO) in 2002. The project culminated with a study in 11 municipalities designed to better understand and systematize the conditions that have allowed the development of local arrangements for managing municipal ejidos. We especially thank FLACSO for its collaboration.

[4] In Guatemala, the proportion of land under municipal administration is smaller than in Honduras.

The revenue municipalities obtain from forests on *ejidal* lands comes from logging permits, tariffs charged for gathering firewood, land rental and the sale of timber. This income is very low compared to municipal expenditures, although there are some exceptions such as the municipality of San Vicente de Pacaya, which has an administration and management agreement for the Pacaya Volcano National Park and in 2000 reported Q207,000 in income from the sale of entrance tickets into the park; 28% of municipal investments go for land management projects in the park itself.

Rural populations depend on forest resources in communal and municipal lands to satisfy their needs for firewood, lumber and other products for domestic use. There are no norms, written rules or procedures for managing these lands, however. The Forestry Law currently in effect is often applied in combination with locally established rules and control norms.

In general, community groups administer the communal forests and establish use norms for them based on custom. In some cases, however, the communities designate their mayor as the maximum authority on decisions regarding use of the forest resources; this is the case, for example, in San Antonio Ixchiguán and San José Ojetenam, in the western highlands department of San Marcos (Wittman 2001).

In the case of municipal forests, the mayor's office has competency over use of their land and exercises it in response to community needs and for income generation. At times, this can endanger the forests, as when there is strong pressure to release lands for agricultural activities, as occurs in some municipalities of the department of San Marcos. Land conflicts, aggravated by the return of those displaced by the civil war, make many municipalities prefer to use their lands for infrastructure projects or agricultural production.

In many municipalities, however, the authorities cede responsibility for resource use and management to the community via local agreements. These accords can totally delegate responsibility to organized community groups for forest use, access and management or can take the form of co-management agreements. This has happened partly because the municipal governments are unable to administer their forests and partly because community leaders have pressured to use the forest resources to generate benefits for the whole community.

In the municipality of San Diego, department of Zacapa, an original formula was found for managing municipal lands. An agreement was reached with the communities in an effort to protect the forests and at the same time respond to local demands for agricultural land, in which one of the municipality's forests was earmarked for agriculture and pasture for the community as a whole. This land, called "the common," was divided into plots given to the residents in usufruct, for which they pay the mayor's office a fixed amount in rent. Each community has leaders who keep an accounting of the users and inform the municipal government.

The municipal government of San Juan Ostuncalco, in Quetzaltenango, signed an agreement with the "users committee" that establishes restrictions on land use for

agricultural activities in order to protect the forest. Only dry branches and dry or sick trees can be used for firewood. Users are obliged to let the committee or the auxiliary mayor know if they plan to engage in any non-programmed exploitation. The municipal government establishes the harvest time for forest products, the amount that may be harvested, who can do it, the kind of use authorized for these products and the sanctions for anyone who violates the rules. In the municipality of Tecpán each family is only permitted to use three trees or 10 m^3 of lumber per year, and then only if it is demonstrated that it is for domestic use.

Sometimes these local norms include informal arrangements with INAB. For example, when users want to extract timber from the forest of Finca el Chilar, in Escuintla, they have to request an endorsement from the board of the indigenous community that administers the forest. If the board approves the request, it grants permission that INAB recognizes as valid, as long as the exploitation does not exceed five trees.

Due to the degradation of the municipal forests and the need for firewood and non-timber products, the municipal government of Concepción de Chiquirichapa has organized local committees to share management responsibilities for the municipal forests and ensure compliance with the use norms. Forest resource management is governed by traditional rules and not by formal operational norms. Municipal forest rangers monitor fulfillment of the established dispositions with support from users' representatives. Trees can be felled only with municipal authorization and for community use such as building schools, churches, health centers and community halls.

In some cases, when the transgressions fall within the sphere of the Forestry Law, an effort is made to apply the sanctions contained in it, but when community norms are violated, the punishments are established locally. In the municipality of Palín, one can lose one's community membership; in San Vicente Pacaya, a verbal admonishment is accompanied by seizure of the inadmissibly exploited product and a report is sent to INAB; and in San Diego, Patzicia and Chiquirichapa, fines are applied, the concession is suspended and payment for damages is required.

STATE POLICIES SUPPORT MUNICIPAL FOREST MANAGEMENT

State policies have promoted the strengthening of municipal management capabilities, local dissemination of the national forest policy and support to INAB in managing forest resources. Actions have been promoted in different areas of the country through the following projects and programs: the Sustainable Management Project for the Natural Resources of the Petén (PMS), The Verapaces Program (PLV), the Municipal Forestry Management Plan in Huehuetenango, PROBOSQUES in Totonicapán, Zunil and San Martín Chile Verde in Quetzaltenango, the Regional Rural Development Project in the Quiché (PRODEQ) and INAB's Municipal and Community Forestry Strengthening Project (BOSCOM), which has national coverage. Other projects operating in the departments of Izabal, Escuintla, Retalhuleu, Suchitepéquez, Totonicapán, San Marcos and Huehuetenango have adopted similar approaches.

These initiatives are attempting to offer a solution to certain structural limitations that are appearing in the country's decentralization processes. In particular, they expect to improve the municipal government's technical, administrative and economic capacity so they can more efficiently assume their competencies and improve the opportunities for the rural communities to participate in local resource management.

Among the different international aid initiatives, one of the most outstanding is the German Technical Cooperation Agency (GTZ), which supports economic and social development through aid to self-sustainability in the departments of Petén, El Quiché, Alta Verapaz and Baja Verapaz. Those departments contain the bulk of the country's forest mass and have serious forest degradation problems. The GTZ projects have developed a municipal forest management model that includes the creation of Municipal Forestry Offices (OFM) to increase the municipal governments' technical capacity.

BOSCOM, which is financed and administered by INAB, represents a unique state forestry administration initiative in Central America. Based on the GTZ experiences, this project combines municipal and communal components to support the municipal governments in their forest resource management.

One of BOSCOM's strategies has been to support the implementation of OFMs in over 32 municipalities. The project helps with the creation of the offices and finances part of their functioning for the first year with its own funds. The mayor's office must assume 50% of the office costs during the first year, 75% the second year and 100% the third with resources generated by forest activity. At the same time, BOSCOM provides technical support, advice and training for the OFM technicians and the municipal corporation councilors.

So far, BOSCOM and other cooperation projects have attended over 90 municipal governments. The latest data indicate that 30 of the OFMs cover their budget exclusively on municipal funds, 29 are co-financed by the municipal government and the projects and 31 are financed only by projects. At least 27 municipal governments have formulated and declared their forestry policy with support from the projects, which allows them to revitalize their participatory assessment and planning processes to implement programs and projects that respond to the needs of the different interest groups (INAB 2000).

The following inserts offer two examples of the creation and functioning of municipal forestry offices.

The San Raymundo OFM

The municipality of San Raymundo, in the department of Suchitepéquez, covers 114 km² and has an estimated population of 33,545 inhabitants. It is located on relatively flat land, threaded by various rivers and ravines and has a forest that is predominately conifers.

The local authorities decided to establish nurseries for reforestation projects in a municipally owned area with no forest cover. In April 2000, in line with this initiative, the BOSCOM Project offered the mayor technical assistance to open an OFM to deal better with the forest degradation problems. In June, the project was presented to the Municipal Council and in a later visit a letter of understanding about the project was submitted that established the commitments of both parties. The local government pledged to support 50% of the salary for the municipal forest technician (TFM) for the first year, 75% for the second and 100% for the third.

The following month the letter of understanding was signed and a minimum list of qualifications for the TFM was outlined. The Municipal Corporation hired a forest expert, who joined the training program facilitated by BOSCOM.

One of the OFM's first initiatives was to do a forestry assessment in coordination with the main local stakeholders. Based on it, the communities were visited and the municipalities' main forest activities were mapped. The OFM's activities include conducting forest studies and supporting the preparation of management plans, plant production in the municipal nursery and forest fire prevention and control. Two volunteer firefighting brigades have been formed and various prevention campaigns have been carried out.

The PMS experience in the Petén

The Sustainable Management Project for the Natural Resources of the Petén (PMS/MAGA/INAB/GTZ) posed the challenge of developing a municipal model for sustainable natural resource management. With the participation of the municipal and community stakeholders in the Petén, the following priorities were identified: territorial planning, land tenure, and *ejidal* forest resource conservation and exploitation. The need was also mentioned to structure the municipal government so it could respond to these priorities and time propose a support and facilitation platform able to strengthen local forest management processes.

The Petén's municipalities have 138,000 ha of municipal *ejidos*, in which a large part of the land has been leased to local communities to use for self-consumption. A lot of the land has also been illegally occupied. To deal with the problems of degradation and unruly exploitation, it was decided to promote the creation of what was called an Agriculture and Natural Resources Section (SARN), including both agricultural and forest areas in various municipalities of the Petén. The PMS began in 1995 with a first demonstration phase in the municipalities of Sayaxché, San Francisco and Poptún.

An agreement was signed in Sayaxché between the PMS and the municipal government through which MAGA and INAB, as national counterpart institutions, pledged to finance a forester and an agronomist for Sayaxché's SARN with central government funds, provide motorcycles and computer equipment and train SARN technical personnel in forestry, agriculture and computer science. PMS supported the technicians in planning and implementing the Annual Operational Plans (POA) that were drawn up with the participation of community leaders and representatives.

The mayor's office promised to incorporate the SARN within the municipal structure and promote coordination between it, the state institutions and NGOs working in the municipality. It also agreed to absorb the salary of the forester in 2000 and of the agriculturalist as well in 2001. The SARN's main functions are to advise the Municipal Council on natural resource issues, foster the inclusion of forestry projects and programs in the municipal jurisdiction, draft and implement forestry management plans within the municipal *ejidos*, plan and supervise local forest use, provide technical assistance to the communities and serve as liaison between the municipal government and the NGOs, community organizations and central state agencies such as INAB.

The SARN activities assisted by PMS in the Petén changed the municipal government's role completely, transforming it into an unquestionable forest management actor. Some of the results obtained in Sayaxché are the mapping of the municipality's main forest activities, the preparation of forest studies, support in preparing management plans, the production of forest plants in a municipal nursery, management of PINFOR reforestation and maintenance plans and forest fire prevention and control. The excellent work done in this municipality allowed it to obtain the Forestry Certification for municipal forests by Smartwood, with the backing of the Forest Stewardship Council (FSC). This certification swears that forest management norms and procedures with internationally recognized standards and in accord with sustainable forest resource management have been used. The funds collected by the municipality for forest activity amounted to Q2,182,323 between 1998 and 2001.

In mid-2000, PMS set up four more SARNs with direct support from MAGA and its Maya Center Project and Petén Forest Project (PROBOPETEN), the Spanish International Cooperation Agency (AECI) and the Association of Municipal Governments of the Petén (AMUPET), so 12 municipal governments in the Petén now have such an office.

The work of the OFMs has helped improve the municipal governments' intervention in natural resource and forest management. These offices have also functioned as an information source and agent to INAB, generally communicating the forest norms and policies to their communities in the simplest language, and they are trained to provide services through the foresters to small loggers, community groups and private owners.

In the case of national forests, INAB officials are usually directly responsible for administration and management. There are exceptions, such as the case of the Florencia forest in Sacatepec, where the municipal government collaborates with INAB management to protect it as an ecological park in a high watershed refill area. A similar situation is occurring with the San Jerónimo municipal government. These collaborative activities do not result from formal agreements with INAB and municipal governments participate in managing national forests in very few cases.

The services the OFMs provide to local users include support in drawing up management plans, technical findings and forest supervisions. The presence of a forester has helped improve the efficiency of tax collection on cut lumber. Various municipal governments that have consolidated OFMs have been able to increase their income by providing forestry services (Charts 1 and 2). Some forest expansion campaigns have been carried out with mayors and community leaders and arenas for dialogue and debate have been opened. In some municipalities, it has been possible to promote community participation in control and inspection and there has been a major mobilization of OFMs to promote the creation of municipal nurseries and develop forest fire prevention strategies.

Chart 1. Income (Q) from tax on the value of cut lumber and forestry technical services in four municipalities of Guatemala

Municipalidad	Impuesto julio 1998-junio 1999	Servicios del técnico forestal 1998-1999	Total
San Cristóbal	64 801	35 800	100 601
Salama	119 078	18 326	137 404
San Jerónimo	65 996	25 000	90 996
Purulha	27 447	5 780	33 227

Fuente: *Martínez (2000)*

Chart 2. Income from forestry services in the municipalities of Sayaxché and San Francisco, Guatemala (1997-1999)

Municipality	Forestry management plans in municipal *ejidos*	Rental database	PINFOR reforestation plans
Sayaxché	- 6000 ha broadleaf forest - 2 operational plans of 486 ha Income: 1998: Q283,161 1999: Q252,836	Records: 600 Income: 1997: Q19,575 1998: Q22,402 1999: Q22,000	1998: 2 reforestation plans Area: 47 ha Amount received: Q213,850 Municipal government income: Q21,385 People benefited: 7
San Francisco	No data	Records: 733 Income: 1997: Q4,918 1998: Q5,961 1999: Q12,076	1997: 8 reforestation plans Area: 13 ha Amount received: Q52,916 Municipal government income: Q5,815 People benefited: 11 1998: 36 plans Area: 57 ha Amount received: Q226,908 Municipal government income: Q22,690 People benefited: 40

Source: Author's own data

Despite what has been obtained with programs supporting municipal-level forest management, there are still weaknesses that limit the technicians' work and the scope of the central policies. The main problem facing the OFMs is the scarcity of resources for dealing with forestry issues. Even in municipalities where the sector generates income through taxes, sale of services or incentives, it is not always reinvested in forestry or environmental activities.

For example, Gualán's OFM officials report that the municipal government is applying approximately 44% of its budget to pay on debts inherited from previous administrations. The problem of municipal indebtedness is significant in Guatemala and is a major reason the resources generated by forest activities are not invested in resource management projects.

Another reason is that the income obtained through this effort is generally very low relative to the municipal government's general expenses. In addition, the central government does not punctually transfer the funds corresponding to 10% of the national budget earmarked for the municipalities. In an interview conducted in the municipality of Cubulco, Baja Verapaz, local officials said that it was necessary to seek support from outside institutions and international aid agencies to develop forestry and environmental projects in the municipal *ejidos* (FLACSO 2002).

Many municipal governments, including those with OFMs, have problems meeting their Annual Operational Plans. The control, evaluation and follow-up for plans and programs is weak. The OFM's work plans often suffer budget cuts and must function with very limited resources that barely cover the forester's salary.

In such conditions, not all OFMs can assume the responsibilities and fulfill the functions that the Forestry Law assigns them, respecting the set priorities. It should also be pointed out that their initiatives are affected not only by the viability of resources but also by the socio-cultural context, community demands and pressure from certain local elite. The kinds of activities implemented are often defined in response to these realities and the informal and traditional rules that govern decision-making in the local sphere.

Projects usually do poorly in cost/benefit evaluations of their activities, in which weight is given to the investment in financial, physical and human resources and the results obtained. Even the achievements reported, such as hiring of foresters, are relative since in many cases the work contract is very brief. The changes in municipal administration, which occur every four years, also affect the continuity of the process.

Evaluation of the cumulative experience

Due to the raid degradation of the country's forest resources and the central government's inability to deal with this problem directly and efficiently, an effort has been made to construct a decentralized forest management model. The legal and administrative reforms of the nineties substantially changed the forestry institutions and adjudicated a key role to municipal governments as direct state interlocutors in environmental resource management.

The central administration's incapacity led many municipalities with forest cover and no institutional presence to assume a leadership role in forest management. In some cases, this has helped put order in the administration of forests that provide sustenance for poor populations or has facilitated exploitation by communities that depend heavily on the resource.

The lack of clarity about norms for use and exploitation of the *ejidal* forests has obliged municipal governments not only to deal with the conflicts generated but also to design systems and implement informal agreements to define the use rules. Many municipalities have had to resolve the weaknesses of the centralized forestry management system because they represent the closest authority and are a natural interlocutor for the local populations.

The decentralization policies have had very positive and interesting effects, such as the creation of environmental offices, INAB's increased closeness with the municipalities, the creation of financial mechanisms and local promotion of the forestry issue. In some cases, the municipal governments have been able to use this dynamic to promote forestry activities that have had a major impact on the community and the municipality itself. The OFMs often propitiate greater closeness with the local population and act as intermediaries between it and INAB.

Notable progress has clearly been made in improving forestry management, largely thanks to the decentralization strategy. Nonetheless, while the process to improve the forestry sector's decentralization policies initiated in Guatemala has unique particularities in the region and has achieved positive results, there are limitations that should be analyzed closely.

A brief evaluation of the cumulative experience is presented below. It analyzes some of the limitations that create important bottlenecks and prevent the attainment of a more efficiently decentralized forest sector that could provide the municipalities a more active role in managing their resources. This analysis revolves around four key aspects: state policy, the forest sector's importance in municipal economic development, the incentives that could motivate municipal officials to get involved in forest activities, and the reality of the local setting.

STATE POLICY

The competencies delegated to the municipal governments have permitted them some influence on local forest resource management, especially in areas where investments have been made to create municipal offices or where pressure for the local government to get involved in forest management has been strong.

Nonetheless, an analysis of the municipal government's competencies detects some ambiguity. On the one hand, the norms circumscribe its role in the forestry sphere: to support INAB in fulfilling its functions, cooperate in conducting education programs and speak on behalf of state forest policies. On the other hand, the Municipal Code, the Law of Environmental Protection and Improvement and the Peace Accords grant it the faculty to participate more actively in its territorial sphere.

GUATEMALA

In theory, municipalities have the authority to administer and define the development policies in their jurisdictions and participate in managing the natural resources. In practice, however, they do not have genuine decision-making power over management of these resources, and are frequently relegated to a secondary role since they have no real autonomy on this issue.

The legal framework tends to favor municipal government influence in two major areas: inspection and control activities, and reforestation. In this regard, decentralization of the forest sector seems more one of deconcentration and delegation of responsibilities that the central agencies cannot assume without the cooperation of local stakeholders.

Not enough effort has been made to delegate functions and responsibilities that would help generate a favorable environment for promoting sustainable forest management initiatives. In some cases, the municipal governments must follow centrally defined norms that are difficult to apply because the standards are too demanding for the local population and do not consider their socio-cultural reality.

The role of the OFMs has been essential to opening spaces and providing local actors access to certain forestry services. The forester functions as an interlocutor who facilitates local coordination internally and between INAB and the community stakeholders, but this process still suffers structural weaknesses and economic limitations that force it to depend largely on outside support.

THE FOREST SECTOR'S IMPORTANCE IN MUNICIPAL DEVELOPMENT

For the majority of Guatemala's municipalities, forestry activity is not an important source of income and nothing seems to indicate that this will change any time soon. Many municipalities are indebted, which negatively affects their capacity to invest in sustainable management of their resources. In 2000, the indebtedness of the 331 municipalities exceeded 500 million quetzals, and included commitments to different agents: the National Institute of Municipal Promotion (INFOM), private banks, suppliers, builders, service payments, social security contributions and other categories.

In general, locally generated income does not even cover the costs of running the municipal government, so the majority of the municipalities do not have enough financial and technical resources to invest in forest activities. Forestry activity does not represent a significant enough income source to motivate the local governments to reinvest these funds in forest planning and management. There are some exceptions, such as the municipalities of San Vicente Pacaya and Sayaxché in the Petén, which have important forest cover and the support of various projects.

The study of 11 municipalities conducted by the Latin American Social Sciences Faculty (FLACSO 2002) shows that municipal *ejidos* can generate income through selling lumber, leasing land, charging exploitation permits, etc. In general, however, income from these sources is insufficient to cover the costs required to administer the forest resources.

Consequently, funds are not budgeted for forest resource management, even in municipalities that have environmental offices and technical units.

Making use of incentive mechanisms such as PINFOR still shows insignificant figures relative to the amounts assigned to the private sector or to the potential they could reach, but some municipal governments have been able to use these incentives with very positive results. San Pedro Pinula, in the department Jalapa, incorporated 36 ha of reforestation with support from INFOR, benefiting 156 families with small plots in the municipal forest, and the El Chilar de Palín community in Escuintla incorporated 1,400 ha of communal land for protection purposes.

There are other examples of municipal governments that have implemented reforestation and forest management projects with PINFOR support but, in general, use of this incentive has been minimal. In the 1998-2001 period, only 885 ha were reforested, which represents only 4.9% of the 18,000 ha reforested through this program. Some indigenous communities that administer communal forests as well as many municipal governments find it difficult to get access to PINFOR because they must prove that they are the legal owners of the lands in which they want to set up reforestation and management programs. Many communities and municipalities end up outside the program, given the great uncertainty about existing property rights in the country.

THE MOTIVATION OF THE MUNICIPAL OFFICIALS

The decentralization policies for Guatemala's forestry sector do not yet offer sufficient incentives for municipal officials to invest in management activities. A survey of 100 mayors regarding the importance they give to forestry compared to other sectors revealed their priorities: of the 10 sectors mentioned (water, education, electrification, health, infrastructure, etc.), forestry ended up in last place (Gibson *et al.* 2002).

Due to the lack of incentives, municipal officials only initiate forestry activities when they perceive political or economic advantages. According to Gibson *et al.* (2002), mayors and council members invest in forest activities when a) there is strong demand and pressure from local actors, above all those who depend on forestry resources for survival; b) the activities offer important economic benefits; or c) there is external financial support through state contributions or cooperation projects.

FLACSO (2002) confirms this. Its studies of municipalities discovered limited support to forestry management activities (reforestation, granting of permits, equipping of forest rangers, mediation in decision-making) because they do not represent a sufficient income source to motivate the formulation of clear policies and the drafting of investment plans geared to resource management and protection. The importance of forestry resources is defined more in relation to the services they provide to poor communities (water, food, firewood, non-timber products, agriculture, pasture) than to direct financial benefits for the municipality.

Even in municipalities that have technical units, such as San Diego, Río Hondo, Concepción Chiquirichapa, San Juan Ostuncalco and Gualán, there are no projects for managing and conserving municipal lands and community and *ejidal* forests. In San Vicente Pacaya, however, where the municipal government receives important income from administering the Pacaya Volcano National Park, there is a clear tendency to give priority to managing the parklands and various initiatives of work with the communities in development plans for the wooded area. The study also reveals the importance of the forest's cultural value, which introduces another criterion that affects the adoption of decisions. When local culture and organizations agree with environmental values, this influences the demands for greater municipal government participation in forest management.

THE LOCAL SETTING

Many peasant and indigenous communities in Guatemala depend on natural resources for their subsistence. In a context in which the existing legal and institutional framework is very weak regarding management of these resources and there is uncertainty about land tenure rights, some local communities have developed their own institutional mechanisms and informal natural resource monitoring, management and access. These are frequently based on traditional values and local cultures and have often created a balance between the need to access forest products and the condition and management of the forest (Katz 2000).

The existing legal forestry framework and decentralization policies have failed to consider such complex local realities. A decentralization that does not consider historic management relationships or the different local socioeconomic and political contexts could find many obstacles to being efficient and equitable and ultimately achieving the results expected. Studies in the western highlands reveal that instead of decentralizing power, the current policies have reinforced and deconcentrated the state's traditional power, excluding the rural communities, risking the sustainability of traditional forest resource management mechanisms and even penalizing successful local forest governance structures in various municipalities (Wittman 2001, 2002)

This situation has been initiated when the municipal governments assume their new competencies under INAB supervision and try to impose new norms for the use of and access to the natural resources under their authority, snatching decision-making away from the indigenous and peasant leaders who traditionally held that power. In an historically tense context between state institutions and traditional government structures, with clear resistance by indigenous communities to state regulations and resource extraction by outside actors, it is not surprising that the delegation of new forest responsibilities to the municipal governments has been received very reticently at the local level. Problems have cropped up especially when municipal governments try to extend their authority to the communal forests with the argument that these forests are within its municipal jurisdiction and thus responsibility for decisions on use and access must fall to them.

This has led to cases that reveal strong contradictions, in which use forms traditionally regulated by community authorities are penalized or prohibited without reducing the problems of illegal felling and unsustainable logging (Wittman 2002). In other cases, communities that depend on their access to communal forests for subsistence are required

to apply for use licenses and submit management plans. The communities generally cannot finance the preparation of these formalities, and such procedures require a land tenure certificate that few possess in any case. In such a complex context as this, the traditional forest management systems have been damaged, as has the relationship between rural communities and state authorities and even the sustainability of the forest itself.

In contrast, when municipal officials have adapted existing state regulations to local reality, or included autochthonous authorities (indigenous mayors, local user committees) in the municipal decision-making systems related to resource use and management, and agreements have been reached to maintain the traditional use systems, local relationships have improved visibly and there is more efficient coordination among the stakeholders. Such is the case of the municipal governments of San Pablo (Whittman 2002), San Diego and San Juan Ostuncalco (FLACSO 2002).

Such major differences in the local realities clearly highlight the limitations of decentralization policies focused on a strict delegation of authority to the municipal governments without considering traditional management systems and the specific conditions of each place. When municipal authority clashes with traditional local authority, especially around community forest management, grave problems emerge. Instead of improving the sustainability of the resource and ensuring equitable and fair access for the communities that depend on it, decentralization produces actions that endanger historically efficient management systems (Secaira 2000) and generate more conflicts that put the very sustainability of the resource into question.

Conclusions and recommendations

The decentralization process has been consolidating in Guatemala. The state policies and central government transfers confirm the will to support deconcentration of natural resource management and decision-making. In the forestry sector, the existing political, legal and institutional frameworks promote certain conditions allowing the municipal governments to help manage their resources. In this context, the central agency has assumed unquestionable leadership. To support these processes, strong mechanisms to foster forest activity have been developed through economic incentives, technical assistance and technology transfer to local governments.

Despite these efforts, however, the processes promoted have been insufficient to cede greater space to the municipal governments. The main directives, policy definition, implementation of strategies and assignation of resources are all still centralized. The competencies delegated to municipal governments are ambiguous because the Forestry Law assigns them a support role to complement INAB's functions, which are very focused on control and reforestation.

Without genuine autonomy and with few political and economic incentives, investing in forestry activities is not a priority for many municipal governments. That makes it important to understand that their response to forest management decentralization processes obeys very precise factors, such as the availability of officials to apply the forest regulations, local pressure and income generating possibilities. The commitment to the forest sector and the decisions that are made frequently respond to the need to facilitate access to goods and services that the forests can offer to the poorest communities. In many municipalities, informal rules based on tradition and custom have been incorporated and coexist with the formal norms.

The municipal forest management processes assumed by the country's municipal governments and promoted through INAB and international cooperation projects have had positive results in strengthening the local governments' capacities. Their results are limited, however, when the criteria are the reforested areas and limited management of them, the leasing of lands and the income from the sale of timber. Their impact in these aspects can only be appreciated in a few municipal governments.

Although models based on OFMs have represented advances since they increase the municipalities' forest management capacities, these achievements have involved high costs in many cases. There is also the risk that they will lose strength and disappear when the outside support stops, which is a real possibility because the municipal corporations' priority agendas do not usually include the forest issue and their budgets are generally in the red.

The financial mechanisms that have produced results and influenced the valuing of the resources include the PINFOR forest incentives and the transfer of 50% of the tax on cut lumber. In some cases, these mechanisms are a source of alternative income to stimulate conservation and sustained forest resource management, but the use of such mechanisms is not very significant at the municipal level relative to the amounts assigned to the private sector or the potential that the municipal governments could exploit.

Even with that, the decentralization of forest management to the municipalities is a positive process if compared to the totally centralized previous models; the results attained indicate that decentralization must be maintained and strengthened. There are still important obstacles that make it impossible to speak of a truly efficient and equitable decentralization and any policy to support municipal forest management must take the limitations cited into account.

RECOMMENDATIONS

- Make use of the decentralization and deconcentration and the legal changes that favor strengthening forest management, as well as the spaces won by the municipal governments in the lead institutions of natural resource conservation and management. Seek consensus within the sector so that INAB can continue carrying out its functions while promoting a gradual and systematic transfer of competencies to the municipal governments. ANAM, INFOM, the Departmental Mayoral Boards and the Associations of Mayors and Indigenous Authorities (AGAAI) must participate in these processes.

- Promote the participation of civil society's representatives to strengthen democracy and decision-making.

- Include more municipal governments in the municipal strengthening programs.

- Continue disseminating successful forest management experiences to get the message out to other municipal corporations.

- Improve forest users' access to productive infrastructure, credit networks, market information, technology transfer and others. These measures could help increase the benefits of sustainable forest management and more effectively commit the stakeholders to forest resource management.

- Promote case studies on municipal forest management processes.

- Include indigenous and peasant associations in national and regional dialogues and in decision-making related to decentralizing forest management.

- Strengthen the local governments' capacity to manage municipal *ejidos* and raise the officials' consciousness about managing these lands.

- Promote a legal instrument that clarifies the statute on *ejidal* lands and defines aspects such as tenure, delimitation and possession.

Abbreviations and acronyms

ANAM	National Association of Municipal Governments
BOSCOM	Municipal and Communal Forestry Strengthening Project
CONAP	National Council of Protected Areas
FLACSO	Latin American Social Sciences Faculty
GTZ	German Technical Cooperation Agency
INAB	National Forest Institute
INFOM	National Institute of Municipal Promotion
IVA	Value-Added Tax
MAGA	Ministry of Agriculture, Livestock and Food
MARN	Ministry of the Environment and Natural Resources
NGO	Nongovernmental organization
OFM	Municipal Forestry Office
PINFOR	Forestry Incentive Program (INAB)
PMS	Sustainable Management Project for the Natural Resources of the Petén
SARN	Agriculture and Natural Resources Section

Bibliography

Carillo, A.; Ordoñez W. 1998. Modelo municipal para el manejo sostenible de los recursos naturales en Petén. GTZ. Guatemala,.

FLACSO. 2002. Tierras municipales en Guatemala: un desafío para el desarrollo local sostenible. Facultad Latinoamericana de Ciencias Sociales. Ciudad de Guatemala.

Gibson, C.; Lehoucq, F.E. 2002. The Local Politics of Decentralized Environmental Policy. 2002 International Studies Association Meetings. New Orleans.

INAB. 2000. Boletín de estadísticas forestales 2000. Instituto Nacional de Bosques. www.inab.gob.gt

Katz E.G. 2000. Social Capital and Natural Capital: A Comparative Analysis of Land Tenure and Natural Resource Management in Guatemala. Land Economics 76(1):114-132.

Martínez, H.A. 2000. La administración municipal en el manejo de los recursos naturales renovables en Guatemala. INAB, Guatemala.

Secaira E. 2000. La conservación de la naturaleza, el pueblo y movimiento Maya y la espiritualidad en Guatemala: Implicaciones para conservacionistas. PROARCA/CAPA/USAID/UICN/FCG/The Nature Conservancy. Guatemala

Wittman, H. 2001. Fragmentación y manejo de terrenos comunales y municipales en el altiplano occidental de Guatemala: Experiencias de las municipalidades de San José Ojetenam y Ixchiguán, San Marcos. CARE.

Wittman, H. 2002. Negotiating Locality: Decentralization and Communal Forest Management in the Guatemalan Highlands. Faculty of the Graduate School. Cornell University, New York.

Legal norms

Municipal Code, 2002
Constitution of the Republic of Guatemala 1985
Law of Urban and Rural Development Councils. Decree 11-200
Law of Environmental Protection and Improvement. Decree 68-86
Forestry Law. Decree 101-96

Individuals interviewed

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Mr. Armando González, Forester, Mataquescuintla
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Municipal forest management in Nicaragua: Decentralized burdens, centralized benefits?

Anne M. Larson

Introduction[1]

Important advances have been made in the decentralization process in Nicaragua, particularly with respect to the legal framework and local administration, despite the fact that it began as recently as 1988. Municipalities now have elected leaders who hold important responsibilities in municipal planning and administration, and other local stakeholders recognize and are increasingly taking advantage of this authority. The result has been the creation of a new arena of local governance that has its own life and dynamic and of a civil society movement that, while still weak, is struggling to ensure the conditions for effective municipal administration.

These accomplishments notwithstanding, the process has faced numerous obstacles, particularly regarding forest management. The central government has turned more responsibilities over to the municipal governments, but a lack of financing to be able to carry them out has undercut their authority and the possibility of building genuine municipal autonomy. In the environmental and natural resource sector, the laws themselves are contradictory, areas of responsibility overlap among various bodies or the law requires "coordination" between the local and central governments without establishing mechanisms for doing so, which in practice leaves power in the hands of the state entity.

Although the law gives municipalities the responsibility for "developing, conserving and controlling the rational use of the environment and natural resources," they do not decide on resource exploitation contracts and their consent is not even needed for granting permits and concessions (Comisión Sectorial para la Descentralización 2001). The municipal governments thus complain that the central government has turned over the "burden" of taking care of the environment but not the benefits derived from the use of its resources.

The problems associated with decentralization do not come just from the central government, however. In many municipalities, technical capacities, tax collection and skills in administering both resources and projects are still below par. Local political party representatives tend to promote paternalist, party-boss relations and political divisions influence relations with constituents and the central government. Some local leaders, if they had the chance, would encourage the clear-cutting of the whole forest to bring in funds for their administration, or their own pocket. Furthermore, local government is conceived of as a "service provider," and medium- and long-term natural resource planning and management often does not form part of that vision.

Given these serious political and practical limitations on decentralized forest management in Nicaragua, this study cannot present the results of an advanced, well formulated and financed democratic decentralization. What it can do is demonstrate that this process, despite the many contradictions and limitations, offers important opportunities. It shows that decentralization represents not only a formal transfer of power from central government but also, and perhaps more importantly, a bottom-up process whereby municipalities have begun to assume new responsibility and authority—with significant progress and many positive results despite the obstacles. But for Nicaragua's decentralization to achieve real and consistent improvements in efficiency, equity and democracy in forest management, much remains to be done.

[1] I would like to thank Andrew Blackwell, Ove Faurby, Lyes Ferroukhi, Glenn Galloway, René Mendoza and Juana Ortega for their comments on a prior version of this chapter.

The forestry context

Nicaragua has approximately 57,000 km^2 of forest cover, which equals nearly 48% of the national territory, including closed canopy forests (with 70% or more coverage) and open ones (with a coverage of from 10% to 70%).[2] The effective forest area, which only includes the closed pine and broadleaf forests, represents some 33,000 km^2, or 27% of the territory, about half of what it occupied in 1950. Nearly all of these forests are located in the three regions of Nicaragua's Caribbean side.[3] In the nineties, the annual deforestation rate was some 150,000 ha, but today it is estimated at only 50,000 ha.

According to data of the Agricultural, Livestock and Forestry Ministry (MAGFOR), 71.9% of the territory (8,700,000 ha) is land considered most apt for forest, either for production or conservation. A fourth of it could be used for wooded pasture or a combination of agriculture and wooded pasture, but almost half of this land has no forest due to the advance of the agricultural frontier or the conversion of the forests into virtually treeless ranches for extensive cattle grazing.[4]

Nearly 19,000 km^2 (some 1,880,000 ha) of the country's forests are located in protected areas, under the National System of Protected Areas (SINAP). Only 7 of the 75 protected areas, however, are currently under active management and another 11 are considered under "minimum management" (Plan Ambiental de Nicaragua 2001-2005). The two largest reserves are found in the forests on the Caribbean side (the Bosawas Reserve in the north and the Indio-Maíz Reserve in the south).

The forest sector is important to the national economy, although it is difficult to obtain exact figures. Logging represents less than 1% of the GDP (some US$4 million) and the industrial sector of lumber and furniture makes up 2.1% of the total value of the country's industrial production (1998 BCN data). Forest-related exports rose from US$1 million in 1992 to US$25 million in 2000 (MARENA 2002).

Firewood represents 52% of the country's overall energy consumption (Martínez 2001) and around 70% of residential energy consumption (Miranda 2002, pers. comm.). A large part of both lumber and firewood is extracted illegally. Of an annual felling estimated at 500,000 m^3, the National Forestry Institute[5] (INAFOR), which is in charge of issuing forestry permits, only controls 30% (Argüello 2002, pers. comm.).[6]

By law, INAFOR is responsible for granting lumber and firewood extraction permits on private lands, while the Ministry of Promotion, Industry and Commerce (MIFIC) grants concessions on national lands.[7]

[2] The definitions vary a bit according to the type of tree and of forest.
[3] North Atlantic Autonomous Region (RAAN), South Atlantic Autonomous Region (RAAS) and the department of Río San Juan.
[4] Other studies report different data. For example, Kleinn (2000) estimates the area apt for forest that has no forest at 2,500,000 ha.
[5] INAFOR is an institute under the direction of MAGFOR.
[6] The forest sector faces many other problems in addition to illegality and corruption: commercialization problems, ignorance of market opportunities, lack of administrative capacity of the lumber dealers and of INAFOR, insecurity, technical weaknesses, lack of investment resources, weakness in the grassroots organizations for community forestry (Galloway 2002, pers. comm.).
[7] The indigenous territories do not currently have a legal framework and there is no registry of the national lands. The only concession in effect in 2000 was that of indigenous territories, through an agreement between the national government and the indigenous community.

The Ministry of the Environment and Natural Resources (MARENA) has authority over protected areas.[8]

The procedure for obtaining a logging permit is the same for private lands with or without forest; the difference depends rather on the amount to be logged. Only a domestic permit is required for small amounts (a total of trees or cubic meters defined by INAFOR at the departmental level); a management plan is required for greater amounts.

Illegal logging takes many forms, from loggers who never request any permit to those who use the same one in additional areas not included in the authorization. To avoid developing a management plan, there is also abuse of the domestic permits, which should only be granted for household and not commercial use. Some 75% of the timber currently coming into the country's sawmills has been cut with domestic permits (Tijerino 2002, pers. comm.). INAFOR's policy is to "legalize" the wood cut illegally through fines and auctions. In addition, much of the timber cut in the Caribbean forests is transported by rivers through very isolated areas, far from any registry post. The lumber dealers who take their haul in trucks to Managua report that they pay around C$2,000 (US$140) in bribes to get from the eastern side of the country to the capital. It is worth noting that they claim they pay always, whether or not their papers are in order.

Many argue that these illegal practices are the result of excessive controls on the forestry sector and an inefficient bureaucracy, both of which significantly raise costs and waste valuable time. One important problem is that neither national policy nor the sector's institutions promote a comprehensive vision of the forest. On the one hand is a strong environmentalist movement that defends the total prohibition of logging, not only in protected areas but also, at times, outside of them. On the other hand is what as known as the "timber mafia," located above all in the North Atlantic Autonomous Region (RAAN) and famed for its deep-rooted and dangerous corruption. This reality leads to positions that are seriously at odds with each other, and makes the search for intermediary solutions of sustainable production very difficult.

This bipolarity is also represented in the central government institutions. MARENA is in charge of the environment and INAFOR of forest exploitation; the majority of projects and NGOs work with MARENA but not with INAFOR, and there has been very little coordination and cooperation between these two entities. Consequently, when one speaks of natural resource decentralization, one is alluding to two totally separated entities in legal and institutional terms. It is essential to recognize this fact to understand the discourse and the reality that municipal governments must deal with regarding environmental and natural resource issues.

Decentralization and municipal forest management responsibilities

In Nicaragua, the institutional basis for the current decentralization process began to be established under Daniel Ortega's Sandinista government, with approval of the 1987

[8] The first pilot programs for the sale of environmental services are barely getting underway and there is still no legal framework for this type of disposition.

Constitution, which is still in effect. This Constitution reestablished the legal concept of municipal autonomy, eliminated by the 1939 Constitution, and initiated direct election of local authorities. In 1988, the Municipalities Law created Municipal Councils and turned over some responsibilities to local governments. Municipal elections were held in the majority of the country in 1990 and in the two autonomous regions as well by the elections of 1996 and 2000.

As of 1990, the government of Violeta Chamorro (1990-1996) began implementing structural adjustment policies that included, among other things, an important transformation of the state. Although the reform contemplated decentralization, it was not well defined and seems to have been "more for international consumption than for internal effects" (Ortega 1997). The result was a diverse and often contradictory series of initiatives, but little decentralization. That situation changed little under the government of Arnoldo Alemán (1997-2001), other than that the municipalities received even smaller budget transfers from the central government.

Nonetheless, local governments, mainly thanks to efforts of the Association of Municipalities of Nicaragua (AMUNIC), did obtain additional responsibilities and authority.[9] For this, they had the help of important central government allies, particularly in the National Assembly, who supported their efforts to promote genuine decentralization. In 1997, reforms to the Municipalities Law considerably increased the faculties of local governments and strengthened their political and administrative autonomy.

At this time, Nicaragua has 151 municipalities, each with a mayor and vice-mayor and either four or nine Municipal Council members[10] (determined by population size) elected through party slates presented in the local elections. The Municipal Council is made up of the mayor or vice-mayor and council members. The law establishes that the mayor is the "maximum executive authority" of the municipal government; it falls to him or her to implement local government decisions, which must be defined and approved by the Council.

The main source of municipal government income is a local sales tax (IV), which was cut from 2% in 1997 to 1% in 2000. This loss of revenue would supposedly be replaced by increasing the collection of property taxes (IBI), but this income is much smaller than the IV (Bravo 2002, pers. comm.). National budget transfers have been minimal: 0.9% in 2000 and 1.2% in 2001, the lowest percentages in Central America.[11] In the municipalities that have forest resources, various types of taxes (legal and illegal) have been levied that, in some cases, constitute a significant source of income.

In 1997, the new version of the Municipalities Law granted local governments important control over their territory and natural resources:

"The Municipal Governments have competency in all aspects pertaining to the socioeconomic development and environmental and natural resource conservation of their territorial circumscription.... [The Municipal Government is responsible for] developing, conserving and controlling the rational use of the environment and natural resources as a basis for the sustainable development of the Municipality and the country...."[12]

Other laws, however, such as the General Law of the Environment and Natural Resources (No. 217) and the Regulation of Protected Areas, give much more authority to the national

[9] AMUNIC is a national association representing all of Nicaragua's municipal governments.
[10] The exception is the municipality of Managua, where 25% of the nation's population lives; its Council has 20 members.
[11] Its highest level since 1990 was 1.8%, during the Chamorro government. That percentage includes direct transfers and ministerial projects and investments (Ortega 2002, pers. comm.).
[12] Arts. 6 and. 7, point 8, Law 40 and 260, Municipalities Law.

ministries and minimize the municipal governments' role in environmental administration. Furthermore, Article 102 of the Constitution establishes that:

> *"Preservation of the environment and the conservation, development and rational exploitation of natural resources correspond to the State; it may enter into contracts for the rational exploitation of these resources when this is in the national interest."*

As mentioned earlier, decisions about logging contracts correspond to INAFOR on private lands and MIFIC on national lands. Approval of these contacts by the local government is not even an obligatory requisite for them to be issued.[13] It is important to stress, however, that the municipal natural resource responsibilities established in the Municipalities Law have begun to function as a legal basis for making claims and addressing contradictions with the central government.

The legal corpus grants certain specific attributes to municipal governments (see chart on legal competencies), including their right to issue an opinion on exploitation contracts, receive 25% of tax income from these contracts, establish municipal parks and organize committees for the control of forest fires. In addition, they may, in coordination with the corresponding state entity, authorize the transport of felled logs, participate in the evaluation of environmental impact studies, draw up land use plans and make recommendations on protected area management plans.

The Municipalities Law gives local governments some specific tools that can be used to promote their role as natural resource administrators, such as resolutions and ordinances. Both are administrative instruments, but an ordinance is broader and specifies norms for general application to issues of local interest. It must be subjected to two discussions in the Municipal Council plenary and then be published by the mayor.[14] Many mayoral offices have begun to use ordinances to address issues related to natural resource management.

Municipal governments are also authorized to create arenas for civil society participation in natural resource management, the most important being the Municipal Environmental Commissions (CAM) promoted by MARENA, AMUNIC and various donor projects supporting institutional development. By 2001, some 85 CAMs had been established (Blackwell 2002, pers. comm.).

Almost all of the municipal forestry responsibilities require coordinated action with the respective ministries, which have the primary authority. It is assumed that this coordination will take place on the ground, with the pertinent delegate, but no specific mechanism has been officially established to make this a reality so far. In 2002, however, MARENA was circulating the draft of a proposal that made the CAMs the official coordination mechanism (STCSD *et al.* 2002). For now, in practice, it depends on the willingness of each delegate and each municipal government.

At a departmental level, there are neither official mechanisms nor a legal framework for governmental coordination.[15] Nonetheless, municipal governments in several departments have formed associations to address common problems, including environmental and forestry concerns. The MARENA proposal mentioned above suggested the creation of Departmental or Regional Environmental Commissions to coordinate the CAMs (STCSD *et al.* 2002).

[13] Approval of an entity that is not from the central government is only a requisite in the two autonomous regions, where the regional government (not the municipal one) has this authority.
[14] The resolution specifies norms "of particular application" and must only be approved by the Council (without two discussions).
[15] The departments have a Delegate of the Presidency, but that person's role relative to the other state entities and the municipal governments is still being discussed. [As this volume was going to press, the budget for these offices was cut for economic reasons, and all the delegation offices were closed.

Competencias legales de los gobiernos municipales

AREA OF ACTION	MUNICIPAL COMPETENCE
Logging	• Issue an opinion on contracts for resource exploitation before they are approved by the central government. • Authorize, in coordination with INAFOR, the marking and transport of logs.
Protected area management	• Establish municipal ecological parks, subject to MARENA approval, to promote conservation of the municipality's most valuable resources. • Make recommendations to MARENA about the management plans of the protected areas in its territory.* • Coordinate the administration of the protected areas with MARENA.*
Management of economic resources	• Receive at least 25% of the fiscal income from contracts for natural resources exploitation. • Organize and manage the property registry to charge property tax.
Reforestation and control of fires and degradation	• Organize committees for forest fire prevention and control in municipalities selected by the Ministry of Agriculture, now known as Agricultural, Livestock and Forestry Ministry (MAGFOR). • Obtain financing and promote protection, conservation, restoration and sustainable development projects. • Coordinate with MAGFOR and MARENA in declaring soil conservation areas and norms for ensuring their recovery and protection in very degraded or threatened sites.* • Participate in the evaluation and administration of environmental permits and environmental impact studies, under MARENA's authority.*
Administration and norms	• Develop and implement land use plans under the norms, guidelines and criteria established by the Nicaraguan Institute of Territorial Studies (INETER) and MARENA.* • Coordinate with MARENA on the establishment of norms and standards for protection of ecosystem quality. • Issue ordinances and resolutions.
Civic participation	• Prepare the annual budget in a participatory manner and with broad popular consultation. • Call and organize two *cabildos* (town hall meetings) annually. • Create collegial bodies and arenas of civic participation • Create civic associations and foster the participation of local organizations in municipal administration.

* The Regional Councils also rule in the Autonomous Regions.

Note: Various drafts of a new Forestry Law have circulated since the last decade, but it is not known when or if one will be approved. The most recent version (11-2001) stresses unifying the old and dispersed legislation and promoting legality, plantations, resource conservation and the restoration of degraded areas. This law would give more responsibilities to the local governments and grant them the right to issue non-commercial permits (currently authorized by INAFOR), regulate and control forestry areas under protection and promote local initiatives of rational natural resource use. It would also allow the local governments to provide follow-up, monitoring and control of forest resources by entering into legal agreements with INAFOR (Forestry Law draft 2001).

Forest management and the municipal arena [16]

Municipal environmental and forest management should be seen as part of a learning process that involves a change in the conception of the local government's role. Nicaragua's legal framework recognizes natural resources as the basis for the nation's sustainable *development* and sees local governments as important participants in that development, but the very term development is still fundamentally associated with access to clean water, electricity and roads, rather than with natural resources *per se*. Citizens view the primary role of their local governments as providing greater access to these services and infrastructure. Natural resources are a "new" area of concern. Planning for their future requires a long-term vision, whereas political horizons tend to be short-term. This learning process is thus as much for local governments as for citizens.

At the same time, the persistence of a conceptual and institutional polarization between resource conservation and extraction means that few municipal initiatives are related to environmental protection. These are more often promoted by NGOs or environmental projects, or respond to the municipal government's interest in obtaining funds through sanctions and fines. This results in administrative initiatives toward renewable resource management that are skewed by short-term economic interests and needs.

Nonetheless, important initiatives indicate that a well-oriented learning process is underway. In the five years since the 1997 reforms to the Municipalities Law, there is a perceptible difference in the coherence of local initiatives. Although there are still many dispersed actions, some of the more advanced municipalities demonstrate greater planning, coordination and integration in environmental management. One of the best examples is the municipality of Bonanza, to which an insert is dedicated below.

This section has been divided into three parts. The first describes local forest management experiences and initiatives in which municipal governments have played an important role; the second reviews relations between local governments and central government delegates, particularly those of INAFOR and MARENA; and the third examines relations between municipal governments and local stakeholders.

MUNICIPAL GOVERNMENT ADMINISTRATION

Either at their own initiative or at the urging of a project or NGO, a ministry, AMUNIC or their constituents, municipal governments have begun to fulfill many of the responsibilities the laws have assigned them; they have also taken initiatives for which they have been given no specific authority. Nearly all of them issue their opinion on logging contracts, and some have even gone so far as to completely prohibit extraction. Some have organized fire prevention and control committees and issued ordinances in the face of a possible forest fire crisis. Others have begun to prepare land use and environmental plans at the insistence of aid projects. And many municipalities are learning to use ordinances as a legal tool to set standards for the use of the resources in their territory.

[16] The information presented here is based on various municipal and regional studies done between 1998 and 2000 (Barahona and Mendoza 1999, Fauné and Kaimowitz 1999, Fauné and Martínez 1999, Fauné and Mendoza 1998, Larson 2001, Larson and Barahona 1999a, Larson and Barahona 1999b, Martínez and Rocha 1999, Martínez and Rocha 1999, Mendoza and Artola 1999, Mendoza and Martínez 1999, Parrilli 2000, Rocha and Barahona 1999) and on additional interviews done in 2001 and 2002. It is important to mention that there were municipal elections at the end of 2000, with new mayors and municipal councilors inaugurated at the start of 2001, and presidential elections were held at the end of 2001, with the change of President and ministers in January 2002.

Logging permits

According to the law, INAFOR grants permits for logging or firewood extraction and the mayor's office must give its opinion before the permit is issued.[17] Almost all the country's municipalities participate in this process in some way, although there are often more illegal extractors than authorized ones.

The process varies from place to place. In each department, the INAFOR delegate determines (by number of trees or in cubic meters) the maximum amount allowable to be considered "for domestic use." In some municipalities, INAFOR has then transferred to the municipal government the right to grant these permits without having to be consulted.[18]

In some cases, the municipalities have an assigned official—who may not be a trained forester —to review the permit applications and issue a more informed opinion.[19] This official should visit the site to confirm that the applicant is the landowner, that the trees to be cut are not too close to a water source, etc. Nonetheless, not all municipalities have the resources or the initiative to make these trips, above all to very outlying communities. Both this situation and pressure from communities themselves has led some municipalities to require that a representative from the community where the trees will be logged also approve the permit.[20] This person could be the alcaldito (the mayor's representative in each district or community, known as "little mayor")[21] or a delegate of the local development committee.

Although infrequently, some municipalities have mayors who grant permits without consulting INAFOR[22]; conversely, other municipal governments have complained that INAFOR gives out permits without consulting them. It should also be recognized that local governments do not always have their own criteria for reviewing logging requests. For example, a council member in El Castillo argued that "INAFOR would only approve a permit if it were sustainable" (Larson 1999). Sometimes, what determines the criteria is economic necessity (given that the municipal government charges for the permits) (Somarriba 2002, pers. comm.). The poorest, most outlying rural municipalities are often those most in need of a forester yet least able to finance one. If there are technical personnel in these municipalities, it is nearly always because they are financed, at least partially, by aid projects.[23]

In contrast with rural municipalities, urban ones such as Chinandega, León and Estelí have resources to finance environmental offices, forest rangers and/or agronomists, foresters or environmental specialists. These personnel do not necessarily participate directly in the permitting process, but they do provide assistance in other activities related to forestry, such as reforestation or agricultural diversification projects.

[17] The forestry concessions under MIFIC's charge are not discussed because there are none at present.
[18] In the November 2001 version of the new forestry bill, this responsibility would be definitively transferred to the municipal governments.
[19] Of the 31 municipalities of the western and southern regions, 8 have a staff person in charge of the environment (INIFOM 2001).
[20] In El Sauce, the government approved an ordinance that delegates the granting of permits to district committees after a protest in which peasants blocked the roads to prevent the passage of trucks carrying trunks obtained in the municipality.
[21] This varies in practice. The alcaldito can be selected by the mayor or elected by the community. In some cases, there are two local leaders: the alcaldito and the representative of the development committee or other district committee with a similar name.
[22] One example is Yalagüina, in the department of Madriz (García 2002, pers. comm.).
[23] El Castillo, one of the poorest and most rural municipalities in the country, has six technicians financed by DANIDA, who also help the peasants in agricultural diversification and agroforestry (Holt 2002, pers. comm.).

NICARAGUA

It is important to underscore that a few municipalities have succeeded in increasing their power with respect to logging permits. In 2002, four municipalities of León (El Sauce, Achuapa, Santa Rosa del Peñón and El Jicaral) reached an unprecedented agreement with INAFOR, after threatening to prohibit all logging in their jurisdictions: it made the municipal government's endorsement binding rather than just consultative. That is, INAFOR has agreed not to approve permits without the municipality's favorable opinion (Saborío and García 2002, pers. comm.).

Fees for resource extraction and related activities

At the end of the nineties, many municipalities began to charge for logging and other resource use. The charge could be a tariff paid when a logging permit is processed, a road toll, a fine for unauthorized logging or a fee paid to register a chainsaw. The problem is that the majority of these charges are illegal.

Bonanza established fees for obligatory chainsaw registration, payment for a commercial logging license and a logging tax by cubic meter, as well as fines for transporting illegally cut lumber. In 1999, the municipalities of Cúa-Bocay, Waslala and Dipilto charged transport tariffs, and Puerto Morazán was considering an ordinance to tax individuals and machinery dedicated to several different kinds of natural resource extraction.

Taxes on the lumber industry can provide an important portion of local government budgets in Nicaragua. For example, taxes on logging and sawmills represented 35% of Dipilto's budget in 1998, and the following year resource use fees (90% of which are for logging) amounted to an estimated 42% of El Castillo's ordinary income.

Although all these efforts reveal a concern for natural resources, they are primarily aimed at collecting revenue, mainly from logging. Some municipalities are still charging these fees, but two separate processes have begun to counteract the illegal ones. One of them is that in mid-2001 INAFOR began to turn over to the local governments 25% of the income from forestry permits, as the law establishes. Part of the justification for some of the previous charges was that the central government was not fulfilling this obligation, and municipalities argued that they had the right to obtain income from the resources under their jurisdiction.

The other process has been the government's establishment of Environmental Attorney's Offices in 1998-99 to deal with environment-related crimes. In 2002, there were five such offices and plans to open three more, with funds from Denmark and the World Bank. These offices have helped some municipalities rewrite their municipal ordinances, negotiate with state entities and establish legal norms and charges (García 2002, pers. comm.).

Monitoring and control of extraction

There are many ways to monitor extraction, and up to now it can be said that few have been resounding successes. Some municipalities have established registration points to control illegal logging, but the majority have been organized by the Bosawas Reserve administrators (SETAB-MARENA) and the NGO Centro Humboldt, with support from the German aid agency (GTZ) and are located at key points within the territory of the reserve. They cannot, however, control the loads of lumber sent out through the rivers or by bribing truckers (Mendoza 2002, pers. comm.). Furthermore, due to the high maintenance costs, only two control posts were in operation in 2002 (Campos 2002, pers. comm.).

Chinandega, León and Estelí are able to hire their own park rangers, while El Castillo's park rangers, for example, are financed by DANIDA. Their role is to keep watch over the forest in protected areas. Outside of these areas, municipal foresters—where they exist—usually participate in some way in monitoring logging. At times, municipal environmental commissions or the municipal government's environmental office receive and investigate accusations of illegal activity.

Given the cost and technical requirements for good monitoring plus the existence of a large gray area between the responsibilities of local government and those of INAFOR, it has been easier for municipal governments to prohibit logging than to allow and control it. Various municipalities have established prohibitions or temporary limits on logging or the transport of timber. Waslala passed a decree prohibiting the removal of wood from the municipality. Jalapa issued an ordinance prohibiting the removal of unprocessed logs. San Carlos' Municipal Council approved a resolution prohibiting the granting of commercial permits for two years.[24] Bonanza has not prohibited logging, but imposed so many requirements that it is virtually impossible to obtain a permit (Mendoza 2002, pers. comm.).

What has begun to happen in practice is the approval of municipal ordinances that regulate the use and handling of forests as well as other natural resources. Jinotepe approved an ordinance that included regulations and prohibitions on fishing, trade in fauna and care of the local watershed and the seven other municipalities of the department of Carazo were preparing drafts of their own ordinances on these same issues with advisory services from AMUNIC and environmental consultants (Blackwell 2002, pers. comm.). Achuapa approved an ordinance on natural resources that is considered a model for integrating norms on the use of water, soil, forests and fauna. In most of these cases, the mechanisms through which the municipality may implement and monitor these ordinances and ensure compliance with them are not made clear.

[24] INAFOR has fought against these prohibitions. The Environmental Attorney's Office sustains that they are legal, because the law grants municipalities the right to establish their own standards on the condition that they not be less strict than the national norms (García 2002, pers. comm.).

Forest fire control

Many municipalities have forest fire brigades, especially after mammoth fires raged through Central America between March and May 1998, causing serious respiratory problems from Nicaragua all the way to Texas. The government established fines for burning without a permit and for causing fires, intentionally or not, in state or private agricultural or wooded lands, deploring the "horrible and asphyxiating fires that wiped out forests and obscured the sky....".[25] Although with limited funds, MARENA launched a national forest fire prevention and control campaign with the support of various international agencies.

In 2002, the preoccupation with fire prevention increased again due to the expectation of a major drought combined with a plague of weevils that had affected nearly 31,000 ha of pines (49% of the total pine forest area in Nicaragua). Studies estimated that there were nearly four million cubic meters of fallen or still-standing dry timber, which is an immense amount of very flammable material (Centro Humboldt/AMUNSE 2002). On that occasion, several municipal governments headed up campaigns against forest fires and requested support, above all from the central government. Local organizations and mayors in the Association of Municipalities of the Segovias (AMUNSE) wrote to the Human Rights Attorney's Office arguing that "this problem has not been given the importance and priority it requires at the national level."

According to the Centro Humboldt/AMUNSE report, 72% of Dipilto's population was at high risk to the possibility of forest fires. Jalapa's municipal government decreed a state of red alert, and many other local governments from the region prohibited the traditional burning of agricultural fields (LP 7-2-2002). When a fire gathered force in Dipilto on April 10, 2002, Ocotal's mayor arrived with a pick-up truck full of water and the mayor of Mozonte sent 50 brigade members to support those already fighting the fire.

In the department of León, municipal governments established agreements with MAGFOR to apply administrative and penal sanctions against anyone who started a forest fire (LP 14-4-2002). In some municipalities of Estelí, Jinotega and Matagalpa, new procedures intended to guarantee better control were defined for granting burning permits (García 2002, pers. comm.). The permits are not given out in the departmental capital, but through district committees previously trained by MAGFOR.[26] Although MAGFOR has the power to levy fines for fires, these municipalities succeeded in establishing their own fines, since the Environmental Attorney's Office determined that MAGFOR's legal responsibility regarding sanctions is applicable to forest fires but not agricultural burning, despite the practice of treating both as a single entity.

Protected areas

Not all municipal governments have shown a real interest in the protected areas within their territories. Some would prefer that they not exist and some have even actively spoken against them. This could be partly because prohibitions on logging in some forested areas,

[25] La Prensa, 6/6/98.

[26] Up to now, many other areas of the country have seen burning permits more as an administrative requirement than as the definition of clear technical directives to guarantee safe burning. This has led to a debate among different NGOs about the prudence of granting permits. Some think that granting the permit legitimizes burning without improving how it is done, while others argue that it improves the safety of the burning.

such as the Caribbean regions, represent a loss of income for both the governments and local communities.

The governments of the six municipalities that share the Bosawas Reserve have participated in many meetings, but only Bonanza has shown consistent and genuine interest in protecting and managing it.[27] This is one of few municipalities on the agricultural frontier that have taken the initiative to establish their own reserve (Cerro Cola Blanca, in this case), as permitted by law.[28]

The municipal governments' interest in protected areas seems to be greater in the more degraded and urban Central and Pacific regions.[29] Some of them have tourist potential, and there are serious concerns about water scarcity and about natural disasters as well. The Pikín Guerrero project, located in the Pacific plains, involved various municipalities in managing the protected areas of the volcanic chain, but it ended in 1998. That same year, Hurricane Mitch and the mudslide of Casita volcano, which killed 3,000 people, awakened some awareness about the effects of deforestation on the hillsides.[30]

Land use and environmental planning

Land use planning can be considered a first step to the creation of a framework for development, with natural resources as the base and the municipal government as a pillar. Participatory strategic planning, for example, could promote an important learning process and turn the municipal government into an essential participant. In addition, it could help guide the initiatives of NGOs and other projects in the municipality.

The General Law on the Environment clearly establishes that municipal authorities have the mandate to formulate land use plans,[31] although other laws give this same faculty to MAGFOR, MARENA and/or INETER (Nicaraguan Institute of Territorial Studies).[32] Very few municipal governments have such a plan and at times they are nothing more than lists of infrastructure projects. León appears to be the municipality most experienced in this field, with a land use planning study approved by the Council in 1993 and a master plan (municipal development assessment and strategy) approved in 1996. It also has a short-term municipal development plan and a municipal investment plan.

In El Castillo, a land use plan prepared with grassroots participation was ignored for over a year because the new mayor was from a different political party. In 1999, San Carlos had two land use plans and a project for yet another, but they had been done by outside

[27] It seems, however, that interest is growing over time. When this book was in the editing stage, six mayors from the North Atlantic Autonomous Region denounced illegal clear-cutting in the protected areas of their municipalities and, according to them, INAFOR's role in legalizing it (La Prensa Nov. 15 and 16, 2002).

[28] After a Municipal Park is established, MARENA is responsible for setting norms, regulating its use and preparing and approving the terms of reference for the management plan (Reglamento de Áreas Protegidas Decreto No. 14-99). This could also serve as a disincentive for promoting protected areas as some municipalities fear losing control of their area. In addition, although some have tried following the procedures to obtain MARENA approval, none have succeeded so far.

[29] A recent study of 45 municipalities found that 10 had declared some type of municipal reserve, only one of which was in the Caribbean region (Nitlapán 2002).

[30] Nonetheless, it must be recognized that environmental consciousness is frequently underpinned with myths and simplifications (Kaimowitz 2001).

[31] Art. 16. "The preparation and implementation of land use plans will be the responsibility of the municipal authorities...."

[32] Thanks to Ove Faurby for his help in clarifying this point.

consultants and filed away in a bureaucrat's office, so no one even knew they existed. Many efforts at municipal planning have failed because they emphasize technical solutions rather than participatory processes to resolve municipal problems.

Aid projects are now putting serious emphasis on the need to draw up environmental plans in a participatory manner. For example, DANIDA, through its PASMA program, supported MARENA's delegations and Territorial Coordinating Office to hold municipal, departmental and regional meetings during the preparation of the Environmental Policy and Plan for Nicaragua (PANic). In these meetings, environmental plans were sketched out for the country's 151 municipalities, which permitted the identification of environmental problems and the design of projects to address them. Although these "plans" were put forward more as a list of problems, they could serve as the basis for formulating other more realistic ones. A current Inter-American Development Bank (IDB) project is requiring municipalities to have an environmental management plan and a municipal environmental unit in order to gain access to its resources (Suazo 2002, pers. comm.).

Forest and environmental projects

In general, when municipal governments are asked about projects related to natural resources, the first thing they think about is reforestation. Due to growing national awareness of the problems with deforestation and to a setting in which international financing is available for related initiatives, many municipalities have developed at least one reforestation project or have established a municipal tree nursery.[33]

Wiwilí's municipal government, for example, promoted a project to reforest 56 ha. The municipal government of Villanueva established a nursery with 16,000 plants, which it then distributed to be used in protecting water sources and reforesting urban streets. In 1997, Chinandega won a prize for having the best municipal nursery in Nicaragua, which was producing 100,000 trees per year. After Hurricane Mitch, Posoltega established a nursery with World Bank funds that had 130,000 trees of native species, as well as fruit and ornamental trees.

MARENA's Small Projects Fund (FPP) has financed more than 50 municipal projects with DANIDA funding. Although the majority of them included at least one reforestation component, there are also projects for management of solid waste, sewage and other production waste such as the gummy residue (aguas mieles) from coffee processing. The majority of the projects were financed at the request not of the municipal governments but other local organizations, but all required approval by the CAM or the Municipal Council (FPP 2001). Local governments themselves tend to have a more urban approach, presenting projects on landfills and municipal clean-up or parks (Meyrat 2002, pers. comm.).

Municipal associations

There have been various initiatives to coordinate activities among municipalities. The oldest municipal government associations are AMUNSE in the Segovias and AMURS in Río San Juan, but they now exist in various departments. Although their main concern is usually municipal institutionality, they also have an agenda on natural resources.

[33] It must be mentioned, however, that there are many doubts about the effectiveness of traditional reforestation programs.

AMURS has coordinated a series of important initiatives: it established a documentation center in San Carlos and participated in formulating and developing numerous projects. It also serves as a technical support team for the municipal governments, has organized several forums to discuss municipal problems and headed up the formation of the Departmental Sustainable Development Council of Río San Juan (CODESO RSJ).

Forestry investments

Despite all these efforts, there is little investment in the forestry sector. Although some municipalities have received income from natural resource exploitation through the 25% from INAFOR or local charges, there is no evidence that this income is being reinvested in the sector in the majority of cases. One reason could be that the control of logging (and therefore of the benefits of some investments) is in central government hands, but this is not the only problem. In general, municipal governments have an urban bias and invest little in rural areas.

Nonetheless, pressure is increasing from some rural communities, CAMs and NGOs to reinvest at least a fraction of the funds that come from forest activities in the same sector, or at least in the communities in which logging occurred. In forested and rural municipalities, these efforts are coming up against the reality of governments with annual budgets of $1 to $4 per capita (Larson 2001), but resources are also rarely invested in forests or the environment in the Pacific, where the discourse of many municipal governments is quite conservationist (Somarriba 2002, pers. comm.).

THE MUNICIPALITY OF BONANZA

Bonanza is an agrarian frontier municipality located in the North Atlantic Autonomous Region, but it is not a typical agricultural frontier community. The local economy has been historically based on mining and the proportion of the population that is urban (38%) is much greater than in other agricultural frontier municipalities, with the exception of San Carlos. Of its 68,000 inhabitants, 68% is poor. The population is multiethnic, with 63% mestizo, 26% Sumu-Mayangna, 11% Miskito and under 1% Creole. The nucleus of the Bosawas Reserve covers 42% of the territory and the buffer zone the rest. Bonanza is much less deforested than the neighboring mining municipalities of Siuna and Rosita.

In 1999, the Municipal Council approved 32 ordinances related to natural resources. The majority have to do with problems of mining, livestock raising and solid waste management, but several are related to forests, including the declaration of a municipal park. The municipality has a land use plan prepared in collaboration with Bosawas-GTZ and Centro Humboldt, and has formed ecological brigades of students who reforest the area conceded to the mining company.

Bonanza has a very active CAM and the commitment level of the mayors is exceptional: both previous mayors are still CAM members. In addition, the current mayor worked before in the Bosawas Technical Secretariat, the MARENA office that administers the

reserve. He is Mayangna, as are two of the five other local government members, while another is Miskito and two are mestizo, so indigenous interests are very well represented at the discussion table.

Two years ago, the government's environmental concerns were focused mainly on mining. Its actions included monitoring contamination and the requirement that the Canadian mining company operating there, Greenstone/Hemconic, invest in the community. Now the company, which is a member of the CAM, has its own environmental superintendent, who supervises its operations to ensure that they respect environmental legislation. The municipal government has mediated conflicts between the company and the local population.

During these past two years, problems related to forest resources have dominated the CAM meetings and numerous environmental issues have been discussed in the Municipal Council. Bonanza has ordinances that regulate the use of chainsaws, set taxes on natural resource use and establish protected areas, such as the Cola Blanca Natural Reserve. There are also ordinances on logging, land use planning and sustainable resource management. Various requisites are needed to get a logging permit: chainsaw registration, three letters of recommendation, a lumber dealer's license, municipal and fiscal solvency certificates, an environmental plan, a forestry management plan and an economic deposit as guarantee.

These ordinances are mainly a product of the CAM, which is chaired by the mayor and includes MAGFOR, the Ministry of Health, the police and army, Centro Humboldt, the Bosawas Project (MARENA), Greenstone/Hemconic and the Small Miners Association. The CAM meets once a month and has operated for nearly 10 years. Its effectiveness could be due to the degree of organization of civil society, the persistence of the Centro Humboldt and MARENA and the receptivity and support of successive mayors. Furthermore, there has been no change of political party in the mayor's office since 1990, which has given continuity to local administration.

The biggest problem related to forest resources has been the inability to control illegal logging. The municipality does not even support the initiatives of local loggers organized in the Bonanza Silviculture Cooperative (COSBA), who complain that they are viewed as "destroyers of the forest." One analyst observed that there are no intermediate solutions, only extremes: either "don't touch anything" or "take it all" (Mendoza 2002, pers. comm.).

In possibly no other municipality is concern for natural resources so integrated into the vocabulary of both the population and the local government. Only a short while ago, mining, by being the main economic activity, alleviated the pressure on the forest. Nonetheless, the logging interests have started knocking at their doors. It is probable that they will have to seek more comprehensive solutions than just prohibitions that cannot be enforced.

COORDINATION BETWEEN MUNICIPAL GOVERNMENTS AND CENTRAL AGENCIES

Municipal governments have only partially fulfilled the responsibilities granted them by law when these responsibilities require coordinating actions with national authorities. Coordination with INAFOR, MAGFOR and MARENA has fundamentally depended on the willingness of the departmental delegate and the municipal government to negotiate. And even when this will is present, the lack of resources has at times affected the delegates' possibility of visiting the different municipalities in the department.

The two problems mentioned most often regarding this coordination[34] are the little respect shown by delegates and technical personnel to local elected leaders, who usually have a lower level of former education, and the tendency of some central government officials to control information and impose unnecessary bureaucratic procedures. There have, however, been important efforts to overcome these problems at the national and local level. In 2001, AMUNIC invited the MARENA delegates to the first meetings of newly elected mayors in the departments and autonomous regions, and all attended. MARENA explained the importance of the municipal environmental plans and the need to have an environmental office and a CAM in each municipality. This sparked an interesting exchange and demonstrated MARENA's willingness to work with local governments (Blackwell 2002, pers. comm.).

MARENA and others sectors interested in natural resources see the CAMs as the best mechanism for discussing, hammering out consensus and organizing participation around environmental problems and plans in the municipalities (STCSD *et al.* 2002). Although each CAM is different, they are generally made up of representatives of state institutions and civil society, with a local government representative as president. At times, the INAFOR delegate also participates. Although there are CAMs in over half of the country's municipalities, however, they do not always function in practice.[35]

As for INAFOR, the period of greatest coordination with local governments was between mid-2000 and October 2001, when INAFOR's director began to implement a deconcentration and decentralization plan. She was very open to the complaints and suggestions coming from the municipalities and tried to put a stop to internal corruption. One of her most important actions was to negotiate the payment of 25% of logging permit fees to local governments, since she understood that these governments would only begin to take the legal framework on forest management seriously if INAFOR fulfilled its own obligations. She promoted meetings between INAFOR and municipal leaders, in which INAFOR provided all available information on logging and forest industries in each municipality. She also won the support of agroforestry organizations by simplifying the process for obtaining permits and delegating many functions to departmental offices.[36]

[34] There are also other problems, such as when the mayor and the delegate are from different political parties.

[35] Where the CAMs are very effective, as in León, Estelí and Bonanza, they offer an important forum for local stakeholders to coordinate on environmental and forestry issues. In addition, they facilitate communication and negotiation with private industry, supervise agreements through field visits, propose ordinances to the Municipal Council and promote projects such as watershed management, protection of slopes and others.

[36] In a national forum on Community Forestry, the leader of a project for pine grove owners in Santa Clara said the costs and inconvenience of the bureaucracies had diminished thanks to the INAFOR director's initiatives (Rivera 2001).

Between October 2001 and March 2002, successive changes were made in INAFOR's management. The first new director recentralized control over permits, while the second decided to return to the deconcentration and decentralization plan, although progress has been very slow (Saborío 2002, pers. comm.).[37] These contradictions, however, show that it is imperative to have a defined decentralization policy, so that it not depend on the initiative and good will of a single official.

MARENA is three years into its deconcentration process, but it is considered one of the ministries with the least internal communication and coordination. Some documents and studies published by one office are unknown and unconsulted in others. There is also no coordination between MARENA and INAFOR, but rather conflicts over control of some territories such as the Bosawas Reserve's buffer zone.[38]

In the forestry sector, the balance of powers between the municipalities and the central government leans clearly toward the ministries, although there are important efforts to achieve a better equilibrium. The central government's official viewpoint is that power has to be turned over to the local governments gradually, as they accumulate capacities. This policy sounds reasonable, but it must be recognized that it facilitates resistance to decentralization and could encourage manipulation of the process. It is difficult to acquire capacities if one does not face the *need* to do so and lacks the authority to exercise them.

DECENTRALIZATION AND LOCAL ACTORS

The local arena is complex and each municipality is different, but even so, strengthening municipal power has opened new opportunities for many local actors. Are the elite the only ones being strengthened, or are opportunities for participation opening for marginalized sectors too? In some places the loggers, including the above-mentioned "timber mafia," predominate. In other cases, those previously marginalized have grabbed the reins. The most outstanding case is Bonanza, where indigenous people control the majority of the Municipal Council and there is a Mayangna mayor for the first time in the country's history.

This section analyzes official mechanisms and opportunities for civic participation in municipal government decision-making and discusses the most relevant local stakeholders in the forestry sector and their relation to local government.

Official opportunities for civic participation

[37] The plan is not exactly the one previously formulated, but there are few changes (Saborío 2002, pers. comm.). The previous director, for example, had considered liberalizing the transport of logs so that INAFOR could focus more on territorial control (Tijerino 2001, Saborío and Flores 2002, pers. comm.). The new deputy director argues that the first step is deconcentration and that there are capacity problems not only among municipal governments but also some INAFOR delegations. In an interview he stated his vew that municipal governments own their resources and thus should be the ones to analyze the requests and grant the permits, while INAFOR's role should be to standardize and supervise the process (Saborío 2002, pers. comm.). Nonetheless, many officials, particularly at the middle and lower levels, oppose deconcentration and/or decentralization (Flores 2002, pers. comm.).

[38] Due to a lack of legal definition of the buffer zone, it was not included in the Protected Area until December 2001; until then, the land had been under INAFOR's jurisdiction. With the new law, promoted by the Bosawas Technical Secretariat, the buffer zone became part of the Reserve and was transferred to MARENA's jurisdiction. In early 2002, this law was in dispute, as indigenous communities filed a claim of unconstitutionality because they were not consulted (Campos 2002, pers. comm.).

The Municipalities Law establishes that the municipal governments "will promote and stimulate civic participation in local administration." The only mechanism required, however, is the *cabildo*, which it defines as "assemblies made up of the residents of each municipality"—a sort of town hall forum. According to Article 36, the municipal government must hold two *cabildos* a year to present and discuss the budget both before and after its implementation, although both the Municipal Council and the citizens can call extraordinary *cabildos*.

The law authorizes local governments to create other participatory forums and residents' associations. The Municipal Environmental Commission (CAM) is one such forum that operates more uniformly than a few years ago.[39] In addition, many municipalities have alcalditos to maintain contact between the local government and rural communities. At times, these or other community leaders directly participate in resource management concerns, such as by endorsing forestry or agricultural burning permits.

The recently approved Municipal Budgetary System Law obliges municipal governments to formulate their annual budgets with community participation.[40] The Council must create a special commission, with its schedule of consultation meetings, and respond to the population's suggestions before the *cabildo*, where the results are then presented. The law also establishes that a citizen may demand that the budget be declared null if the municipal government fails to carry out this participatory process (Bravo 2002, pers. comm.).

These mechanisms of participation and interchange between local government and civil society should improve government accountability, which up to now has been somewhat weak. Little by little, the judicial system is beginning to act. Waspán's former mayor was accused of administrative and penal responsibility for irregularities involving over half a million dollars; mainly for authorizing logging endorsements for which the funds, paid by the Región Autónoma Atlántico Norte Industrial S.A. (RAANISA), were never reported to the mayor's office (LP 18-Apr-2002). A more effective judicial system would be an incentive for transparency and legal actions and a disincentive for corruption.

Civil society's relations with municipal government

In addition to the municipal governments, the most relevant local stakeholders regarding forest resources are indigenous peoples, NGOs and other projects, peasants (farmers, agroforesters or firewood sellers) and the logging companies.

Indigenous peoples

In general, the indigenous peoples on the Caribbean side of the country have strong NGO allies but, with the exception of Bonanza, they tend to see local governments as representatives of the *mestizos*—the non-indigenous population with whom they have had serious conflicts as landless peasants from other regions of the country have begun to

[39] Before, each NGO, project or ministry supported the type of entity that suited its purposes. There are now increasing efforts linked into the vision of the CAMs.

[40] There is also a civil participation bill that has yet to be approved

colonize their territories. Some mayors have indeed taken the peasants' side, as happened in Siuna between 1996 and 2000. In Bonanza, however, where indigenous communities have chosen to participate in and won election to municipal government, their interests are clearly represented in the municipal agenda.

Logistical problems also make relations between the indigenous peoples and municipal governments difficult, since indigenous territories frequently cover more than one municipality, and, at times, even more than one department. Furthermore, a good part of these territories is found in the Bosawas Reserve, which is more under MARENA's jurisdiction than that of the municipal governments. In this case, although the indigenous communities could benefit from a good relation with the municipal governments, they probably consider their relation with MARENA to be a greater priority.

Las ONG

Although many projects and NGOs themselves ignored the municipal governments until the mid-nineties, the situation began to change toward the end of the decade. Previously, they did not take local governments as seriously because they had little power, meager budgets and very limited capacity. With the decentralization boom as a globally recognized process to strengthen democracy and institutionality and the increased powers and growing legitimacy of Nicaragua's municipal governments, NGOs were obliged to recognize, negotiate with and even include them in their plans and projects.

Tensions still exist, some because of the high salaries and budgets that the NGOs usually enjoy and others because some projects still undermine local government authority, above all when there are poor relations or personal and political rifts. At the same time, NGOs can exert pressure to influence municipal decisions by mobilizing the population and the media, threatening to withdraw aid or technical support or cultivating a positive relationship of exchange, institutional support and negotiation with the municipal government. All of these have been important in promoting municipal government initiatives around environmental concerns.

NGOs have also been essential in promoting the formation of horizontal support networks, such as the Remario project in Río San Juan, which groups together various NGOs, private sector institutions, producers, universities, technical schools and government representatives around forestry problems. Good coordination among these groups and with the region's municipal governments might considerably increase the administrative capacity not only of the government, but also of local stakeholders.

The peasants

Few local governments have chosen to foster the development of community foresters or other small-scale forest producers. Also, because permits were centralized, these producers had

little relationship with municipal governments, save when the latter wanted to tax them. When INAFOR began to decentralize, however, at least one agroforestry association lauded this initiative by its director, because it led to important savings in time and travel (Rivera 2001).

Some mayors have pledged to protect the rights of these small-scale forest owners, who are often the ones who lose most from logging contracts.[41] Firewood collectors and merchants, almost all of whom operate illegally, also see advantages in local governments being in charge rather than INAFOR. Among other things, this would facilitate their legalization and help change the bad image that the sector has among environmentalists and the authorities (Carneiro 1999, 1998).[42]

Logging companies

The logging companies have had both successes and failures in their relations with the local governments. In some cases, they have managed to convince or even bribe both the municipal governments and the populations to achieve their aims.[43] The RAAN is the worst example, where corruption is so entrenched that the Environmental Attorney's Office chose to close its office there due to death threats and other types of pressure (García 2002, pers. comm.). Even where the local government has joined efforts with the NGOs and MARENA to stop all logging in the municipality (Bonanza), many loggers still operate illegally. In other cases, however, particularly where local organization is strong (thanks to certain NGOs, indigenous groups or peasant associations), the protest level has prevented logging or mining companies from being able to manage their concessions or use their forestry permits.[44]

In summary, the strengthening of municipal governments has had different effects in the local arena. Perhaps the most important is that there is a new authority, closer to the citizenry, with which to negotiate natural resource management. And if negotiation is impossible, there are other ways to have influence, through the pressure of projects or social mobilization. Even when the national government has granted unwanted exploitation contracts, this pressure has forced some of them to be cancelled, particularly when those heading up the mobilization had the local government's support.

Tensions between centralization and decentralization

According to Agrawal and Ribot (1999), for there to be a democratic decentralization, local governments need to have significant autonomous decision-making powers and must be accountable to the citizenry rather than only to the central government. In analyzing

[41] A Though landowners have to approve the sale of their wood, they often have little protection from or recourse for logging company abuses.
[42] Firewood dealers currently have little incentive to legalize. Taxes are very high, as are the costs of developing management plans and the bureaucracy for all the steps required. Around 90% of the sector operates illegally. (Carneiro 1999, 1998).
[43] The Renaustra mining company succeeded in reversing the Municipal Council of Cuá-Bocay's decision to reject its application for a concession.
[44] This is the case of the timber company SOLCARSA and of various mining companies, such as Nycon in Bonanza and Placer Dome in San Carlos and El Castillo.

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the issue of "powers" in the decentralization of forestry administration in Nicaragua, three different but very related spheres must be considered: the municipalization process per se, environmental conservation and protection, and production, or the use and control of income-generating natural resources.

With respect to municipalization itself, the importance of the process developed in Nicaragua over the past 12 years cannot be denied; it has opened a sphere of local governance that did not exist before. Regarding environmental conservation and protection, municipal governments have more influence than before, although there are still many areas in which they must coordinate with a state entity, which establishes norms and has the last word. It is with respect to control over natural resources with economic value, such as forest resources, that there has been very little decentralization of powers and responsibilities. If local governments have been able to have some impact in this regard, it has been thanks to their environmental responsibilities and to the possibility of issuing ordinances with some authority.

In addition to limitations on decision-making power, another factor affects municipal autonomy: lack of economic resources. The Technical Secretariat of the Sectoral Commission for Decentralization (STCSD), the lead entity for the central government's decentralization policy, itself warned that the lack of a budget "undermines the financial sufficiency of the local entities, and thus of municipal autonomy" (Comisión Sectorial para la Descentralización 2001).

Regarding the second requisite for decentralization mentioned by Agrawal and Ribot (transparency and accountability to the citizenry), it can be said that the election of local leaders starting in 1990 marked a watershed with the past. Nonetheless, elections alone are often not enough. In Nicaragua, political parties choose the candidates and the population is seldom consulted. At voting time, the electors choose among slates of candidates presented by the party, not particular individuals.[45] For this reason, those elected usually answer more to their party bosses than to their constituents. In addition, when they do attend to the local population's needs, they tend to favor those from their same political group. It has thus been necessary to turn to other methods to demand accountability, such as local campaigns, mobilizations and denunciations in the media.[46]

PROBLEMS WITH THE CURRENT SYSTEM

INAFOR itself recognizes that the current (centralized) administration of forestry resources is inadequate (Saborío 2002, pers. comm.). The institute lacks the economic resources necessary to deploy enough people to the countryside to provide better management and follow-up to forestry activities. It has also been unable to eliminate corruption either from the countryside or from within the institution. According to its own (unofficial) calculations, 70% of current logging is done without a legal permit, in other words without any control by INAFOR. Furthermore, the institute's income depends on the permits it grants and the fines it levies, which could lead it to take a merely financial interest in logging.

[45] It was not always strictly party based, however. In 2000, as the result of a pact between the Liberal Party and the FSLN, the Electoral Law was changed to eliminate the participation of candidates for municipal office chosen by local non-party associations and endorsed by popular petition. In addition, the requisites to establish or maintain a political party were changed, effectively creating a two-party system.

[46] Participation in the formulation of the municipal budget may also prove to be an important step.

The central government has also failed to protect the environment. Nothing indicates that logging is being done sustainably in the country's forests; instead, the data indicate a strong tendency to high-grading[47] as well as a deforestation level of over 50,000 ha per year. MARENA has only been effective in protecting the environment in those areas where close coordination exists with the local stakeholders.

Access to forest resources has not been equitable. During the past decade, loggers with greater economic resources and/or links to the government have had the best access, to the detriment of smaller companies, forest owners, agroforesters and firewood merchants who live in the forested territories. Also, the cost and complexity of the bureaucratic paperwork and the forms of payment for resource access discriminate against these groups. And at times, INAFOR has been reluctant to share the economic benefits of logging, although the law requires it to do so.

In the areas where there are serious problems of corruption, as in the RAAN, both local and national leaders have been implicated. To fight it, neither the central nor the local government can act alone. Furthermore, the legal framework for forestry does not provide incentives for good management. This problem needs to be resolved, independent of whether forest management is centralized or decentralized.

MUNICIPAL BUDGET AND CAPACITY

Although many believe that municipal government participation in forest management could help resolve some of the current problems, it is important to recognize that some local governments still have limited capacity. This is precisely the argument most often heard to justify the failure to approve greater central government transfers during the annual discussion of the national budget in the National Assembly.[48] The central government has argued that the principal of gradualness must be adopted in the transfer of funds, as municipal capacity increases. Nonetheless, the legislature only increased the percentage granted to the municipal governments by 0.2% for 2002. This argument is like the chicken and egg problem: if there are no funds, how does capacity to manage them increase? And how can skilled personnel be obtained, since they demand better salaries?[49]

In reality, it is not clear that capacity is or has been the primary concern regarding government transfers. In fact, it has been pointed out that central funding became totally discretionary during the government of Arnoldo Alemán, with municipal funds and projects being used to reward or punish members of the governing party (M. Ortega 2002, pers. comm.). During the last year of his government, a direct transfer of 1% was approved, which is insufficient. Many municipal governments are genuinely interested in dealing with their constituents' problems, but are unable to do so for lack of funds. This lack of financing thus undermines local government authority and legitimacy.

[47] Taking the best trees without concern for the regeneration of the species or the quality of regeneration.

[48] Shortly before this book went to press, the National Assembly voted to transfer a record (for Nicaragua) 3.2% of the national budget to municipal governments. As of late 2002, many legislators had finally begun to fight in favor of the municipalities for several reasons that are not possible to address in this chapter. It is highly unlikely, however, that this transfer will remain in the final version of the budget. Rather than "lack of capacity," however, the problems now are economic and political.

[49] Although the government of Nicaragua is poor, it is not true that there are no additional funds for the municipalities. Funds have been budgeted for institutions such as the Emergency Social Investment Fund (FISE), the Rural Development Institute (IDR) and the Presidency of the Republic that are earmarked for projects within municipal competency (Baltodano 2002). The legislators also have their own funds for municipal projects.

The lack of budget affects forest management as well. An analysis of Nicaragua's municipalities shows a clear correlation between the amount of economic resources (which increases with the percentage of urban population and shrinks with the level of urban poor) and the number of local forest management initiatives (Larson 2001). This is particularly due to the ability to contract personnel dedicated specifically to the administration of environmental issues. It should be noted here that, unfortunately, there are fewer resources to hire such personnel precisely where there are more forest resources and the forests are more fragile (in the most outlying, rural and poor regions).

In general terms, local government capacity has clearly improved in the past 10 years (M. Ortega 2002, Bravo 2002, pers. comm.). Aspects that virtually did not even exist in most municipalities before then, such as the capacity to plan, promote local participation, manage finances, coordinate with other entities and make informed decisions are now being consolidated. There is a new municipal culture (M. Ortega 2001). A World Bank study found that internal financial controls are "adequate" or "very adequate" in 10 of the 13 municipalities of Chinandega (Donkin and Argüello 2001), and that what they need are funds to carry out their mandate.

The reduction of the local sales tax from 2% to 1% has jeopardized municipal budgets, and the real estate tax (IBI) has been unable to make up the losses.[50] The lack of updated property registry data, together with the distance of many rural properties from local government offices, makes it difficult to enforce. The tax plan is out of date and does not respond to local government needs, since the 1997 reform to the Municipalities Law considerably increased their competencies relative to the original 1988 law (Bravo 2002, pers. comm.).

The municipalities' economic needs, combined with the central government's failure to comply with the payment of 25% on resource exploitation contracts,[51] triggered the creation of other charges on natural resources. Although the Constitution establishes that only the National Assembly can create taxes,[52]many of these municipal government charges, though not called taxes, are just that.

There are also problems with fines that local governments have imposed for failure to obey certain local norms, such as those established with respect to forest fires and agricultural burning. The main problems occur when:

1. the fines duplicate those established by a national institution, as this contradicts the constitutional prohibition against penalizing a citizen twice for the same crime; and/or

2. no legal mechanisms have been established to make them effective (García 2002, pers. comm.).

[50] The central government and some bilateral projects believe that local governments have to seek their own financing through taxes such as the IBI. They argue that many municipalities are pressuring for national budget transfers to avoid charging their own residents, thus promoting paternalistic relations. This is true in some cases, but it must also be recognized that there are logistical problems with charging the IBI, not to mention high poverty levels in some areas that greatly limit its income generating potential.

[51] Although it seems that the problem in forestry has been resolved, this has not been the case for other resources.

[52] At present, each year the National Assembly must approve the tax plans for every municipality. A proposal to reform the Municipal Tax Code suggests the establishment of minimum and maximum rates, allowing the municipalities to choose their rates within those limits (Bravo, 2002, M. Ortega 2002, pers. comm.).

Municipal governments can, however, charge for their services, and there are fines that are indeed legal. But in practice the lack of clarity due not only to ignorance of the laws but also to different interpretations of them generates confusion. As one lawyer said, "Each municipality is its own republic!" (J. Ortega 2002, pers. comm.).

In summary, on top of their fully justified claims regarding lack of financing, some municipalities will have to address difficulties in charging and managing funds, as well as legal problems.

CENTRAL GOVERNMENT RESISTANCE

Why has decentralization not gone further? To round out the answer to this question, it is important to analyze not only the central government's stated reasons but also the responsibilities that it reserves for itself in practice. With respect to natural resource management, the government again argues that the problem is lack of local capacity, just as it does with financial management.[53] But two other factors may better explain the resistance to decentralizing forest management. First, Forestry Institute officials, and particularly lower-level staff, resist ceding responsibilities and sharing knowledge and information, because doing so means ceding power and could even make their jobs obsolete. Second, Nicaragua's forest resources generate income that the Institute and its staff claim for themselves, through both legal and illegal means; not only do they resist ceding income, but again the power that accompanies economic control.

The promotion of formal decentralization depends a lot on leadership; when there has been political will and strong leadership, decentralization has moved forward. But it is not good for this process to depend on the will of a single person, as can be appreciated in the case of the change of directors in INAFOR in 2001. The rollback that a single individual can provoke, even in a few short months, underscores the importance of establishing a clear policy on decentralization of forest management.

Decentralization also progresses when there is social pressure from below. Nicaragua's mayors have gotten attention for their demands, despite resistance from the central level, when they have been able to organize among themselves and their constituency and make those demands felt. In addition, as decentralization advances, national political leaders' perception that the mayors are essential to mobilizing grassroots support is strengthened, and they, in turn, become more likely to push forward the formal legal process.

On the other hand, even if top-level central government officials are committed to promoting real decentralization, they face important resistance from their subordinates. For example, in some territories, control over information and resources is seen as a source of power and authority in the "coordination" between the municipal governments and MARENA and INAFOR delegates. But even where there is political will to coordinate, the

[53] Although little is said about technical capacity, it is not clear to what degree highly skilled personnel are needed in municipal government to foster good forest management. In fact, current needs are largely related to the complexity of the forms and requisites that INAFOR has established, but the process need not be like that. In addition, it is not the municipal governments but rather local communities and logging companies that manage the forest. There are also important debates about the benefits of scientific forestry vs. management based on local knowledge or a combination of the two through adaptive management (Klooster 2001).

necessary policies and mechanisms must be established to facilitate this process, and recourse mechanisms should exist for all stakeholders to be able to demand that they function when they do not.

LOCAL DEMOCRACY

TFormal mechanisms are also needed to promote local democracy. The ability of citizens to influence municipal government decisions and the level of coordination between the government and local stakeholders depend both on local actors' mobilization capacity and on the receptivity of their elected officials; in other words, it depends on the municipality's political and social context.

When the government is closed and shuns transparency, there is more space for corruption and a greater probability that it is committed to particular interests. A transparent and communicative government tends to be more receptive, open to different ideas and to debating them. Similarly, well-organized and/or economically influential groups can gain ground to influence local government decisions. A municipality with historic experience in local organizing or with well-organized marginalized groups can foster a more democratic decision-making environment.

The formal mechanism for citizen participation in decision-making on natural resources is the Municipal Environmental Commission (CAM). Not all of these commissions, however, are representative or democratic, and frequently peasants are not represented. Many are dominated by NGOs or by representatives of state institutions, some of whom may have a good line about civic participation and democracy but really only care about getting the municipal government to adopt their own vision of environmental management.

All things considered, however, NGO participation can be very important to improving local government capacity for managing environmental problems. In the municipalities with positive and respectful relationships between projects or NGOs and local government, there is also greater management capacity, either because the project finances technical posts in the government or assumes certain responsibilities itself. In the best of cases, the relationship between the projects, the municipal government and the population will build a process whereby the local government will come to assume responsibility for the environment and natural resources as its own challenge and obligation.[54]

MUNICIPAL FOREST MANAGEMENT

To better understand the type and scope of the municipal governments' forest-related initiatives, it is important to examine their origin. What was the impetus behind them? Was the municipal government internally motivated, or did it respond to pressure or incentives? Was its initiative fleeting or long-lasting? Did it respond to a full-fledged understanding of the municipality's environmental problems and to its commitment to resolve them?

[54] This could currently be the case in Bonanza and El Castillo.

In Nicaragua's municipalities, four main motivations can be identified (see also Larson 2001a, 2001b):

- an economic interest in generating municipal revenue,
- a specific conflict or crisis,
- pressure from civil society,
- a real understanding of the problem.

It is clear from the nature and quantity of initiatives that many municipal governments are interested in generating revenue from their forest resources. In other cases, a crisis or conflict forces the local government to intervene and take new initiative.[55] Local governments also respond to pressure from civil society—from local citizens, organized groups and often NGOs. This pressure may take the form of campaigns, protests, incentives or simple influence and negotiation. These three factors often play a complementary role as part of a learning process that may lead to the fourth: greater recognition and understanding of environmental problems.

In the majority of cases, however, initiatives are not aimed at providing integral solutions to the many problems or conflicts that exist around natural resources. More often initiatives arise in response to immediate needs, rather than being planned or integrated into a local development concept. If development planning itself is treated as another tool in the learning process with broad municipal debate and not just as the drafting of a document, it could lead to better comprehension of the problem and more integral solutions.

The planning process should be taken advantage of to expand the local government's vision to the medium and long term, and to avoid using natural resources as a source of income to resolve short-term economic crises. But this also means resolving the municipal budget crisis. If not, municipal governments will always have a strong incentive to see forests as a source of cash, even if they would prefer not to.

Conclusions and recommendations

Decentralization in Nicaragua has made important progress. There is a new dynamic sphere of local governance that did not previously exist and, despite the poverty and lack of experience of many local governments, citizens have begun to turn to and engage with their elected leaders. Decentralization has its own grassroots momentum, and thanks to important alliances between the local and central levels, a certain legal framework has been hammered out that permits the fight for genuine democratic decentralization to keep advancing.

[55] In El Sauce, for example, a local protest resulted in a municipal ordinance aimed at better controlling logging companies from neighboring municipalities. The crisis of Hurricane Mitch had a decisive role in the emphasis that Posoltega began to put on watershed protection. The weevil plague sparked the declaration of a state of alert in the Segovias and extensive local organizing to prevent forest fires.

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Nonetheless, decentralization has faced many obstacles: budget problems that hinder fulfillment of local mandates and undermine the autonomy and legitimacy of local governments; lack of authority over logging and the use of forest resources; centralist and bureaucratic national government tendencies and the lack of skills and experience of many municipal governments.

The central government that took office at the beginning of 2002 appeared more committed to decentralization than its predecessor did. Under President Bolaños, a draft national decentralization policy was finally circulated for discussion. MARENA has pledged itself to its deconcentration process and demonstrated willingness to work with local governments through mechanisms such as the CAMs. INAFOR as well has promised to get back on the deconcentration and decentralization path.

Even at that, local governments are still not taken very seriously. Despite the political will of some key central government officials, there is strong resistance to decentralization. If the political aspect of decentralization is not supported, the process will continue to stagnate. To promote the necessary formal changes, there has to be strong pressure from below; this implies strengthening local organizational capacity as the basis for decentralization and grassroots democracy.

RECOMMENDATIONS

The policies and initiatives listed below could contribute to a decentralized forest management that is more efficient, equitable, democratic and sustainable.

Central and local governments

- Transfer to local governments enough powers over the use and management of forest resources and protected areas to strengthen their decision-making autonomy. These powers should be subject to certain norms, established through a participatory process at the national and local level.

- Establish specific policies and mechanisms that promote communication, information sharing and transparency between the different government levels and with the citizenry, and establish sanctions for those who fail to comply.

- Approve the Law of Budgetary Transfers to the Municipalities and the other pending bills that strengthen municipal administration and finance.[56]
- Approve the Municipal Administrative Career Law to increase municipal government capacity and the sustainability of training investments.

- Approve the Law of Civic Participation, which establishes specific mechanisms for citizen participation in the country's political and institutional spheres and includes legal appeal mechanisms to increase local governments' downward accountability.

[56] These include the Municipal Tax Code, the Property Registry Law, a new Contracts Law, the Law of Municipal Solvency and the Urbanization Law.

- Resolve legal contradictions and ambiguities regarding the rights and jurisdiction of municipal authority and offer effective training on this theme in the municipalities.

- Generate mechanisms for legal recourse and sanctions at all levels of the process through an independent judicial system.

Forest management

- Simplify the bureaucracy and "permitology" for logging and train municipal governments on this topic.

- Promote a comprehensive and integrated vision of forest resource conservation and development and put it into practice in the country's institutional framework.[57] The forestry law should provide incentives for local governments, forest owners and loggers to demonstrate good management practices. Local governments should also provide incentives for and reward good local management, particularly among peasants and agroforesters.

- Strengthen the creation of offices, or at least the hiring of dedicated personnel, within municipal governments to address issues related to environmental and forest management.

- Strengthen the CAMs such that they represent all relevant stakeholders and foster democratic debate and negotiation.

The citizenry

- Promote civic education and the empowerment of marginalized groups so they can make use of the opportunities granted them by law and, in particular, by decentralization.

- Promote grassroots organization and mobilization. Among many other benefits, mobilization of the citizenry can help confront the centralized tendencies of some central government officials and help guarantee the democratic decentralization process.

[57] In other words, the country's environmental, forestry, productive and macroeconomic policies should be harmonized. This was one of the primary conclusions of a workshop on the forestry law sponsored by Nitlapán-UCA, June 21, 2002.

Abbreviations and acronyms

AMUNIC	Association of Municipalities of Nicaragua
AMUNSE	Association of Municipalities of the Segovias
AMURS	Association of Municipalities of Río San Juan
BCN	Central Bank of Nicaragua
CAM	Municipal Environmental Commission
CSD	Sectoral Commission for Decentralization
DANIDA	Danish Aid Agency
FSLN	Sandinista National Liberation Front
IBI	National real estate tax
INAFOR	National Forestry Institute
INIFOM	Nicaraguan Municipal Promotion Institute
MAGFOR	Agricultural, Livestock and Forestry Ministry
MARENA	Ministry of the Environment and Natural Resources
MIFIC	Ministry of Industry, Finances and Commerce
RAAN	North Atlantic Autonomous Region
RAAS	South Atlantic Autonomous Region
SINAP	National System of Protected Areas
STCSD	Technical Secretariat of the CSD

Bibliography

Agrawal, A.; Ribot, J. 1999. Accountability in Decentralization: A Framework with South Asian and West African Cases. The Journal of Developing Areas No. 33: 473-502.

Arguello, A. 2002. Taller Fundación Ford-Nitlapán-UCA. PROFOR, Managua, Nicaragua, June 18.

Baltodano, M. 2002. Cambiar esquemas en manejo de recursos. Municipalidades 2(9), enero.

Barahona, T.; R. Mendoza. Chinandega: El manejo de una reserva natural en un mundo de agricultores. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Carneiro de Miranda, R. 1999. Diagnóstico del sector leñero comercial del Pacífico de Nicaragua. CATIE-Proleña, Managua, Nicaragua.

Carneiro de Miranda, R. 1998. Propuesta de un programa de control e incentivos para la reposición forestal del consumo dendroenergético de Managua y León. ESMAP/Banco Mundial, Managua, Nicaragua.

Centro Humboldt-AMUNSE. 2002. Tercer informe sobre el estado del desastre ambiental ocasionado por la plaga del gorgojo *(Dendroctonus frontalis)* en el departamento de Nueva Segovia.

Comisión Sectorial para la Descentralización. 2001. Página Web. http://www.csd.gob.ni

Donkin; Argüello, A. 2001. Evaluación del control interno. Departamento de Chinandega.

Fauné, A.; Kaimowitz, D. 1999. Posoltega: La necesidad de articular esfuerzos y recursos en torno a la reforestación. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Fauné, A.; Martínez, T. 1999. Achuapa: Capacidades locales para la gestión de los recursos naturales. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Fauné, A.; Mendoza, R. 1998. Bosawas: La gestión de los recursos naturales en el territorio: Estado, gobierno y poderes locales. CIFOR/Nitlapán-UCA. Draft.

Fondo para Pequeños Proyectos (FPP). 2001. PASMA-DANIDA/MARENA. Pamphlet.

INIFOM. 2002. Informe de traspaso de gobierno 1997-2001. División de Cooperación y Coordinación Interinstitucional. Managua, Nicaragua.

INIFOM. 2001. Registros de INIFOM Oriente y Sur. Managua, Nicaragua.

Kaimowitz, D. 2001. Cuatro medio verdades: la relación bosques y agua en Centroamérica. CATIE, Turrialba, Costa Rica. Revista Forestal Centroamericana 33: 6-10.

Kleinn, C. 2000. Bibliografía comentada: cambios en la cobertura forestal de Nicaragua. FAO/CATIE, Rome, Italy. www.fao.org/forestry/fo/fra/docs/Wp34_spa.pdf

Klooster, D. 2001. Towards Adaptive Community Forest Management: Integrating Local Forest Knowledge with Scientific Forestry. Economic Geography.

Larson, A. 2001. Recursos forestales y gobiernos municipales en Nicaragua: hacia una gestión efectiva. CIFOR/Nitlapán-UCA, Managua, Nicaragua.

Larson, A.; Barahona, T. 1999. El Castillo: La colonización y las empresas madereras en una zona de amortiguamiento. Nitlapán-UCA/CIFOR/PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Larson, A.; Barahona, T. 1999. San Carlos: ¿Una oportunidad despreciada? Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

MARENA. 2002. II Informe nacional de la República de Nicaragua sobre la implementación de la Convención de las Naciones Unidas de Lucha contra la Desertificación y la Sequía (UNCCD). Dirección General de Biodiversidad y Recursos Naturales. Managua, Nicaragua.
www.unccd.int/cop/reports/lac/ national/2002/nicaragua-spa.pdf

MARENA. 2001. Plan Ambiental de Nicaragua 2001-2005. Managua, Nicaragua.

Martínez, H. 2001. Coordinadora del Programa de Modernización del Sector Dendroenergético de Nicaragua. Acciones de la Comisión Nacional de Energía. Presentación. I Foro Nacional de Forestería Comunitaria. Managua, Nicaragua.

Martínez, T.; Rocha, J.L. 1999. El Sauce: La organización comunitaria como base para el desarrollo. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Martínez, T.; Mendoza, R. 1999. Somotillo: La gestión de cuencas una necesidad impostergable. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Mendoza, R.; Artola, N. 1999. León: Dilemas en la gestión del bosque seco y del área manglar. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Mendoza, R.; Martínez, T. 1999. Villanueva: Los recursos naturales en un municipio empobrecido. Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

Nitlapán-UCA. 2002. Las alcaldías y la administración de los recursos naturales. Draft.

Ortega, M. 1997. Nicaragua: Políticas de descentralización y capacidades de gestión administrativa y financiera de las municipalidades. FLACSO, San Salvador, El Salvador.

Ortega, M. 2001. Cultura política, gobierno local y descentralización V: Nicaragua. FLACSO, San Salvador, El Salvador.

Parrilli, M.D. 2000. Reactivando la cadena de los pinares en Las Segovias: Análisis de conclusiones a partir de la gira de estudio realizada en Dipilto, Santa Clara, Jalapa, Ocotal y Estelí en mayo del 2000. CIFOR/Nitlapán-UCA. Managua, Nicaragua.

Rivera, C. 2001. Experiencias del Proyecto Manejo Forestal de Pino Integrado a la Industria Forestal. PROFOR. Presentation, I National Forum on Community Forestry. Managua, Nicaragua.

Rocha, J.L.; Barahona, T. 1999. Puerto Morazán; La camaronicultura: ¿un espejismo en tierra salada? Nitlapán-UCA/ CIFOR/ PROTIERRA. El papel de los gobiernos municipales en la gestión de los recursos naturales. Managua, Nicaragua.

STCSD, MARENA, CRAAN, CRAAS, AMUNIC, AMURACAN. 2002. Propuesta de marco conceptual para la modernización de la gestión ambiental en Nicaragua. Managua, Nicaragua.

Legal norms

- Political Constitution of the Republic of Nicaragua
- Law 28. Autonomy Statute for the Atlantic Coast Regions of Nicaragua
- Laws 40 and 261 Municipalities Laws and their Regulations
- Law 217, General Law of the Environment and Natural Resources and its Regulations (Decree 9-96)
- Law 290, Law of Organization, Competence and Procedures of the Executive Branch
- Regulation for Environmental Impact Permit and Evaluation (Decree 45-94)
- Regulation of Protected Areas of Nicaragua (Decree 14-99)
- Forestry Law (draft) November 2001
- Ordinance on Natural Resource Management in the Municipality of Achuapa (12-08-99)
- Ordinance No. 1 on fire prevention and control, Estelí (4-5-99)
- Ordinance on agricultural burning in La Concordia (draft)
- Findings on the Forestry Law bill presented by the president of the National Assembly (11-01)

Individuals interviewed

- Blackwell, A., PASMA-DANIDA/ MARENA, 12-Apr-02.
- Bravo, A. Director, AMUNIC, 23-Apr-02.
- Campos, V., Centro Humboldt, 12-Apr-02.
- Carneiro de Miranda, R., Director, PROLEÑA, 5-Apr-02.
- Flores, A., Director of Financial Administation, INAFOR, 11-Apr-02.
- García, J. L., National Assistant Defense Attorney, Environmental Attorney's Office, 12-Apr-02.
- Holt, S., Coordinator, PASMA-DANIDA, 8-Apr-02.
- Mendoza, R., Researcher, Nitlapán-UCA, 8-Apr-02.
- Meyrat, M., Small Projects Fund, MARENA, 9-Apr-02.
- Nuñez, S., Coordination Assistant, PASMA-DANIDA, 8-Apr-02.
- Ortega, J., Legal Adviser, AMUNIC, 17-Nov-01.
- Ortega, M., Director, Sociocultural Analysis Center -UCA, 22-Apr-02.
- Saborío, R., Deputy director, INAFOR, 9-Apr-02.
- Somarriba, D., PROFODEM, GTZ, 15-Apr-02.
- Suazo, T., INIFOM, 11-Apr-02.
- Tijerino, S., ex-Director, INAFOR, 19-Nov-01.

Forest Management in Brazil's Amazonian Municipalities

Fabiano Toni

Introduction[1]

Brazil has a history of successive periods of political centralization and decentralization. In 1988, with the passage of the current political Constitution, the country entered a period of decentralization that reversed the centralist tendency of the military regime in power between 1964 and 1984. Because of this process, the states and municipalities have been financially strengthened due to the direct transfer of responsibilities and economic resources from the federal government to these two government levels.

Decentralization has advanced very effectively in policies related to the provision of social services such as health and education, reaching the majority of Brazil's municipalities through the approval of specific laws and the creation of administrative mechanisms for devolving competencies. In the area of forest and environmental management, however, there is still no normative framework to determine a similar decentralization process. Nonetheless, Brazil's environmental legislation does permit states and municipalities to participate in managing their territories and natural resources.

The decentralization of natural resource management is incipient in Brazil; only in recent years have the Amazonian municipalities taken any interest in assuming greater responsibilities in this field. Some federal government programs, as well as those of nongovernmental organizations and international cooperation, have stimulated the municipal governments to get involved in managing their natural resources. It is interesting to note that although the legal framework and incentives for decentralization are common to all municipalities of the Amazonia (some state policies and laws vary), some municipal governments have played a more distinguished role than others in managing their forest resources.

This chapter analyses forest management decentralization within the general context of decentralizing natural resource management in Brazil based on specific research conducted in eight municipalities of two states of the Brazilian Amazonia: Mâncio Lima and Xapuri in the state of Acre; and Altamira, Moju, Paragominas, Porto de Moz, Uruará and Santarém in the state of Pará. The research team involved did interviews in the eight municipalities and the state capitals (Rio Branco and Belém, respectively) in early 2001.

The text is made up of five sections. The first presents general data about the Brazilian Amazonia and its forest sector, since this region is where the majority of the country's tropical timber is exploited. The second describes the capacities and specific competencies of the municipal governments, emphasizing tax collection mechanisms and resource transfers to the municipalities from the federal and state governments. The third presents the country's institutional framework for forest resource management, analyzing the main federal laws that determine the distribution of competencies among the federal, state and municipal governments and the role of the main central environmental management bodies.

[1] This chapter synthesizes some of the results of the Municipalities and Forest Management Project in the Brazilian Amazonia, a study financed by the British government's Department for International Development (DfID). It was developed together with the Center for International Forest Research (CIFOR), the Federal University of Rio Grande North (UFRN), the Acre Research and Extension Group in Agroforestry Systems (PESACRE), the Trans-Amazonic Agro-ecological Laboratory (LAET) and the Amazonia Environmental Research Institute (IPAM). The participating researchers were David Kaimowitz, Carolina Almeida de Souza, José Clodoaldo Barbosa, Iliana Salgado, Carla Rocha, Magna Cunha, Guilhermina Cayres, Doerte Sagebart, Ana Cristina de Barros and Fabiano Toni.

The fourth section describes concrete experiences showing how municipal governments link up with a series of stakeholders including business owners, nongovernmental organizations and state and federal government programs and agencies to implement local activities that directly and indirectly affect the forest resources. The final section analyses the current decentralization situation in the forest sector, the activities in which local governments are involved, the factors motivating them and the impact these activities are having on the forest and on local stakeholders. In addition, it offers some final considerations and public policy recommendations that could promote the process in the most democratic and sustainable way possible.

The Amazonia and its forestry sector

The Brazilian Amazonia covers nearly all of nine of the country's states: Roraima, Amapá, Amazonas, Pará, Maranhão, Acre, Rondônia, Mato Grosso and Tocantins. Although the region occupies 59.8% of the national territory (5.1 million km^2), only 12.4% of the country's 21 million inhabitants lives there, which is a demographic density of 4.13 inhabitants/km^2. In some parts of the area, however, land occupation is very dense, since 68.2% of that population lives in medium and large cities.

The Amazonia is the region with the greatest forest wealth, but Brazil has been losing an average of approximately 17,000-18,000 km^2 of the forested area (0.5%) annually since the early nineties, with the most intense deforestation in the states of Pará, Mato Grosso and Rondônia. In general, logging in this region is uncontrolled and extremely aggressive. Sawmills are set up in areas with large volumes of precious woods and once those trees are gone, a second cycle begins with species of a slightly lower value. The most valuable species in the region is the mogno (Switenia macrophylla), whose extraction was prohibited due to the risk of extinction given the rapid exploitation rate. Two other valuable species still being exploited are cedar (Cedrela odorata) andl ipê (Tabebuia sp). The group of less valuable species includes jatobá (Hymenea coubaril), freijó (Cordia sagoti), cumaru (Dipteryx odorata) and maçaranduba (Manilkara sp). Exploitation intensifies in the second round, reaching up to 5-10 trees per hectare, which corresponds to 40-50 m^3 in some cases.[2]

Timber production in the Amazonia was 28 million m^3 in 1997, of which 86% is consumed within the country with the wealthiest regions—those in the south and southeast—consuming two thirds. The state of São Paulo alone consumes 20% of the total. These numbers suffice to show that Brazil is the world's large consumer of tropical wood.

The bulk of the Amazon's timber comes from 75 "logging poles"—municipalities in which production exceeds 100,000 m^3 of logs per year. The companies are attracted to these municipalities due to the availability of raw material, infrastructure such as roads, electricity and banking services, and labor (Smeraldi and Veríssimo 1999). The major producing states are Pará and Mato Grosso, which supply over 75% of the region's production, with Rondônia in third place.

[2] See Veríssimo *et al*. 1992 on the impact of logging in the Amazonia.

Federalism and decentralization

BACKGROUND

Brazil is a federation of 26 states, a federal district and the 5,561 municipalities into which they are subdivided. Each government level has its own executive and legislative branch. At the federal level, the executive branch includes the President and ministers, while the bicameral legislative branch is made up of the Chamber of Deputies (representatives of the population) and the Senate of the Republic (representatives of the states). The state executive is made up of the governor, the governor's cabinet and the state secretariats, while the municipal one is made up of the mayor, the mayor's cabinet and municipal secretariats. Both the state and municipal legislative branches have only one chamber: respectively the Legislative Assembly made up of deputies, and the Municipal Chamber whose members are called vereadores, or councilors. The legislators at all three levels as well as the heads of their executive branches (president, governors and mayors) are directly elected by popular vote.

Brazil's political history is marked by recurrent changes in the relations between these three government levels, which at times have promoted decentralization and at others centralization (Nickson 1995). In general, the periods of loss of municipal power and autonomy correspond to the interruption of the democratic system, such as the Getúlio Vargas dictatorship (1937-1945) and the military regime (1964-1984).

In 1988, a new Constitution was promulgated that reestablished a series of mechanisms granting autonomy to the municipalities and began a cycle of decentralization toward these government structures. In fact, one of the main demands put to the 1988 constituent assembly was precisely to guarantee increased resource transfers from the federal government to the municipal ones.[3] As a result, a new fiscal system was established that strongly favors the municipalities (Shah 1991).

The 1988 Constitution also conferred a unique situation on Brazil, in that the municipalities are considered federation members together with the states and the federal district. With this, the municipalities gain self-organizing power to draft and approve their organizational laws, which are equivalent to a municipal Constitution.

Although the fiscal decentralization strengthened the municipalities, the administrative responsibilities of each level of power were not clearly defined, creating a seriously abnormal situation in which the municipalities have few clearly defined constitutional obligations. This is particularly problematic in the area of forest management, as few mayors are interested in the municipality assuming responsibilities tied to natural resource management because doing so could affect important economic interests and, according to the local view, depress the municipality's economy.

[3] The municipalities' interests were well represented in the constituent assembly, given that municipal leaders together with pro-municipal organizations directly lobbied the elected representatives in their geographic area of influence.

THE MUNICIPALITIES' POLITICAL AND ADMINISTRATIVE STRUCTURE

The mayor heads the municipal executive branch and names his/her secretaries and advisers. Both the mayor and the municipal councilors (whose numbers are proportional to the municipality's population) are elected for a four-year term. The Municipal Chamber must draft municipal laws, approve and amend the budget drawn up by the executive and monitor its execution.

In addition to the legislative branch, municipalities can create councils of popular participation to democratize public policy design; this is a fundamental concept of political decentralization. Various councils have been created at the three government levels with watchdog and deliberative powers. In areas such as health, education, children's rights and social assistance, the states and municipalities are obliged to institute these councils in order to receive resources from the federal government's decentralization programs.

By constitutional requisite, there must be secretariats of health, education and social assistance in the municipal executive power structure. The great majority of municipalities also have a secretariat of agriculture, which deals directly with problems related to agricultural production, and in the largest municipalities, these secretariats have agronomic engineers and agricultural technicians.

Only a few municipalities have a secretariat exclusively dedicated to the environment; more typically there is an environmental coordinating office within one of the other secretariats, normally that of agriculture or health. In recent years, however, this picture has begun to change. Due to the growing importance of the environmental issue in the municipal agendas and to technical and financial support programs sponsored by the federal government, international agencies and cooperation agreements, increasing numbers of municipalities now have environmental secretariats as well as foresters.

MUNICIPAL TAX COLLECTION

In general, Brazil's municipalities enjoy a relatively comfortable fiscal situation, as the majority of their resources come from state and federal funds and tax transfers. This, plus the political cost of creating a local tax system, acts as a disincentive to the municipal governments to collect local taxes or to regulate, inspect and charge the forest/timber sector. This is the reigning situation in small, poor municipalities, which describes the majority of those in the Amazonia.

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The two main sources of municipal income, then, are the transfers received from the state and federal governments and municipal tax collection. Among the various institutions responsible for transferring funds to the municipalities is the Fund for Municipal Participation (FPM),[4] which functions at a federal level. In 1992, nearly 35% of Brazil's municipalities received over half of their financial resources from the FPM; in the small municipalities, the proportion reached 60%. The second source of resource transfers is the tax on products and services known as inter-state and inter-municipal transport and communication (ICMS), which functions at a state level.[5] By its nature and form as a subsidy, however, this tax is much more significant for the large municipalities (those with over 50,000 inhabitants) that have more developed economies (Bremaeker 1994).[6]

Some states use the ICMS transfer mechanism to benefit municipalities that have environmental conservation areas. Although these transfers (commonly known as ecological ICMS or green ICMS) have only been implemented in a few states (in the Amazonia, the states of Rondonia and Mato Grosso have recently adopted the mechanism), others are now discussing their creation. More important is the interest demonstrated in the issue by some municipal leaders. In some cases, mayors and secretaries are interested in the ecological ICMS mainly because it represents an income source that could be reinvested in the forestry sector itself. The municipality of Uruará[7] is an exemplary case, since the mayor and advisers want to create a municipal forest reserve that would be managed to produce timber and other forest products to benefit the municipality and local population. As the municipality has no resources to do this, it is applying for the ecological ICMS to finance creation of the reserve.

[4] The FPM has the following composition: 22.5% of federal profit and income taxes of any nature and 22.5% of federal tax on industrialized products. In addition, 70% of their federal tax on credit, exchange and insurance operations or those related to stocks and bonds and gold appurtenances (IOF-oro) is transferred.

[5] The states transfer to the municipalities 25% of their state tax on merchandise circulation and provision of ICMS and 50% of the state automotive vehicle ownership tax (IPVA).

[6] Research on municipal tax collection reveals a major imbalance between their own tax collection and the transfers, which leads the municipalities to depend heavily on other units of the federation. According to Bremaeker (1994), no Brazilian municipality generated 50% or more of its recourses in 1992 and barely 0.35% of the municipalities managed to generate 40%. Close to three quarters of them generated under 10% of their total budget. Due to development disparities, this problem is much greater in the small municipalities, in which nearly 90% of those with fewer than 100,000 inhabits did not generate even 10% of their budget in 1992.

[7] Uruará is a municipality of the state of Pará, situated on the agricultural frontier and mainly occupied by settlers who survive from small-scale agriculture and livestock

The experience of the ecological ICMS

In the state of Paraná, the first to adopt the ecological ICMS, 5% of the taxes collected in 1991 was distributed among the municipalities according to the percentage of their territory covered with conservation units and protected areas (watersheds, for example). In 1995, the state of Minas Gerais adopted a similar methodology, but with a 1% subsidy (May 2002). This legal innovation was a demand by the municipalities that have protected areas in a significant part of their territory.

The ecological ICMS has had a major impact on environmental protection in these two states. In Paraná, the total area under protection increased 165%. In Minas Gerais, the increase was 62%. In practice, this has mainly meant regulating municipal conservation areas, principally legalized Environmental Protection Areas (APA) that are not very restrictive about soil use. There was also an increase in the number of Private Natural Patrimony Reserves (RPPN). It is obviously in the municipal governments' interest to regulate already existing protected areas to gain access to the ecological ICMS resources. In addition, the municipal governments offer incentives to private owners to create RPPNs and thus increase their income from them. Normally, these incentives translate into infrastructure works that increase access to the properties where the reserves are found.

Institutional forest management framework

As the municipalities have a relatively high degree of autonomy from the state and federal governments, Brazil's institutional framework favors decentralization of forest management in legal terms. Despite being so unclear, the environmental legislation grants the municipal governments some specific forest management competencies and opens possibilities for the different government levels to transfer responsibilities to the municipalities. Nonetheless, the latter have few incentives to assume them and, as was mentioned previously, Brazil's fiscal scheme does not stimulate the municipal governments to assume an active role in taxing and regulating the forest activity within its territories. Forest management power and decision-making are largely concentrated in federal government hands, and the distance between the federal authorities and local reality explains why forest management is not very efficient.

JUDICIAL FRAMEWORK

In the 1988 Constitution, the environmental issue was placed in the sphere of common and convergent competencies among the federal, state and municipal governments. This means that none of the three has exclusive power to legislate or implement environmental policy. The Constitution specifically establishes that all three levels have the duty of preserving "an ecologically balanced environment," which explicitly includes forests.[8]

In addition to the Constitution, Law No. 9985, of July 18, 2000, creates the National System of Nature Conservation Units (SNUC), and mentions the participation of the municipalities in forest resource management. The SNUC covers all public conservation units, be they federal, state or municipal. According to the law, the three different government levels may create both Integral Protection Units, in which natural resource exploitation is totally prohibited, and Sustainable Use Units, which can be exploited in accord with a management plan.[9]

The most common Integral Protection Units are parks, mainly national parks. Many states have delimited state parks, which are usually smaller than the national ones; there are very few municipal parks in the Amazonia. The most common Sustainable Use Units are the federal extractive reserves.

The most important law related to forest management is the 1965 Forest Code (Law No. 4771), a set of laws regulating soil use in public and private areas that has been reformed numerous times. The most conservative sectors of Brazilian society view this code as abusive state interference into private property use rights.

[8] Article 23 of the Constitution lists as state duties the protection of sites of scenic beauty and archeological sites (point III); environmental protection and the fight against contamination (point VI); preservation of the forests, fauna and flora (point VII); and the registry, follow up and inspection of water and mineral resources (point XI). Article 24 deals with urban planning rights (point I); forests, hunting, fishing, fauna, natural conservation, defense of the soil and natural resources, environmental protection and control of contamination (point VII); landscape patrimony (point VII) and responsibility for damage to the environment (point VIII).

[9] By law, the group of Integral Protection Units is made up of the following conservation unit categories: I – Ecological Station; II – Biological Reserve; III – National Park (state or municipal); IV – Natural Monument; and V – Wildlife Refuge. The Group of Sustainable Use Units is made up of the following conservation unit categories: I – Environmental Protection Area; II – Area of Relevant Ecological Interest; III – National Woods (state or municipal); IV – Extractive Reserve; V – Fauna Reserve; VI – Sustainable Development Reserve and VII – Private National Patrimony Reserve.

The code established the possibility of creating parks, reserves and public forests, and introduced the concepts of permanent conservation area and legal reserve. The code thus established the obligation of owners to conserve at least 50% of the forest cover on their properties as legal reserves. To reduce the alarming rate of deforestation in the Amazonia, the federal government published a provisional measure in 1996 that sought to increase the proportion of legal reserves from 50% to 80% of the property. Another innovation of the code was to make forest management obligatory for timber extraction in native tropical forests. Nonetheless, 21 years had to pass before the law was promulgated and forest management norms were established that regulated what was laid out in the code. In practice, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) did not begin to require forest exploitation plans until 1995.

ORGANIZATIONAL FRAMEWORK: THE ENVIRONMENTAL MANAGEMENT ENTITIES

IBAMA is the main federal environmental management body. It was formed through the fusion of four entities working in the environmental field: the Secretariat of the Environment (SEMA), the Superintendence of Rubber (SUDHEVEA), the Superintendence of Fishing (SUDEPE) and the Brazilian Institute of Forestry Development (IBDF).[10] Although IBAMA's formation was an advance in environmental management terms, it also represents a very clear example of centralized power in a single governmental agency.

IBAMA's main function is to coordinate and implement national environment policy as established in the Forestry Code and Law No. 9985. In addition, it must oversee the conservation and rational uses of the country's renewable natural resources. In the concrete case of the Amazonia's municipalities, IBAMA's main tasks are environmental inspection, review and approval of forest management plans, felling authorizations and administration of parks, national forests and extractive reserves. The institute must also inspect and apply sanctions to those engaged in illegal logging.

IBAMA establishes the technical norms for forest exploitation for the country as a whole, but does not have the capacity in practice to monitor fulfillment of the management plans, which often overestimate the amount of timber that can be extracted from a given area or are simply not respected at all.[11] Charges of fraud and corruption in the forest exploitation inspection system are thus made constantly.

The creation and administration of all federal conservation units is also IBAMA's responsibility. Managing these areas alone represents an immense task for the institute, given that there are 29 Federal Environmental Protection Areas in the country, plus 25 Extractive Reserves, 29 Biological Reserves, 47 Ecological Stations, 50 National Forests, 9 Ecological Reserves, 22 Areas of Relevant Ecological Interest and 47 National Parks.[12] To administer these areas, which cover close to 21 million ha, IBAMA has fewer than 1,500 technicians, of whom barely 150 have more than a high school education. In the Amazonia, IBAMA administers 12 extractive reserves that it created to ensure a means of subsistence

[10] IBAMA was initially linked to the Secretariat of the Environment of the Presidency of the Republic (SEMAM). After the UN Conference on Environment and Development, better known as Río-92, the Brazilian government raised the rank of environmental policy by creating the Ministry of the Environment, to which IBAMA now belongs.

[11] For more detail on the frauds in the logging sector, see Greenpeace 2001.

[12] (http://www.mma.gov.br/port/sbf/dap/apconser.html - 28/08/2002).

for the populations who make their living from gathering non-timber forest products, mainly rubber and chestnuts.

One alternative to help IBAMA increase its resources and at the same time stimulate sustainable forest management in the Amazonia is to draw up management plans for the public forests. Making use of these areas could represent a significant source of income for the municipal, state and federal governments (see following insert). At present, however, of all 23 existing public forests, only 5,000 of the 600,000 ha comprising the Tapajós National Forest in the Amazonia are being exploited.

The public forests

The Tapajós National Forest, the first public forest in the country, was created in 1976 (11 years after approval of the Forestry Code). Between then and 1998, barely 80,000 km^2 of public forests were created and demarcated, which corresponds to 1.6% of the Brazilian Amazonia (Ministry of the Environment 2000).

This figure is very small compared to the importance of the region's forests and the possibility of fostering sustainable timber exploitation in the public forests. In fact, even if management plans existed that would permit sustainable exploitation of already established public forests, it would not resolve the problem of the growing demand for wood. According to exports, dealing with this demand would require increasing the public forest area from 1.6% to 14% of the Amazon territory. By doing so, the public forest would not only meet demand, but could also serve as a buffer area for protected areas of restricted use (parks and reserves), prevent colonization in areas inappropriate for agriculture and separate the agricultural and forest frontiers, which would avoid the development of non-sustainable agriculture and livestock raising (Schneider *et al.* 2000).

Another factor that must be considered is that the majority of the Amazonia's protected lands are outside of IBAMA's direct control, as they are indigenous lands administered by the National Indian Foundation (FUNAI). In 2002, there were 580 indigenous territories in Brazil: 441 of them legalized and 139 being studied. The legalized ones cover 98,954,654 ha, which is 11.5% of Brazil's territory, and the bulk of them are in the Amazonia. Although IBAMA does not have direct control of these lands, it is responsible for inspecting them, issuing felling authorizations and approving forest management plans.

The state governments also have competencies over the forests. As determined by the Constitution, the state environmental secretariats are co-responsible for applying the environmental laws. Their functioning, however, depends largely on the political orientation of each state government. Generally speaking, the federal government administers the forests and is responsible for controlling timber exploitation, felling and controlled burning. Although such areas can be transferred to the state governments through competency transfer agreements with IBAMA, this seldom happens in practice, due either to the state government's disinterest in assuming these responsibilities or to IBAMA's in decentralizing

them. In addition, the state directly grants operating permits to the sawmills and has general responsibility for projects that have a potential environmental impact.

The competency of local governments to draw up and implement environmental policies in their territories is guaranteed by the nature of Brazilian federalism, according to which the federative entities are autonomous; in other words, subordinated hierarchically not to the central government but to the Constitution (Chart 1).

Chart 1. Division of competencies among the three government levels in Brazil

Government level	Competencies	Body
Federal	–Permits for controlled burning and felling of forests –Inspection of forest activities –Approval of forest management plans –Delimitation and administration of federal protection areas –Delimitation of federal public forests and assigning of forest concessions –Delimitation and protection of indigenous areas	National Institute of the Environment – IBAMA National Indian Foundation - FUNAI
State	–Delimitation and management of state protection areas –Delimitation of state public forests –Authorization for sawmill operation	State Environmental Bodies – OEMAS
Municipal	–Delimitation and management of municipal protection areas –Delimitation of municipal public forests –Licenses for activities with local impact or delegated by other government levels -Planning and implementation of curricular programs in basic teaching	Unspecified (generally municipal environmental secretariats)

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Local experiences

This section presents diverse municipal initiatives that have directly or indirectly had an impact on forest resource use. In most cases, these initiatives involve other actors, mainly nongovernmental organizations, international aid agencies, and state and federal government agencies. The local governments' activities respond to the municipality's socio-political reality and the interaction of different interest groups competing for access to and control of the natural resources. To better understand the municipal governments' role, it is thus necessary to know about some of the main stakeholders present in the Amazonian municipalities.

River dwellers. They inhabit the areas adjacent to the rivers and survive on subsistence fishing and agriculture; in some areas, they sell fish on a small scale. Generally, they are actors with little social organization.

Settlers. They are mainly dedicated to small-scale agriculture and livestock. Some of those in the Amazonia were attracted to the region by induced colonization projects sponsored by the federal government; others spontaneously occupied the land ('posseiros') or bought it from third parties. Many have property titles granted by the federal or state government, although a significant number do not. The size of the properties varies; at the initiation of the colonization, the federal government distributed lots of approximately 100 ha, but in many colonization and settlement areas the lots are approximately 50 ha.

Extractors. They make their living harvesting non-timber forest products, mainly chestnuts and rubber, and practice small-scale subsistence agriculture. They traditionally exploit large forest areas that could exceed 1,000 ha, but do not formally possess the land. With IBAMA's support, the most organized groups have guaranteed their rights through the formation of extractive reserves.

The three above groups create broader associations called Rural Workers' Unions (STR) of the Amazonia, which actively defend the rights of the most fragile social groups.

The **indigenous peoples** are another sector fighting to defend their access rights to the land and forests. Although these groups do not always share the same interests, they usually work in alliance with sectors of the **Catholic Church** such as the Land Mission Pastoral (CPT) and the Missionary Indigenous Council (CIMI).

The relationship of each group of actors to the forest resources varies greatly. Indigenous communities, extractors and river dwellers have much less impact on the forests than settlers, who need to clear areas to ensure agricultural production and commercial livestock raising and often sell the timber from their properties, or trade it to the loggers in exchange for milled lumber or small tractor services for opening roads or building small dams.

Historically, the fight of these marginalized groups has been against the **cattle ranchers, lumber dealers** and **miners**, who have greater political and economic power based on possession and control of huge areas of Amazon forest. As these actors have received

government incentives to develop their activities over a long time, it is common to find ranches ranging from 50,000 to 100,000 ha and even greater areas of timber exploitation.

The Amazonia has a significant presence of very diverse **nongovernmental organizations.** Some provide direct organizational and political advice to the weakest groups. Others develop research and development projects with communities and organizations representing these groups. There are also NGOs with profiles that are more technical and scientific, which act regionally in issues related to low-impact forest exploitation, forest certification, agroforestry systems, conservation of flora and fauna, fire prevention and others.

STATE FOREST MANAGEMENT POLICIES AND INCENTIVES AND THE ROLE OF MUNICIPAL GOVERNMENTS

The experiences described below are based on studies done in eight municipalities of the Amazon region that have a very diverse composition and balance of power among the different stakeholders. It is important to stress, however, that local policy is not the only determinant of the kind of environmental management adopted in each municipality. Other important factors also exist, such as the presence of cooperation programs and the personal interest of each mayor, as well as his/her relationship with other government levels.

In a federated system such as Brazil's, state policies are particularly important and vary greatly.[13] It is interesting to note that the states analyzed in this chapter have completely different development policies and territorial occupation. While the government of Acre has a policy of valuing its forest resources, the government of Pará puts its priority on agricultural development.

Acre's state administration calls itself the "Government of the forest" and is led by the Workers' Party (PT), which has been in power there since 1998. The government strategy for developing the state is based on investing in the development of the interior rural zones and avoiding migrations. The state government directly implements part of this policy while part is implemented in association with the municipal governments, according to their specific needs.

The state government is also trying to reorganize the state structure so that forest activity will be the basis of Acre's economy. The idea is to take advantage of the abundance of forested areas (90% of the state's territory) to generate wealth. This strategy produces medium- and long-term results and is comparable to the occupation model based on substituting forest for pasture or agriculture, which gives it an innovative and controversial nature. This policy triggered many criticisms from groups that traditionally benefited from a more immediate model based on livestock, agriculture and logging.

[13] In general terms, the central south region's wealthiest states have a more developed infrastructure and environmental and forestry regulation framework than the Amazonian states. Some states, for example, were pioneers in introducing physical mechanisms for motivating the municipalities to use their prerogatives of creating protected areas such as the ecological ICMS experience presented above. Neither of the two states in the Amazonia in which the studies analyzed in this chapter were conducted has adopted this mechanism.

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Acre's government is working on some fundamental points to make its proposal viable: investment in research on sustainable forest exploitation to determine the forest's potential and diversify production; support to political-administrative decentralization with the strengthening of and commitment to diverse social groups in forest resource management; and attraction of industries from other states interested in sustainable forest production. One of the most important measures for benefiting the forest sector—which had major social impact—was the policy of valuing extractivism and paying direct subsidies to chestnut and rubber producers, which guarantees a significant increase in profits for the extractive workers.

With respect to decentralization, the Acre Environmental Institute (IMAC) established an agreement with IBAMA to assume some of its responsibilities, the main one being to grant authorizations for felling and controlled burning in areas of up to 3 ha and thus facilitate the work of producer owners who lack the means to legalize their activities with IBAMA. IMAC also trained municipal government and cooperative technicians so they could help producers complete the authorization requests.

In the state of Pará, the government's main objective is to modernize agriculture, not rationalize forest exploitation. This objective is totally in line with some of the federal government's own development policies, particularly the development of cargo transport infrastructure and the introduction of soy into the state. Pará has three soy production centers located in the southern part of the state and in the municipalities of Santarém and Paragominas.[14] Although now the main crop in these areas, soy is cultivated together with other grains such as maize and rice in crop rotation systems. The Brazilian Agricultural Research Enterprise (EMBRAPA), a federal government body, has had a very important role in developing soy in Pará.

Developing and modernizing access roads and highways is the second pillar of Pará's development strategy. This policy is directly related to grain production in the municipality of Santarém, at the confluence of the Tapajós and Amazonas rivers. Together with the port of Santarém, the government is building a grain storage and embarkation center. In addition, the Cuiabá-Santarém highway is being asphalted to facilitate transport of the soy produced in Mato Grosso and Pará. In the Paragominas region, the government is building the Capim waterway, which will link the municipality to the port at Barcarena. This route will serve to transport the lumber and soy production.

The Pará government began to take an interest in environmental management in 1998, with the Integrated Environmental Management Project (PGAI) that is part of the Tropical Forests Pilot Program (PPG-7). During this program's first year, various planning workshops were held to implement environmental actions in nine municipalities within the area of action; with that, some progress was made in decentralizing environmental management. In addition, public debates, thematic seminars and courses on the administrative and legal basis of environmental management were held in the municipalities covered by the project, and the State Environmental Information System was created.

[14] Santarém and Paragominas are two important cities of the state of Pará. Paragominas has a well-developed lumber industry and is a cattle center. Santarém is a very urbanized municipality, with an economy centered on the services sector; it has a public forest and an extractive reserve, both under federal government control.

AID PROGRAMS THAT PROMOTE LOCAL FOREST MANAGEMENT

The coexistence of municipal governments and state and federal bodies is not necessarily negative. Organized municipal governments can act in coordination with other bodies and get the most out of this relationship. Some federal programs and international aid projects in Brazil provide forest management assistance to municipal governments. The main bodies that have fostered this type of coordination are the sub-programs developed by the PPG-7 and the National Environment Program.

The Pilot Program is an international aid activity between Brazil, the G-7 countries and the Government of Holland to conserve Brazil's tropical forests and is organized into 4 sub-programs and 27 projects. The PPG-7 component that is having the greatest influence on the decentralization of forest policies is the Natural Resource Policies Sub-program (SPRN), aimed at helping the Amazonian states and some municipalities get training in managing their natural resources. This work includes drafting policies and strengthening public institutions. The sub-program's main action has been implementation of the Integrated Environmental Management Project (PGAI). Each state implements the PGAI according to its environmental plan, in which the problems and priorities are established. The PGAI transfers resources so that the states will invest in training technicians and in infrastructure for the environmental bodies.

Another component of the PG-7 that has had a relative impact on the municipalities is the demonstration programs, in collaboration with nongovernmental organizations. Demonstration projects are small alternative development projects whose main aim, as the name suggests, is to serve as an example for other organized groups and municipalities. Municipalities with strong organizations such as Rural Workers' Unions (STR) have the greatest success in attracting this kind of funding. Another sub-program, Project to Support Amazonian Forest Management (PROMANEJO), is geared to developing sustainable forest management practices.

The Ministry of the Environment maintains a finance line through the National Environmental Program (PNMA) for alternative development and natural resource use projects known as Decentralized Implementation Projects (PED). One of the PED's main goals is to stimulate adoption of new strategies in Brazil's diverse regions to deal with environmental problems in collaboration with the state and municipal governments, private sector and civil society. The PED allows municipal governments and civil society groups to implement development projects either separately or jointly.

The response to incentives generated by programs like the PED and the demonstration projects has been quite positive. With support from the state government, the extractive cooperative, a regional NGO and the municipal government in Xapuri, a municipality in the state of Acre, drew up a project for extracting, refining and marketing oil from the copaiba tree, a relatively abundant species in the region with high commercial value. This project links civil society to different government levels and seeks to sustainably exploit a natural resource well known by the local population. Furthermore, it has revealed some of the existing technical and bureaucratic obstacles to forest management of non-timber products. The project financing was approved in 1999, but the project is not yet underway due to the

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lack of a management plan for the species, because one of its proponents was unwilling to assume the cost of preparing the plan.

The demonstration projects are one of the rare opportunities for social organizations to implement their projects even if they lack support from municipal or state government. The projects submitted by rural workers from the municipality of Uruará, Pará, are a good example. A local association drew up a project to recover degraded areas by reforesting with native species with an extractive potential, which was approved in 2000; in principle, it will finance the recovery of one hectare for each of the 30 participating farmers. A local foundation submitted a second project, whose objective is to raise fish in captivity and recover the springs in an area around a town located 20 km from the municipal seat. Rural workers submitted a third project to implement a forest management plan and start extracting oils and producing seeds of forest species in an area west of the municipal seat.

All three projects were prepared, submitted and approved during a period in which the Uruará municipal administration had no interest whatever in collaborating with the rural workers much less implementing conservation and sustainable use projects for the municipality's forests. Despite the difficulties they encountered, the rural workers were successful thanks to incentives that allow decentralization "beyond the municipal government."

Nevertheless, municipal support is important so that social movements can benefit from opportunities such as the PEDs and demonstration projects. The municipal government normally has human and material resources (computers, faxes and telephone lines) that are fundamental in preparing such proposals. Few municipal governments provide this type of support to grassroots organizations, however. The surest allies are the NGOs, which have trained personnel and some material resources.

Not all local initiatives depend on programs such as the PED and the demonstration projects. Sometimes municipal governments manage to get budgeted resources from the state and federal governments to support their own projects. A very successful example is the Center for Agroforest Products, which the Xapuri municipal government implemented with support from the state and federal governments.[15] The center's objective is to develop industries to process and add value to timber and non-timber products extracted from local forests. By 2001, a series of small carpentry shops, a chestnut-processing operation, a latex factory and a factory using certified lumber for high-quality furniture native to the southeast part of the country had all been installed in the center, and the municipal and state governments grant fiscal incentives to business start-ups there. The state government also provides technical assistance for production of certified lumber, while the federal government financed construction of the installations and the purchase of machines for the center.

The Xapuri municipal government also coordinates with state and federal bodies to support communities living in the Chico Mendes Extractive Reserve. This is the largest such reserve in the country, with 976,570 ha and 9,500 inhabitants; it covers part of seven municipalities, whose governments help maintain, expand and improve the roads crossing

[15] In 2000, the municipality of Xapuri had a population of 11,952 inhabitants in an area of 4705 km², with 50.12% of the inhabitants living in the urban zone and 49.88% in the rural zone. (IBGE Senso Demográfico 2000 - http://www1.ibge.gov.br/censo/default.php). The primary sector, mainly extraction of chestnuts and latex, forms the basis of the local economy.

the reserve and providing access to the cities and main highways. In addition, they provide health and education services in collaboration with the central government. Xapuri is one of the municipal governments that most supports the reserve, as it has good relations with IBAMA and with the associations that administer the reserve.

RELATIONS BETWEEN THE MUNICIPAL GOVERNMENT AND ITS CITIZENS: POPULAR PARTICIPATION

In addition to supporting municipal development projects and policies, the federal government also seeks to stimulate municipal governments to encourage popular participation in the preparation of their public policies. The most important tool is the Active Community Program, whose objective is to stimulate the population's participation in fighting poverty. The main strategy for achieving this is to conduct popular forums in the municipalities so the population can draw up its Sustainable Local Development Plan (PDLIS), which, at least in theory, has the support of the three spheres of government.[16] As of the beginning of 2002, barely 157 municipalities, 36 of them in Pará and all 22 in Acre, were part of the program. The Acre government had support from the Inter-American Institute of Cooperation for Agriculture (IICA) to train seven technicians who would present and discuss the PDLIS proposal with the local organizations of the municipalities. This process began with public meetings in November 1999.

The program's results are timid so far, and their functioning is clearly heavily dependent on local leadership quality and the strength of the social movements. For example, a popular assembly met in Xapuri and succeeded in designing the PDLIS, which served as the basis for the mayor's government program. This process functioned in Xapuri thanks to three main factors: 1) the local social movements are well organized and are interested in putting together this type of program; 2) the mayor broadly promotes social participation in municipal government decisions; and 3) the mayor and governor have a good relationship, which contributes greatly to the successful policy coordination.

In the municipality of Mâncio Lima,[17] also in Acre, representatives of rural and urban workers' unions, producers' associations and other organizations (church and pastoral) totaling 20 local entities drew up the PDLIS, with the state and local executive branch also participating in the popular assembly meetings. After drafting the documents, however, the assembly was dissolved; and a year later nothing concrete had been done. The PDLIS failed to consolidate an ongoing municipal discussion group as had been contemplated at the outset. Some leaders of social movements revived interest in this forum following the municipal elections of 2000, as an attempt to counterpoise the newly elected mayor's policies and reactivate the municipal councils, which the mayor had begun to boycott. Unlike Xapuri, Mâncio Lima's social movements are weak and the mayor elected in 2000 is not very open to popular participation and does not get on well with the governor of the state.

The program was only implemented in some of the municipalities studied in Pará, and the results were quite modest. There was no strong social articulation in the preparation of the

[16] The federal government invested in training the participants of these discussion groups (and later the actors who will implement the actions decided on in the plan), coordinates the policies between the three government spheres and directs its programs for the implementation of the local agenda.

[17] Mâncio Lima is a small, poor municipality in the eastern part of the state of Acre whose rural population lives by agriculture and the production of manioc flour. There are two indigenous reserves and a large national park in the municipality.

document in these municipalities or any real desire by the mayors to begin democratizing the decision-making mechanisms.

It is not always necessary to have a program such as PDLIS for the local population to participate, or try to participate, in local policy decisions. In Uruará, for example, the population itself organized in the mid-nineties to draw up Uruará's Overall Municipal Development Plan, which included a series of actions directed to developing the forestry sector (see the following insert). The municipal government supported the plan at the beginning, but with the change of mayor in 1997, it was completely abandoned. A new mayor was elected in 2000, and he adopted it as the government plan with support from the group that had drawn it up.

Uruará's Overall Development Plan

In 1994, members of various rural producers' associations, unions, cooperatives and nongovernmental and governmental organizations met for four days in what was called the First Uruará Municipal Conference on Alternative Economic Projects. A practical result of this forum was that four thematic seminars were held the following year: a) timber exploitation, b) social organization, c) agricultural production and c) land tenure. The Overall Development Plan for Uruará was drafted based on the results of these seminars and the first conference. The program is divided into five major lines of action: a) territorial management, 2) natural resource management and use, 3) agricultural production, 4) organization of producers and production, and 5) formation and training of human resources. Among the sub-programs contained in these five lines of action were proposals for the re-demarcation of indigenous lands, creation of a municipal forest reserve, recovery of degraded areas, timber exploitation in family production units and the technical preparation of farmer's children.

Similar to what happened in Uruará, organized sectors of the municipality of Porto de Moz[18] met in a participatory forum to discuss problems related to forest and fishing issues as well as land tenure in the municipality. A committee made up of representatives of certain grassroots organizations was formed to work on proposals. The function of these organizations was to work with the communities on activities aimed at improving natural resource management and use and to serve as an interlocutor with the local public bodies (Municipal Chamber and mayor's office) and those of the state. The committee met periodically with the rural communities to involve them in the design of their proposals, but the municipal government never got involved in the process. The relations between the municipal government and society became particularly conflictive with the presentation of a proposal to create an Extractive Reserve in the municipality. The mayor, in alliance with large hacienda owners and lumber dealers in the region, started a movement against the proposal that included distributing pamphlets in the municipality and lobbying the state government officials to pressure the environmental ministry to deny permission to create the reserve.

Porto de Moz's example of centralization and authoritarianism is not unique. In Altamira,[19] the mayor also opposed society's most organized sectors by ignoring local mobilization in favor of ecological/economic zoning for the municipality. Instead of listening to the groups that had already organized and initiated the discussions, the mayor sent the Municipal Chamber a project drafted in his offices with no popular participation that barely included the theme of urban environment.

RELATIONSHIP BETWEEN MUNICIPAL GOVERNMENTS AND PRIVATE ACTORS

One of the main ways of getting municipal governments to invest in the forest sector is via cooperation agreements with the private sector. Generally, NGOs are more open to working with the municipal governments, providing advisory services to alternative development projects, environmental education activities and technical training for municipal officials. Private companies may also show interest in this type of cooperation, as long as it means profit opportunities. In fact, some municipal governments develop reforestation projects and implement agroforestry systems with private lumber companies.

All of the municipalities studied have NGOs that are doing research or development projects. In general, these organizations have good relations with the state and federal governments as they have the main competencies around forest issues. For research purposes, the NGOs commonly associate with federal research entities such as universities and EMBRAPA, or even with international agencies and foreign universities. The NGOs usually support the municipal governments and local organizations such as unions and rural producer associations in drafting fundraising proposals for demonstration projects and the PED.

An important contribution of the NGOs has to do with fire control. The Live, Produce, Preserve Foundation (FVPP) developed a fire prevention project in the Trans-Amazon Highway region in partnership with the Ministry of the Environment. A similar program, called "Chronic Emergency Fire," coordinated by the municipal government in association with the

[18] Situated in the state of Pará, the municipality of Porto de Moz has a large rural population that lives by small-scale forest extraction and agriculture. The local lumber industry is extremely predatory and the municipality has serious land possession disputes

[19] Altamira is Brazil's largest municipality, with an area of nearly 160,000 km². Its territory is a mosaic of parks, national forests and indigenous territories. The region around the municipal seat has enormous cattle ranches. The municipality has to deal with numerous conflicts over land possession, invasions of protected areas and illegal logging.

NGO Friends of the Earth, was implemented in Xapuri. In many municipal governments, NGOs develop environmental education projects in collaboration with local governments. Such collaborations are relatively easy to establish as they require few resources and there is no resistance from local interest groups.

The mayor's office of Moju,[20] in the state of Pará, has worked actively in reforesting watersheds and promoting agroforestry systems geared to small producers, as well as introducing forest species. In 2000, the municipal government, in association with a lumber company and Great Britain's Department for International Development (DfID), held two seminars for small producers to stimulate the implementation of agroforestry systems. The first seminar was on seed and seedling production technology and the second on reforestation practices with native forest species. Following the seminars, the municipal government began producing seedlings of native forest species in nurseries and later distribute them.

The Moju municipal government also established partnerships with lumber companies to reforest small properties. Curiously, one of these partnerships, in association with local business leaders, failed because IBAMA did not authorize the project for lack of a management plan. The companies refused to take on the costs of doing the plan, alleging that it was not fair to have to pay to provide a public service.

In the mid-nineties, the Uruará municipal government, in collaboration with one of the large lumber companies and a cooperative of small farmers, initiated reforestation activities on small properties. The objective of this project was to ensure the long-term supply of timber with high commercial value, increase the value of the small farmers' properties and increase their earnings. The municipal government provided the labor and material for installing a nursery; the local cooperative supplied the land and covered the operational costs for producing nearly 80,000 mogno (S. macrophylla) seedlings. The sawmill ended up with half of the seedlings and the municipal government distributed the rest among the small farmers.

In these two cases of cooperation between municipal governments and private enterprise, the municipal governments' lack of capacity to deal with the technical, commercial and institutional aspects of reforestation programs and the implementation of agroforestry systems was evident. Neither government has technicians trained to handle management programs and both have a very limited vision of their importance. The logging companies, on the other hand, have a very clear idea of what they want and what they can achieve with these projects. In addition, they are inserted in the lumber production chain and have the means to market their products with good earnings. Since the individual farmers' limited knowledge of the market and small scale of production are serious obstacles to the success of such projects, the private companies always come out ahead in such alliances.

The majority of municipalities in the Amazonia have an accentuated lack of technical capacity in the forest area. Moju's municipal government is an exception, given that it works in collaboration with EMBRAPA and DfID through the research and technology transfer

[20] Moju is relatively close to Belém, the state capital. The municipality has an important logging sector, and a large area of coconut and palm plantations for the extraction of oil (*dendé*). Family subsistence agriculture is very important in the municipality

project "Participatory Natural Resource Management at the Municipal Level." The objective of this project, which was initiated in 1994, is to develop participatory forest resource management by rural farm communities.

The municipal government of Paragominas, also in the state of Pará, is an interesting case that differs from Moju and Uruará. Paragominas is one of the most important lumber producing zones in the country and has nearly 80 sawmills, the majority of which are organized into a union that maintains close relations with the municipal government (the mayor is a lumberman and union member). The union and the municipal government work together to attract new investments and modernize the forestry sector. The union acts in four strategic areas: review of the legislation and follow-up to suits against IBAMA, search for new areas to supply the industry, personnel training with support from the Tropical Forest Foundation, and labor legislation that includes the supply of medical services and counseling on occupational safety.

The mayor's office helps the union politically by fighting for legislative reforms to favor the sector and acting together with IBAMA and the Secretariat of Science, Technology and Environment (SECTAM), the state environmental body, in granting authorizations. Both the municipal government and the union have a very critical view of how the environmental bodies, particularly IBAMA, function. From their perspective, and that of all loggers in the Amazonia, the sector's development is hampered by the excessively bureaucratic and centralized system for obtaining extraction and industrialization permits.

Despite such common complaints throughout the lumber sector and the fact that business owners always seek the easiest road to making a profit, Paragominas has some relatively well-developed industries that have invested in new technologies and markets. In May 2001, a local company was awarded the first certification in the state of Pará, according to Forest Stewardship Council (FSC) standards, and with 140,658 ha it had the greatest area of certified forest in the Amazonia (the previous record was 137,445 ha). Its annual exploitation is 5,000 ha. Another lumber company, which is owned by the municipal mayor, has also worked for the good forest management certification. Despite the high cost of certification, business owners state that the prices received for certified lumber (20-50% higher, depending on the wood and the buyer) compensate the effort. Some lumber dealers think that in the future the market will not accept more uncertified wood and companies that do not adapt will go under.

In general, the municipal governments give more support to cattle ranchers and farmers than to the lumber companies. Most of the time, this support is not formalized through cooperation agreements, but benefits rural owners in various ways. One example of such support is the construction and maintenance of roads and bridges for transporting agricultural production from the municipality and the negotiation of credits and technical assistance to rural producers. Municipal government participation is also common in campaigns to prevent or eradicate crop and livestock pests and diseases such as hoof and mouth disease in cattle.

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CREATION OF MUNICIPAL FOREST RESERVES

One of the municipal governments' little used legal attributes is the establishment of municipal forest reserves. Such an attribute is guaranteed by Law No. 9985, according to which municipal governments may create conservation units for sustainable use and comprehensive protection. Diverse proposals have already been offered in various Amazonian municipalities, but without concrete results so far. In general, the proposals come from grassroots groups that depend on the conservation of forested areas for their sustenance. The reserves thus seek to solve conflicts over access to the natural resources. The extractive reserves, fruit of years of struggle by rural workers who make their living extracting chestnuts, rubber, babaçu and other non-timber forest reserves, are a good example of this.

The reserves, however, were created by the direct interaction of the extractive workers and the federal government. Although state and municipal governments can create their own conservation units, the federal government has more resources and technical capacity. It is also more susceptible to pressure from international groups and organizations and more isolated from the local economic interests that oppose creation of these units. Certainly, the alliances that the workers established with national and international NGOs and the visibility they got in the media contributed to their success. These same factors attracted international financing for development projects in the reserves.

In the case of the municipal reserves, the social movements fighting for their creation are much less visible and the municipal governments much more influenced by the region's dominant economic interests (lumber companies and cattle ranchers), who see extractors and small farmers as obstacles to the expansion of their own activities. Because of this, the chances for success of proposals to create reserves depend on various factors, such as the organization and strength of the grassroots groups promoting them, the political and economic power of the stakeholders opposing them and the will of the municipal government.

In the municipality of Porto de Moz, Pará, we find a case that exemplifies this political relationship. The rural workers, unions and producer associations, with support from the Catholic Church, created a group to work with natural resources (Municipal Natural Resource Committee) and drafted a proposal for the creation of community areas. At issue are large forested areas where the farmers extract lumber for their own use as well as non-timber products for the market. The proposal's objective was to protect the region from the invading logging companies. The municipal mayor is the largest lumberman in the region, however, and obviously did not support the idea, so the rural workers themselves demarcated the community areas, which vary from 2,000 to 15,000 ha, and are currently legalizing them through the state and federal governments.

An interesting proposal for the creation of a municipal reserve was drawn up by social organizations in the municipality of Uruará, aimed at guaranteeing the conservation of an area covered with primary forest close to the city. Uruará's urban zone is concentrated south

[21] The colonization of the Trans-Amazonian Highway area followed the "fishbone" land occupation pattern (a main road cut perpendicularly by secondary roads along which the properties are distributed). The permanent preservation areas of each property, according to the law in effect at the time of the occupation, had to equal 50% of the total property area. As the majority of settlers cleared areas along the front of their lots next to the roads, the back part formed huge continuous strips of primary forest.

of the Trans-Amazonian Highway, on the opposite side of which is a strip of land still under the domain of the Institute of Colonization and Agrarian Reform (INCRA) that could, according to the proposal's authors, be transferred to the municipal government. Not all of the reserve would be used for conservation purposes. According to the proposal, part would be commercially exploited, which would make the functioning of small sawmills in the city viable. In addition, there was discussion of the idea of creating large areas of community forest resource exploitation, to be done by aggregating the permanent preservation areas of individual lots on some secondary roads where the settlers were willing to follow the plan.[21] The community exploitation of these areas would be a more important joint effort than individual exploitation, meaning increased profit for the small farmers.

Despite the proposal's innovative nature and the sizable popular acceptance it enjoyed, the mayor who took office in 1997 refused even to discuss the ideas contained in the plan and the reserve was never implemented. With the election of the new government in 2000, supported by the Rural Workers' Union, the idea came up for discussion again and the municipal government pledged to regulate the area's situation.

In the municipality of Mâncio Lima, Acre, a situation diametrically opposed to that of Uruará and Proto de Moz occurred. There the mayor himself launched a proposal to create a municipal reserve. He initiated a discussion with the Acre Environmental Institute (IMAC), which had environmental competence in Acre, about creating a municipal conservation unit. His idea was to create a management category that linked use of the extractive resources with the development of tourism and recreational activities in the municipality. The state government saw this proposal as an important step to initiating the development of tourism in the Juruá Valley, mainly because it had been the municipality's own initiative.

In 2000, IMAC technicians identified a large stretch of grasslands (Japiim) for the municipal reserve. Japiim's vegetation is predominately palm trees and the soil has low agricultural potential. The area is largely used for fishing, particularly by the poorest strata of Mâncio Lima's population. Surveys by IMAC technicians done to SNUC's orientations indicated that the appropriate conservation unit for the municipality's reality would be a Sustainable Development Reserve (RDS),[22] given the surrounding communities' need to use its resources.

The municipal government worked together with the state government in drawing up the proposal, which was ready shortly before the 2000 elections. The mayor was not reelected and did not send the project to the municipal chamber for a vote before leaving office. His successor made clear that he opposed creation of the reserve, which he deprecatingly called the "Yacaré Reserve." He and the majority of the council members, and probably of the population in general, did not accept the idea that the municipality should restrict use of its lands. This position may grow out of the fact that Mâncio Lima has no control over nearly 67% of its territory, which forms part of the Serra do Divisor National Park and of the Nukini and Poianawa Indigenous Reserves. The local population perceives this reality as a barrier to the municipality's economic development.

[22] The SNUC defines the RDS as a natural area that shelters traditional populations whose existence is based on sustainable natural resource exploitation systems developed over generations and adapted to local ecological conditions. An RDS is an area of public domain and, in accord with SNUC regulations, private areas falling within its limits must be expropriated as the law determines.

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The social movements in Mâncio Lima are much less organized than in Uruará and Porto de Moz, where the rural workers and their partners were the ones who initiated the discussions about creating reserves. In Mâncio Lima, these groups did not explicitly support the mayor who promoted the idea of creating a conservation unit or even show any interest in the proposal.

THE ROLE OF MUNICIPAL GOVERNMENTS IN ENVIRONMENTAL CONFLICTS

The municipal governments are usually actors in conflicts that arise over "appropriation" of municipal lands by federal government agencies. This happens mainly when IBAMA and FUNAI propose the creation of national parks and indigenous reserves. Municipal governments generally oppose having these areas in their territories, arguing that they impede "productive" use of the land and limit the municipality's economic growth. In addition, the creation of such conservation units directly and indirectly affects the lives of many residents, and the municipal governments are unwilling to assume the political cost.

One such conflict is occurring in Mâncio Lima. Over two thirds of the municipality's nearly 470,000 ha is under federal government control due to the existence of the Serra do Divisor National Park, with 267,000 ha, and the Poianawa and Nukini indigenous areas, with 21,000 and 27,000 ha, respectively. The main conflict has arisen around the park, due to its size and the presence of inhabitants who are fighting IBAMA to keep from being evicted. This is a recurring problem in the national parks, since the federal government creates them by decree, without knowing the local reality. To make matters worse, the legislation establishes totally restrictive use of the national parks, which prevents their inhabitants' survival and or their possibility of obtaining property titles and selling their land.

In the case of Mâncio Lima, the local population and the municipal government always opposed moving the families and requested that the park area be redefined. In 2000, the conflict between the park's inhabitants and IBAMA worsened because some of the residents belonged to an indigenous group considered extinct (Nauas). This created an unusual situation, since the population of Mâncio Lima decided to support the proposal to demarcate their area. This decision responds to the fact that if it park is declared an indigenous area, it will cease to exist as a park, since no authority can be imposed on an indigenous area. This position favoring the indigenous area is very atypical; usually, both the municipal government and the other residents oppose establishing indigenous areas because of the strict use and transit restrictions on the non-indigenous population.

The mayor elected in 2002 supports the park's existence, if it is established in a smaller area and with a management plan that would attract tourists to the municipality. It is curious that, despite the old disposition and IBAMA's rush to displace the inhabitants, the park had a management plan drawn up 10 years before its creation, the fruit of an agreement between IBAMA and the NGO SOS Amazônia, supported by The Nature Conservancy.

An example of the more common position of municipal governments regarding indigenous lands is found in Uruará, part of whose territory is occupied by two indigenous areas of the Arara people, one of 1,060,400 ha, inhabited by 40 people, and the other of 235,600 ha,

inhabited by 120. The local opposition is not to the existence of the reserves, or even to their size. The major problem is that part of the reserve was colonized many years ago under INCRA's orientation, and there is now a significant settler population in the area. The proposal defended by the municipal government is to modify the reserve's limits, so it does not affect the colonization area. FUNAI and the Indigenous Missionary Council (CIMI), an entity linked to the Catholic Church that defends indigenous rights, do not accept their proposal.

In Porto de Moz, the municipal government has directly mediated conflicts between loggers and small rural producers. The problems between these two groups have to do with access to the timber and to areas of the forest. As the municipality's agrarian situation is quite irregular, logging companies commonly appropriate federal forests and areas belonging to small farmers. This appropriation is often temporary, lasting only until all the timber has been illegally extracted. Other times, the lumber companies definitively appropriate the lands through fraud. The municipal government intervenes in these conflicts using its political power, either to keep the Land Institute of the State of Pará (ITERPA) out of the municipality or to get it to move on legalizing the loggers' lands, including those of the mayor himself. The municipal government systematically sabotages the organized social groups' efforts to create an extractive reserve in the region. Similarly, the mayor and his advisers oppose the popular proposal to create a biological reserve on the municipality's main lake, in this case because the mayor has a personal interest in the spot's tourism development.

Analysis of the current situation

MUNICIPAL PRIORITIES: DEVELOPMENT WITHOUT FORESTS

Since the approval of the 1988 Constitution, there has been an unequivocal trend toward decentralizing public administration in Brazil. Municipal governments are increasingly assuming the administration of public policies that were previously the competence of the state and federal governments. This is very clear in basic health and education policies, over which the municipal governments currently have major control.

An important characteristic of this process is that decision-making has been opened up to popular participation through municipal health and education councils. Although these arenas are an important advance, they refer to areas of public service administration; that is, a more administrative than political decentralization. In the environmental field, however, decentralization has the potential effect of intensifying democracy, given that what is at stake is not efficient provision of a basic service, but rather who has access to what kind of resources and how.

As has been stated, Brazil's judicial framework permits municipalities to participate in managing their forest resources. What is observed, however, is a general timidity and even unwillingness on the part of local governments to use these powers. For a variety of reasons, they have little interest in forest policies.

In the first place, it must be recognized that a deforestation and get rich quick culture still reigns in the Amazonia. This type of development is synonymous with the expansion of agriculture and livestock. Timber exploitation is part of this equation, but not over the long run. The agricultural and forest frontiers advance simultaneously; trees are cut down as new pasture and agriculture areas are created. This is how the region has been occupied over the past thirty years. As devastating as the effects of this type of colonization are, both the vast majority of local residents and the region's main economic interests support this model, some for lack of alternative options and others because they obtain important benefits. The discourse about protection and rational use of the forests does not find a very favorable environment in the region.

Municipal politicians tend to draft policies favoring this short-term developmentalist model. It is no accident that municipal governments support and stimulate the agricultural sector much more frequently than the forest sector. In fact, the majority of municipal governments are equipped with machinery and trucks to open roads for agriculture and provide services to this activity. The support they seek from state government is mainly to provide these services.

Many municipal governments pressure state politicians and bank directors to provide credits for agriculture and livestock. One example is the pressure applied by the Uruará municipal government to increase the flow of rural credit in the mid-nineties. In Uruará, as in many other Amazonian municipalities, the local government pledged to aid the settlers in forming associations—a requisite required by the Banco de la Amazonia for conceding loans—and submitting their financing projects to the bank. In addition to this preparatory and assistance work with producers, the municipal governments coordinate with state and federal research and technical assistance agencies. In reality, the Uruará municipal government sought to benefit the municipality's main economic interests: the small rural landowners.

The municipal governments' development policies manifest themselves differently in municipalities with different social and political realities. In Paragominas, for example, the municipal government's strategy is to attract capital and investment to modernize agriculture in the municipality. It has tried to stimulate the production of soy, which could in turn stimulate commerce in agricultural inputs and equipment, increase cattle production (due to the rotation of grains and pasturing) and thus boost the local economy. This development model also reflects the local context, in which the large owners control policy. The forest sector is part of this elite, so the municipal government has encouraged the development or adoption of forest management techniques that increase the value of local production, such as forest certification and production diversification. Although this means a major advance over illegal lumber exploitation, the municipal government is not working to democratize access to the forests.

In some municipalities (very few), the local government is trying to maintain the forest and permit a large (and needy) group of people to benefit from its resources. The municipality of Xapuri is unquestionably the best example. As in Paragominas, Xapuri's municipal government seeks to modernize the forest sector, on a much more modest scale but also more democratically. One of the main actions that has been promoted in

coordination with the state and federal governments is to use subsidies to stimulate community forest management and the formation of a center of agroforest products.

Municipal governments have taken other concrete actions that suggest an increasing commitment to forest management. In many municipalities, they have lent support to the implementation of agroforest systems and management of non-timber forest products as alternatives to livestock.

A significant change is also taking place in the municipal governments' political-administrative structure with the creation of environmental secretariats or coordinating bodies, very few of which existed only a few years ago. In addition, municipal politicians and administrators are increasingly including in their discourse the issue of sustainable forest management and the opening to alternative economic experiences in their municipalities. In some cases, mayors and organized social groups are discussing the creation of municipal forest reserves. Some municipalities created Municipal Rural Development Councils, or even Environmental Councils. In several municipalities, environmental education is now part of the school curriculum. These are modest examples, but they demonstrate an effective commitment to forest management by the municipal governments.

DECENTRALIZATION AS A SEARCH FOR NEW ECONOMIC OPTIONS

Despite their relatively comfortable fiscal situation, the municipalities of the Amazonia in fact have few resources available for investing in activities tied to the forest sector. There is a tendency in most municipalities to spend the bulk of the budget in the urban zone. Of the little invested in rural areas, the majority is earmarked for works and programs related to agriculture and livestock. Even so, alternatives exist that allow the municipal governments to mitigate the lack of resources, such as associating or coordinating with some outside actor, be it an entity from another sphere of government, a nongovernmental organization or an international or bilateral aid agency.

In this regard, the PPG-7 has played an important role in many municipalities of the Amazonia, principally through its sub-program of demonstration projects. The same is happening with the environmental ministry's decentralized implementation projects. These programs finance small projects mainly related to management and use of non-timber products and the implementation of agroforestry systems. The municipal governments take an interest in them precisely because they represent an opportunity to act in new areas without having to take resources away from other activities. In addition, these programs are open to nongovernmental groups, such as NGOs, unions and rural workers' associations, and encourage joint work between these groups and the municipal governments, thus stimulating grassroots participation and combining the municipal government's material and human resources with those of the other actors involved.

In general, as the examples presented in the previous section demonstrate, the most successful municipal forest management projects have been those that involve civil society and work in close cooperation with the federal and/or state governments and with national or international NGOs.

THE DIVERSITY OF MUNICIPAL POLICIES

Although lack of resources is a serious problem for the majority of municipal governments, some are much more active than others in managing their territory and their natural resources. Various factors explain these differences. One of the most important is the willingness of municipal administrators, particularly the mayors. There is no doubt that mayors have great power within their municipalities, which even extends over the legislative branch and permits them to manipulate the approval of laws and the municipal budget. The mayor's personal preferences are certainly reflected in the municipal government's political-administrative orientation. A mayor who is interested in sustainable use of the forest resources in his/her municipality will use the opportunities available to commit the municipal government to forest management. In addition to such desire, a minimum of competence and an appropriate technical team are also obviously necessary. Usually, the grassroots social organizations and NGOs have trained and competent personnel so the important thing is that there be an opening for their participation in coordination with the municipal government.

The municipalities of Xapuri, Mâncio Lima and Uruará are good examples of the mayor's role. In Xapuri, the mayor is a 'seringueiro' (rubber extractor) who recognizes and values the forest's role in the local economy. The other two municipalities exemplify how the election of a new mayor can completely change the municipal government's orientation. In the 2000 municipal elections, the population of Mâncio Lima elected a mayor who represents the regional economic interests rather than continue with the previous mayor, who had a very progressive attitude toward the environmental issue. The most immediate result was the abandonment of the proposal to create the municipal reserve, which had been a personal initiative of the outgoing mayor. In Uruará, exactly the opposite transpired, in which a mayor who was more democratic and progressive replaced a centralist one interested in consolidating his own businesses. This event triggered the reactivation of development plans that had been drawn up with the participation of grassroots groups from the municipality.

For all that, it is not easy for democratic candidates who defend a less aggressive economic model for the forests to get elected. The possibilities of this happening depend largely on local politics and the play of political interests among the main power groups, such as settlers, river dwellers, indigenous peoples, loggers, extractors and cattle ranchers. The numeric presence and power of each of these groups varies among the Amazonia's municipalities, and the correlation of forces directly influences the profile of the elected mayors.

Cattle ranchers and loggers definitely cause the greatest negative impact on the forest, given the nature and scale of their economic activities. In fact, the lumber companies control thousands of ha. For example, the southern part of the state of Pará has haciendas of up to 50,000 ha. The indigenous, extractive and river-dwelling groups, in contrast, survive from fishing, hunting, small-scale agriculture and raising small livestock, activities that have a minimal impact on the natural resources. The settlers cause a medium impact on the forest since their agricultural activities are developed on a small scale, but the number of settlers in the region is quite sizeable. Normally, the mayors represent the

interests of the strongest groups in their municipality, since powerful groups have greater ease electing their representatives.

The presence of well organized and articulated social movements create an important balance of power to the region's large economic interests, and can affect municipal policies. The poorest strata of the population obviously face immense difficulties getting their representatives elected. For these groups to have any possibility of gaining access to the municipal government, or at least getting it to pay attention to their demands, they must be very well organized. Xapuri is an exception among the Amazonian municipalities, since there is a 'seringueiro' mayor in power. His election was possible thanks to the fact that the 'seringueiro' movement and the rural workers' movement are very strong in the municipality. Certain municipal policies reflect the fact that the mayor—and the municipality's most organized group—make their living from the forest and have a major interest in its conservation.

Although strong social movements are a counterweight to the mayors' excessive power, one must not be too optimistic about their relative strength. The mayors have more legal and political power and can ignore or block initiatives of local grassroots groups, as happened in Uruará between 1997 and 2000. Furthermore, well-intentioned mayors have difficulties implementing innovative policies when the municipality does not have groups that support their initiatives. For example, Mâncio Lima's mayor proposed the creation of a municipal reserve during the same period; while the initiative did not trigger any resistance by the population, it enjoyed no effective support from any strong social organizations either, so was easily shelved with the change of mayor.

Another factor that determines the course of municipal policies is the municipal government-state government relationship. While all municipalities receive the resources that correspond to them through state and federal transfers independent of the mayor's party affiliation, ideology or personal relations, the coordination work done by municipal governments is fundamentally important for attracting additional material and human resources. Good coordination requires a friendly relationship between government spheres, which generally means party and personal affinity between the mayor and the governor or government secretaries and influential politicians. In fact, such affinity explains part of Xapuri's success. In that case, the governor and the mayor get along well with each other, are from the same party and even share a development vision based on sustainable use of forest resources.

The possibilities of attaining a sustainable local forest policy increase when the mayor is interested in involving his/her government in forest management and well-organized social groups in the municipality support such an initiative. If the state government backs the mayor's initiative as well, we have a very propitious setting for the implementation of local forest policies, but it is infrequent that these three factors coincide. When they do not, other institutional mechanisms that at least motivate or promote interest by the municipal administrators in the municipality's forest resources would be needed.

One fact underpinning the mayors' disinterest is the lack of technical and economic resources available for investing in the environmental area. In contrast, an important

transfer of resources accompanied the decentralization of health and education. Although having some degree of control over the forest resources could mean greater budget income from fees, taxes and concessions, these are not sufficiently attractive to the municipal governments. Creating municipal fees and taxes would require a major tax collection and auditing effort involving building the entire fiscal infrastructure from scratch, as the majority of municipal governments in the Amazonia do not collect taxes. A second obstacle is that charging taxes is not very popular and could generate local conflicts, particularly with the lumber dealers.

Financial factors definitely appear to be essential to the success of decentralization policies. The example of the ecological ICMS implemented in the states of Paraná and Minas Gerais made this very clear. Starting from the moment that the mayors visualized the opportunity to increase municipal income without having to charge local taxes, they began to create municipal conservation units and stimulate the creation of private protection areas. These mechanisms, however, have a limited effect, as the collection of ICMS does not increase with the simple creation of conservation units. If other municipalities begin to receive these funds, the fraction that each one gets would shrink. Another limitation in the case of the Amazonia is that the region's states have a much lower tax collection than the states where the ecological ICMS was implemented successfully, so they have fewer resources with which to compensate the municipalities that have conservation units.

State and municipal government participation in granting timber exploitation licenses in the national forests could stimulate their effective participation in environmental management. Surprisingly, this issue has not been discussed in any of the municipalities studied. The Ministry of the Environment's National Forest Program allows municipalities to participate in forest exploitation, but does not specify how this would be applied in practice. Although the ministry is open to including the municipalities in its programs, it is fundamental that the mayors have a real desire to participate in the process.

LOCAL CAPACITY AND CENTRAL CAPACITY

The majority of the Amazon region's municipal governments have precarious infrastructure and lack the human and financial resources needed to manage the forests. Few municipal governments have environmental secretariats, or foresters or forestry engineers with the skills to perform the necessary tasks. Although an array of options exists to address this problem, they are not enough to be able to speak of an installed capacity for developing local forest management in the Amazonia.

Due to the fiscal system and existing transfers, municipalities with a larger population and more economic development have a greater budget and consequently a more developed administrative economic infrastructure than the small, poor municipalities. This, however, is not a factor that determines the municipality's interest in forestry management; the issue's priority on the local political agenda seems to depend more on political than technical factors.

State governments have greater technical capacity, with their technical personnel normally including agronomic and forestry engineers, biologists, geographers, specialists in

remote monitoring, not to mention having more sophisticated equipment and more resources to finance their activities. In the federal agencies, the equipment is even more sophisticated and there are many specialists in diverse areas. The problem is that there is no effective correlation between resource availability and the effective capacity to work at a regional and local level. Their great technical limitation aside, the municipal governments are the closest to the users of the forest. The federal agencies, which still have greater responsibilities over the forest, the granting of forestry concessions and permits, and inspection and administration of the conservation units, have a scant presence in the field.

In this regard, it is worth recalling the loggers' complaint about the centralization and bureaucratization of the whole legal process for forest exploitation. The delays and costs of drawing up management plans and getting them approved and obtaining transport authorizations for the timber makes it difficult to develop the sector. If these problems affect the work of big lumber operations, they are insurmountable for small forest producers who have no resources to follow all the steps of the administrative process and end up opting for illegal exploitation. In addition, inspection of the forest management's legality is inefficient, insufficient and inadequate to the Amazonia's forest reality.

IBAMA has an ambitious mission and is experiencing great difficulty trying to fulfill it. Given the dimensions of Brazilian territory, the institute's infrastructure is too limited to develop its activities, and it enjoys little political support. IBAMA has a superintendent's office in the capital of each state and local offices in some cities of the interior. The shortage of officials and of transportation makes inspections in the municipalities very weak, particularly in more remote regions. As logging is most intense precisely in those areas, the institution obviously has little control over the activity.

FUNAI has also been playing a role in this issue. Traditionally, the indigenous peoples have suffered recurrent invasions of their lands by farmers, cattle ranchers, 'grileiros' (individuals who attempt to take control of other people's lands through false property deeds) and loggers. Illegal logging is particularly significant in the indigenous areas. Important forests with very valuable wood such as mogno have been conserved in some zones, but the absence of control and protection means that the big logging companies simply open clandestine roads to gain access to this wood.

Despite their limitations, agencies such as FUNAI and IBAMA have a fundamental role in protecting the forest resources. Decentralization of forest resource management is a legitimate demand with respect to both democratization and efficiency in their use. Some activities and responsibilities, however, should remain the central government's responsibility, such as the creation of national parks and indigenous reserves, for example. The benefits of such protected areas are national and perhaps even global, but their costs are local, or at least that is the perception of the residents of municipalities where the resources are located. If the area under protection in the Amazonia had to depend on the local population and its political representatives, it would be much smaller than it is. In general, the perception of the role of the conservation units that permit use of the forests and extractive reserves is much more positive where there are populations that make their living by exploiting these areas, as occurs in Xapuri.

Conclusions and recommendations

The decentralization of forest policies in Brazil is still very slow and timid compared to other public policy areas such as health, education and social assistance. Nonetheless, there is no reason to be too pessimistic. In the first place, the rhythm of this process up to now is not necessarily a problem per se, as the political conditions in many municipalities do not favor rapid and radical decentralization. In the region's typical municipalities, in which loggers and cattle rangers are very powerful and directly or indirectly control municipal government, transferring powers to the local government would mean giving control over the forest resources to groups that do not have the slightest interest in exploiting them in a sustainable and/or democratic manner. Control by a federal or state entity that has some independence from these powerful local interests is important in such cases.

The federal government and its agencies are very important to the environmental activities developed in virtually all municipalities of the Brazilian Amazonia, although that importance is precarious and at times unused. The advantage that each municipality gains out of its relations with these agencies depends largely on the mayor's interests and attitudes toward sustainable natural resource use, as well as the presence and relative strength of interested social groups. Relations between the federal and municipal governments seem less affected by the political relationships between their leaders than is the case of the municipal and state governments. A distancing between the latter two isolates them somewhat from the daily political work. The relationship between the governor, state secretaries and a municipal mayor largely affects the possibilities of that municipal government being able to obtain resources for its programs. Political allies have always found it easier to increase the flow of resources to the municipalities.

To achieve democratic and effective decentralization of forest resource management, mechanisms need to be created that stimulate municipal administrators to take an interest in the issue. The ecological ICMS is one such mechanism. Its effectiveness in the Amazonia is perhaps more limited than in the southern and southeastern states, since a huge number of Amazonian municipalities have environmental protection areas and state tax collection is significantly lower, so each municipality receives a small quota of the ecological ICMS. Precisely because the region's municipalities are relatively poor, however, this type of incentive, though small, could be attractive to the mayors. To initiate discussions on the issue in the region, simulations of resource distribution from this incentive could be done in the Amazonian states. Ideally, the initiative should start with the municipalities themselves, as occurred in the states of Paraná and Minas Gerais. The idea could be promoted from the federal level, given that the majority of the resources for the Amazonian municipalities come from the federal government.

The decentralization of administrative procedures could be speeded up through agreements among municipal and state governments and IBAMA. The experience of the state of Acre is very positive: IBAMA's delegation of powers to IMAC has allowed a greater number of small producers to legalize and regulate their activities without major costs or risks to the forest. It is fundamental that this type of agreement be stimulated, since it is a way to unite the federal bodies' capacity to the municipal governments' advocacy power and to social and territorial oversight. For this to function adequately, the administrative procedures for forest

exploitation need to be simplified, which would help democratize access to the forest and facilitate state control over forest use.

It is an opportune time to intensify Brazil's decentralization process, as the government has not yet approved the National Forest Program and will soon initiate a discussion of the federal law to regulate concessions for the use of public forests. It is vital that the municipalities organize to defend their interests in this process, that they benefit economically from the concession fees and use permits, that conditions be created for the municipal governments to define their own public forests and that access by local residents be guaranteed. The municipalities have participated directly in managing state and federal public forests, which necessarily involves receiving a significant part of the resources resulting from their management and exploitation.

Abbreviations and acronyms

CIFOR	Center for International Forestry Research
CIMI	Indigenous Missionary Council
DfID	Department for International Development, UK
EMBRAPA	Brazilian Agricultural Research Enterprise
FPM	Fund for Municipal Participation
FUNAI	National Indian Foundation
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources
ICMS	inter-state and inter-municipal transport and communication taxes
IMAC	Acre Environmental Institute
INCRA	Institute of Colonization and Agrarian Reform
PDLIS	Sustainable Local Development Plan
PED	Decentralized Implementation Projects
PPG-7	Tropical Forests Pilot Program
RDS	Sustainable Development Reserve
RPPN	Private Natural Patrimony Reserve
SNUC	National System of Nature Conservation Units

Bibliography

Bremaeker, F.E.J. 1994. Perfil das Receitas Municipais. Revista de Administração Municipal 41(213):75-88.

Greepeace. 2001. A Exploração de Madeira na Amazônia: A Ilegalidade e a Destruição ainda predominam. http://www.greenpeace.org.br/amazonia/pdf/techrep_planos_manejo.pdf

Instituto Nacional de Pesquisas Espaciais (INPE)/MCT. 2002. Monitoramento da Floresta Amazônica Brasileira por Satélite. Relatório anual do Projeto de Estimativa do Desflorestamento da Amazônia (PRODES), São José dos Campos, June 2002.

May, P.H.; Veiga Neto, F.; Denardin, V.; Loureiro, W. 2002. Forthcoming in Selling Forest Environmental Services: Market-based Mechanisms for Conservation. S. Pagiola, J. Bishop, N. Landell-Mills, Eds. London, Earthscan.

Nickson, R. A. 1995. Local government in Latin America. London, Lynne Rienner Publishers.

Schneider, R. R.; Arima, E.; Veríssimo, A.; Barreto, P.; Souza Jr., C. 2000. Amazônia Sustentável: limitantes e oportunidades para o desenvolvimento rural. Brasília, Banco Mundial / IMAZON.

Shah, A. 1991. The New Fiscal Federalism in Brazil. World Bank Discussion Paper No.124.

Smeraldi, R.; Veríssimo, A. 1999. Acertando o Alvo: Consumo de Madeira no Mercado Interno Brasileiro e Promoção da Certificação Florestal. São Paulo, Amigos da Terra / IMAFLORA / IMAZON.

Veríssimo, A.; Barreto, P.; Mattos, M.; Tarifa, R.; Uhl, C. 1992. Logging Impacts and Prospects for Sustainable Forest Management in an Old Amazon Frontier: the Case of Paragominas. Forest Ecology and Management Vol.55:169-199.

Veríssimo, A.; Souza Jr, C.; Amaral, P.H. 2000. Identificação de Áreas com Potencial para Criação de Florestas Nacionais na Amazônia Legal. Brasília, Ministério do Meio Ambiente.

Progress and challenges of municipal forest management in Costa Rica

Lyès Ferroukhi and
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Introduction

In the Latin American context, Costa Rica is a front-runner in environmental legislation and policies and the development of institutions responsible for natural resource management. These policies have been especially vigorous with respect to the forest issue; important progress has been made in the past three decades in strengthening reforestation and activities derived from forest use and management, and in designing economic instruments for conservation and sustainable management, among them what is known as the Payment for Environmental Services (PSA) system.

At the same time, however, Costa Rica is one of the region's most centralized countries, and in the sphere of forest management, this centralization is reflected in the institutional scheme, decision-making and control of earnings generated by the sector. Because strong centralization of all aspects of forest management have not prevented the appearance of the same problems of corruption, lack of efficient controls and shortfall of technical and economic recourses that the majority of countries in the region display, an effort has been made in recent years to find different management initiatives that might reduce these problems.

Decentralization of the state has been totally excluded from the national political agenda. In recent years, important bills have been formulated to decentralize power to the municipal governments, and there is growing awareness of the need to stimulate local participation in natural resource management. In addition, national forest management is going through a period of review in which diverse sectors are pressing for the implementation of legal and institutional changes that permit more efficient management of the forests.

In this context, it is important to understand the current state of forest management in the country and assess the processes that have been implemented to improve municipal participation and to understand the challenges that future decentralization of forest management will face. Although the majority of the municipalities have been largely uninvolved in managing their forest resources, some interesting examples can be found of local governments that have promoted natural resource management initiatives that generally include the forest aspect. These experiences reveal the need for greater participation by municipal governments and local stakeholders in general, even in a very centralized forest management scheme, a need that is being strengthened by diverse factors.

This chapter describes the situation of Costa Rica's forest resources, the legal and institutional forest management scheme and the role of municipal governments as entities responsible for ensuring the sustainability of the natural resources in the local sphere. A later section describes and analyzes various experiences in which municipal governments have become involved in forest management despite having no direct competencies or the resources required to do so. The diverse elements and incentives that have motivated municipalities to get involved in this issue are analyzed, and the perceptions of diverse stakeholders regarding the municipal governments' role in forest management are summarized. Conclusions and recommendations that address the accomplishments and challenges of decentralized forest management in the country are presented at the end.

The forest context

SITUATION OF THE RESOURCE

Costa Rica covers an area of 51,100 km^2, of which 25% (1,284,543 ha) is made up of Protected Woodland Areas (ASP).[1] There are varying levels of protection for the forests in these areas, according to the category of the area. The country's main primary forests are found within the National Parks and Biological Reserves, which are the categories of absolute protection. They represent 11% of the national territory, for a total of 590,991 ha in which no exploitation or productive activity whatever is permitted (MINAE 1999). Another important percentage of primary forest is found in the indigenous territories, occupying approximately 180,000 ha in the southern and Caribbean areas of the country (Mesa Indígena 2000).

With respect to total forest cover, some data indicate that Costa Rica has succeeded in turning the deforestation rate around considerably. Between the fifties and seventies, the country had an intensive agricultural development policy that increased deforestation and speeded up the loss of forest cover (Camacho *et al.* 2001). The result was that by the eighties the country registered one of the highest deforestation indices in the world (Camacho *et al.* 2000); in 1985 it only had a 24% forest cover, with a deforestation rate of 32,000 ha/year (MINAE 2002). By 1997, however, the forest cover had increased to an estimated 40.4% of the national territory[2], and estimates based on the information updated to 2002 are that it has now reached 45.4%[3] (FONAFIFO *et al.* 2002).

Despite these encouraging figures, however, there is still strong pressure on the primary forests. Various studies mention uncontrolled use in areas where there is a greater presence of primary forest: the north and Caribbean regions (Talamanca) and the Osa Peninsula in the southern area (FONAFIFO *et al.* 2002, Fundación CECROPIA 1999). One of the main forest management problems is illegal felling; recent data indicate that 35% of the timber extracted is done illegally (MINAE 2002).

PAYMENT FOR ENVIRONMENTAL SERVICES

Both reforestation and forest management received important economic incentives for two decades. In 1979, Costa Rican forest legislation created tax deduction mechanisms, soft credits and development funds to foster economic activity linked to reforestation and sustainable forest use.

[1] These territories include 132 national parks, biological reserves, wildlife refuges and other ASP categories.

[2] This study, prepared by the Tropical Scientific Center and University of Costa Rica with financing from the National Forestry Financing Fund (FONAFIFO), refers to forest cover, which implies a broader concept than non-intervened primary forest; it includes intervened forest, secondary forest and forest plantations. Some environmentalist groups criticized it, as they felt it did not reflect the true situation of Costa Rica's primary forests; they noted the existence of much lower figures in studies prepared by other international agencies such as the WWF.

[3] This 2002 study, also conducted by the Tropical Scientific Center, this time in coordination with the University of Alberta and FONAFIFO, mentions that the difference in forest cover percentages between 1997 and 2002 is essentially due to differences in cloud cover in the satellite images used in the 1997 study, as well as improvements in detecting dry tropical forest.

The incentive system for forest activities took a significant turn in 1996 with the promulgation of the current Forestry Law,[4] which eliminated existing incentives and introduced the Payment for Environmental Services (PSA) system. The PSA establishes payments to owners of forests and forest plantations in recognition of the service that conserving or appropriately managing the forest offers to society as a whole (Watson *et al.* 1998). According to this law, the services recognized are the mitigation of greenhouse effect gases, the protection of water resources and protection of the biodiversity and scenic beauty.[5]

The Ministry of the Environment and Energy (MINAE) administers the PSA system through the National Forestry Financing Fund (FONAFIFO). Funding for the system essentially comes from the transfer of a third of the selective sales tax on fuels and hydrocarbons. Other financing sources are the contracts between FONAFIFO and some private companies interested in conservation plus the funds obtained from carbon sequestration, through the Joint Implementation Mechanism.[6]

One of the main criticisms of the PSA is that the payment allocation has discriminated in practice against small farmers and indigenous peasants, above all those without registered property title deeds (Camacho *et al.* 2000). Given that only owners of forested land who can show title are eligible for the benefit, many small farmers and peasants end up excluded (Estado de la Nación 2000). In fact, the majority of the 501 PSA beneficiaries in 2001 were large landowners, and the area covered was equivalent to 4.3% of the national territory (Estado de la Nación 2000). The result of this and other problems linked to the system's operational aspects is inequity in the payment allocations (Camacho *et al.* 2000).

FOREST-RELATED ECONOMIC ACTIVITIES

Exploitation of the forest and value-added lumber activities contribute approximately US$141 million to the national economy, which amounts to 0.87% of the Gross Domestic Product.[7] Close to 8,000 businesses in the country are linked to forest management and generate roughly 18,000 jobs (Barrantes 2002, pers. comm.). Because Costa Rica's forestry sector has made a major effort to certify its activity's environmental performance, 65,344 ha of forest and forest plantations now use environmental certification schemes of management (Estado de la Nación 2000).

Eco-tourism is another important forest-related economic activity. The international promotion of Costa Rica as a "green" tourist spot has made the forest a valuable tourist attraction. During the 2000 tourist season, 70.7% of those who visited the country went to some protected area (national parks, wildlife refuges and others). It is no accident that 40% of the 120 private reserves associated with the National Private Reserves Network are dedicated to tourist activity (Red de Reservas 1999).

[4] Costa Rica has had four forest laws: Law 4465, of 1969; Law 7032, of 1986; Law 7174, of 1990 and Law 7575, of 1996.

[5] Article 3 of Forest Law 7575.

[6] FONAFIFO has an important financial contribution obtained by Costa Rica for the Joint Implementation Mechanism created by the Climatic Change Agreement to reduce greenhouse effect gasses. The Costa Rican Joint Implementation Office (OCIC) administers the money coming through this mechanism and transfers a percentage to FONAFIFO. There are also numerous contracts through which public and private companies transfer funds to FONAFIFO to pay forest owners near watersheds or aquifers that need protection in order to function.

[7] These figures were provided by Alfonso Barrantes, Director of the National Forestry Office, and are part of a soon-to-be published study conducted by ONF (2002). The data include the contribution of the value-added activities related to lumber (felling, transport, industrialization, construction and furniture).

Research on the biodiversity of Costa Rica's forests is also becoming an economic activity promoted by the National Biodiversity Institute (INBio), the entity responsible for promoting sustainable biodiversity use at a national level. Since 1991, INBio has signed biodiversity research contracts with various transnational corporations and foreign universities valued at over US$2 million.[8]

The economic dynamic generated around forests in Costa Rica has sparked the coming together of numerous social stakeholders to support each other, defend their interests and energize the sector from different perspectives. The following insert presents the main groupings in the national forestry sector.

Forest sector-related stakeholders in Costa Rica

STAKEHOLDERS	DESCRIPTION
Costa Rican Chamber of Forestry (CCF)	It currently has 100 associates: 95 businesses and 5 regional forestry organizations. The businesspeople are reforesters, forest owners, marketers, industrialists and sellers of forest services. The CCF defends the interests of its members and promotes modernizing and industrial conversion initiatives.
Foundation for the Forestry Development of the Central Volcanic Range (FUNDECOR)	The objective of this organization is to promote the protection and sustainable management of 80,000 ha of forests in the Central Volcanic Range, where it develops activities to maintain the forest cover, protect the biodiversity and promote sustainable development. It has received important international recognition, such as the first SGS group certification and the King Baldulno prize.
National Peasant Forestry Board (JUNAFORCA)	It was created in 1989 as a coordination alternative for the organizations of small forest producers. It is currently made up of 56 grassroots organizations and 5 regional ones, with 21,773 small and medium producers. JUNAFORCA's mission is to bring together, strengthen and represent the peasant organizations to promote their participation in development through appropriate natural resource use.
San Carlos Forestry Development Commission (CODEFORSA)	Non-profit organization formed in 1983. It promotes sustainable forest management and protection of the forest and provides technical advice to owners of forests and plantations. It has a thousand associates between forest producers and industrialists.
Association of Industrialists and Reforesters of the Atlantic (ASIREA)	Non-profit forestry organization created in 1986. It has 92 associates, classified into five categories: industrialists, reforesters, forest owners, loggers and forestry professionals. Its objective is to promote and develop the forest sector of Costa Rica's Caribbean region, implementing conservation and production programs in accord with national and international management and environmental protection guidelines. It is seen as a lead organization in the Caribbean region that initiates and channels actions to protect, recover, preserve and sustainably manage the natural resources .
Indigenous Peasant Forestry Coordinating Body of Costa Rica (CICAFOC)	A non-profit community grassroots social organization that serves as an umbrella for associations, cooperatives, federations and community groups of small and medium agro-forestry producers, indigenous peoples and peasants, through their first - and second-tier organizations in the region. It promotes actions to develop agroforestry systems to support its member indigenous and peasant groups, plans to foster community forest management, political activities of community management and legal training for the groups.

[8] For information on this national organization, consult: www.inbio.co.cr

Institutionality of Forest Management

This section describes the competencies of the State Forestry Authority (AFE) and its main organ, the National Conservation Areas System (SINAC). It also presents an appraisal of SINAC's deconcentrated structure and its impact on forest management.

THE STATE FORESTRY AUTHORITY

The State Forestry Authority (AFE) is responsible for directing forest management in Costa Rica. It is made up of three entities: the National Conservation Areas (SINAC) and National Forestry Financing Fund (FONAFIFO), both of which answer to MINAE, and the National Forestry office (ONF), which is a participatory body for designing policies, made up of various stakeholders from the private forestry sector and ecological organizations.

The Authority's main functions are exercised through SINAC and are laid out in the Forestry Law,[9] which in Article 1 establishes as an essential and priority function of the state:

"To care for the conservation, protection and administration of the natural forests and the production, exploitation, industrialization and promotion of the country's forest resources destined for this purpose, according to the principle of appropriate and sustainable use of renewable natural resources. In addition, it will see to the generation of employment and an increased living standard for the rural population through their effective incorporation into forestry activities."

SINAC, the most important forestry administrative body with national coverage, is responsible for administering the State Forestry Patrimony[10] and in fact administers all forests in the country, independent of whether they are found within some category of protected wooded area, are in private hands or belong to the municipalities. It should be clarified that the Forestry Law considers as forest any extension of land of two ha or greater with at least 60 trees per hectare.[11] The scope and limitations of SINAC's administration vary, depending on whether the forest is found within some ASP or is in private hands as well as the kind of use being contemplated.

Any kind of forestry exploitation requires a Forestry Management Plan that establishes the technical conditions to guarantee its sustainability. This plan must be prepared by a forestry

[9] The legal framework that establishes SINAC's competencies regarding forest management and administration is very ample: the Forestry Law (1996), the Biodiversity Law (1998), the Organic Environmental Law (1995), the General Wildlife Law (1993) and the National Parks Law (1977).

[10] This patrimony is made up of forests and the forested lands of the national reserves, areas declared inalienable, farms recorded in their name and those belonging to the municipal governments, autonomous institutions and other public administration agencies (Forestry Law Art. 13).

[11] The Forestry Law defines a forest as an autochthonous native ecosystem, intervened or not, regenerated by natural succession or other forestry techniques, occupying a surface of two or more ha, characterized by the presence of mature trees of different ages, species and size, with one or more canopies covering over 70% of this surface and having more than 60 trees/ha of 15 cm or more in diameter (Art .3). This definition of a forest is so broad that a forested plantation could be considered a forest if it fits within the suppositions of the cited article, which is totally feasible. Nonetheless, for purposes of forestry exploitation, plantations only require a Management Plan to be eligible for the Payment for Environmental Services. If the plantation is not within the PSA system, it only needs a "certificate of origin," which is a document prepared by a forestry regent verifying that the lumber exploited comes from a forested plantation.

regent contracted by the party interested in the exploitation. The management plans drafted by the regents must be endorsed by SINAC and must respect the official requisites and guides.

Forest exploitation in lands not considered forest also requires SINAC's authorization. Terrain with forest cover of under two ha requires the presentation of a study called a "forest inventory," which is less technical than the management plan but must contain minimal sustainability criteria for the exploitation and must also be prepared by a regent.

When terrain for agricultural use without forest is at issue, a "Permit to cut trees in pasture," issued by the Regional Councils of Conservation Areas, is required. The Forestry Law establishes that the municipal governments should grant this permit, but the competency was later transferred to the Councils, though in practice they are currently granted by SINAC because the Councils have not yet been created.

One of the main criticisms of the current exploitation system is the power it deposits in the forestry regents. The Office of Comptroller General has pointed out that SINAC lacks an efficient system for following up on their work (Estado de la Nación 2000). There are also serious criticisms about compliance with the management plans approved by SINAC, since in practice the exploitation limits and norms stipulated in them are not respected. Another limitation of the system is that the forest regents are contracted by the loggers themselves, which restricts their independence (Fundación CECROPIA 1999).

Another of the weaknesses noted is the effective capacity of MINAE/SINAC. A recent study of the factors that encourage illegal cutting in Costa Rica mentions, among other aspects, AFE/SINAC's limited ability to supervise and control forest management. Some examples of this are the need to go through bothersome formalities to obtain a cutting permit and inadequate control in managing the guides and license plates for transporting timber. The corruption within AFE/SINAC, the fact that it does not visit the exploitation site after the work has finished and the limited capacity and experience of both AFE officials and forestry regents were also mentioned (MINAE 2002).

SINAC'S DECONCENTRATED STRUCTURE

SINAC, created in 1995 through an executive decree,[12] meant an important change in management of the country's natural resources, since the Wildlife Department, Forestry Department and Parks Service were unified into a Superior Division of the National System of Conservation Areas. The country was divided into 11 conservation areas, and regional departments and sub-regional offices were set up in each one of them. The management competencies and approval of certain procedures were also transferred, as were regional-level permits and forest control. This regionalized organization is unique within MINAE.[13]

[12] Decree No. 24652-MIRENEM of September 20, 1995.

[13] This reform, which in principle might seem simple, has taken several years, and many SINAC officials feel it is not yet in its final and best form. The reality is that an attempt was made to bring together in a relatively short period three departments that traditionally worked independently and with different orientations.

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It is important to clarify that one can speak of regionalizing but not of decentralizing in SINAC's case, as the regional offices are not autonomous. Although they have the capacity to make some decisions, they depend on SINAC's Superior Division, located in San José. In fact, SINAC's deconcentration process has had practical difficulties in consolidating key aspects of its functioning, such as management autonomy and the handling of funds in the regional departments. Furthermore, a good proportion of the important decisions for the areas continues to be handled in a centralized manner[14] (Ferroukhi *et al.* 2001).

Despite these limitations, however, the creation and regionalizing of SINAC increased the local presence of officials dedicated to forest management and promoted a more direct relationship among MINAE/SINAC, the municipal governments and other local stakeholders.

In an attempt to promote local participation in managing MINAE/SINAC, certain participation arenas were formalized legally. In 1995, the Organic Law of the Environment created Regional Environmental Councils as maximum deconcentration entities under MINAE with the capacity to make policy recommendations and process denunciations, although without specific competencies on forestry issues. In 1998, the Biodiversity Law created Regional Councils of Conservation Areas, with functions more related to forestry management, such as:

- To recommend to the National Council of Conservation Areas the creation, modification or change of category of protected wooded areas.
- To participate in fighting pests and forest fires.
- To recommend the areas that must receive incentives.
- To authorize the cutting of trees in pastureland.[15]
- To issue certificates of origin for the timber extracted from forest plantations.[16]

In general, the design and functioning of these councils is not very clear and there are duplicated functions, which has made their implementation difficult. Nor has there been sufficient political interest by MINAE to create and consolidate these arenas. In fact, both have had little impact on SINAC's structure.[17]

[14] SINAC's structure and autonomy were legally formalized with the approval of the Biodiversity Law in 1998. Nonetheless, the dispositions of this new law did not reflect the position of the incoming government (1998-2002), so MINAE itself promoted an unconstitutionality suit against the articles aimed at legally consolidating SINAC. As this action has not yet been resolved, the challenged articles cannot be applied. In practice, then, SINAC does not yet have definitive legal backing beyond its executive decree.

[15] In view of the difficulties of creating the councils, these competencies have not been exercised, so they have been assumed directly by the administration of each Conservation Area.

[16] The region can also extend this certificate, needed for transporting timber off the farm and for its export. At this moment, the councils do not exercise this power.

[17] Indeed, only two Regional Environmental Councils have been created: that of the Caribbean Friendship Conservation Area (ACLACA). and that of the Pacific Friendship Conservation Area (ACLAP).

The municipal government in forest management

THE MUNICIPAL GOVERNMENT: STRUCTURE AND INCOME SOURCES

Costa Rica is politically divided into 7 provinces and 81 cantons, or municipalities; an autonomous, decentralized local government heads each canton and must set development policies and priorities for the canton independent of any other state institution. As established in articles 169 and 170 of the Constitution, it is responsible for administrating local interests and services.

The municipal government is made up of a Municipal Council, the maximum political decision-making body composed of council members and district trustees (síndicos) elected every four years, and a mayor, who manages the municipal work and implements the accords coming out of the Council.[18] To discuss specific issues, the Council creates commissions of councilors and síndicos, as well as individuals who participate as advisers but cannot vote. All municipal governments must name an environmental commission. Each mayor's office has the autonomy to administratively organize itself as it sees fit, and some, though not obliged to do so, have begun to establish environmental offices.

Municipal governments receive 1.28% of the national budget, distributed through specific budget lines assigned by the Legislative Assembly (Solís 2002, com. per.). These assignations represent a small percentage of the municipal budget, which depends far more on other categories:

- Loans
- Other public sector transfers
- Rates charged for providing public services (street cleaning, garbage collection, etc.)
- Charges for construction permits and functioning of economic activities (patents)
- Land tax charge
- Environmental charges[19]

To understand municipal governments' political role, it is necessary to analyze the nature of their autonomy and decentralization.[20] Although the Constitution defines them as decentralized and autonomous entities, the issue of municipal autonomy has been controversial, since Costa Rica is a very centralist country and this is reflected in the central government's real power with respect to the municipal governments.[21]

Municipal autonomy in natural resource management is consequently very limited. In most cases, the competencies of the Ministry of Environment and Energy and other

[18] As of 2002, mayors will be directly elected by the communities. Up to now, they have been elected by the Municipal Councils, which generated instability, as it made them very susceptible to the internal conflicts among the different political tendencies.

[19] These charges are linked to natural resource management within the municipal territory and are described in a later section.

[20] See Constitutional Bench votes 2394 of 1993 and 5445 of 2001.

[21] In addition to the ministries, there are autonomous institutions that enjoy a functional decentralization with respect to specific themes, such as provision of public services or social or agrarian development policies; these institutions generally act on behalf of national rather than local interests

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institutions involved in the issue are much broader and more direct than those of the municipalities. Specifically on forest affairs, the balance of power is very negative for the municipal governments.

DESCENTRALIZATION AND MUNICIPAL STRENGTHENING

Unlike in other Latin American countries, social pressure to decentralize decision-making and strengthen the municipalities has been weak in Costa Rica. Despite that, these concerns have had some impact on the political sectors and have been gaining space on the legislative agenda (Rivera 1999). In the past decade, there have been some legal changes to strengthen the municipal governments' role, particularly increasing their sources of income and reforming the Municipal Code to streamline their management. The following insert lists the main changes geared to strengthening municipal government and decentralization in recent years.

Legal changes to strengthen local government

In 1995, Law 7509 transferred territorial (real estate) tax to the municipal governments	An important decentralization effort aimed at increasing the very low amount previously collected at the central level. The transfer was made with the expectation that charging the tax locally would make collection more efficient. There was also the expectation of strengthening municipal governments by increasing their income. The percentage of collection did not increase, however, largely due to lack of municipal capacity.[22] A current central government project is aimed at strengthening the municipalities in this task.[23]
In 1998, the Municipal Code was reformed, including changes to democratize the municipal governments' political work	Direct popular election of mayors was established as of 2002. Before the reform, the Municipal Council named the mayor. This change is expected to permit greater control of municipal activity and improve accountability by the mayors. The new Code introduces direct civic participation entities or popular consultation mechanisms: plebiscites, referendums and town hall forms. The obligation of the Municipal Councils to create an advisory commission on environmental issues was established.
In 2001-2002 two bills on decentralization and municipal strengthening were presented to the Legislative Assembly.	1) A constitutional reform to increase the percentage assigned to municipal governments to 10% of the annual budget in gradual payment increments of 1.5% annually, subject to passage of a law that transfers concrete competencies. Although this project was approved in July 2001, its application depends on approval of the bill for the Transfer of Competencies and Strengthening of Local Governments, described below. 2) The Transfer of Competencies and Strengthening of Local Governments bill is one of the most important decentralization attempts made in Costa Rica. It would imply significant changes, since the centralized and decentralized central government institutions could transfer competencies to the municipalities via agreements. The bill permits this type of agreement on environmental issues, which would include forestry. Nonetheless, diverse sectors, above all unions,[24] strongly opposed the bill and the government preferred to shelve it rather than promote a national debate on the issue and face the consequences of approving this important project.

[22] The collecting of this tax implies that the municipal governments have the technical capacity to maintain a registry of all real estate in the canton, their owners and an exact appraisal of the terrain, and have sufficient personnel and an efficient tax collection system, a capacity that does not even exist at the national level. It also requires an important investment in computer equipment, cadastre and terrain appraisal. The task is especially difficult in some cantons that have natural forest such as Osa, in the Southern Zone, because they are rural municipalities with limited budgets and unlimited land tenure problems.

[23] A project to strengthen the cadastre system and thus help municipal governments conduct the tax collection task better to increase their revenue will be financed through an Inter.-American Development Bank (IDB) loan that the Legislative Assembly approved in December 2001.

[24] The most important resistance came from the unions of the public institutions, which feared for their labor rights based on the legislation permitting officials to be transferred from the public institutions to the municipal governments. The transfer of competencies was also seen as part of the "dismantling of the state," and the municipal governments, by their political nature and inefficiency, were viewed as unable to assume these competencies.

MUNICIPAL FOREST RESOURCE MANAGEMENT

The most important backdrop to the issue of municipal management and forests was the 1996 approval of the current Forestry Law, which gave municipal governments the possibility of granting cutting permits for trees in pastureland. According to that law, municipal governments could grant permits for a maximum of 20 trees for unforested agricultural land, but this competency was eliminated only two years later due to problems that arose in practice and pressure from central and regional MINAE officials, the Chamber of Forestry and the National Forestry Office. It was transferred to the Regional Councils of the Conservation Areas, created by the Biodiversity Law,[25] and at the same time, the conditions for getting a cutting permit were changed and the number of trees was reduced.[26]

The argument used to eliminate this competency was the municipal governments' lack of technical capacity, corruption problems that appeared among the foresters assigned and in the methods local political interests used to influence the granting of permits. Effectively, there was a great deal of abuse and several municipal officials were formally accused of corruption (Wo Ching 2002, pers. comm.).

The truth is that the competency was assigned to the municipal governments without providing the minimum conditions to make its application effective. No clear and detailed mechanisms and procedures were designed; the needed training and advice was not provided and the technical and economic resources were not forthcoming. For example, the municipal governments depended on SINAC's good will for resources and time to receive training, so few got access.

With no directives, each municipal government autonomously set up the internal organization to implement its new responsibility and, with few exceptions, they did not work well. For example, some assigned the same inspectors who granted function permits the task of controlling and granting cutting permits; in the municipality of San Carlos, in the northern area, the Department of Municipal Parking Department got the job of giving the permits.

Due to the lack of resources, each municipality had to get what it needed with its own meager budget. Some did not even have vehicles for the inspections or money for travel expenses, so they had to negotiate the payment of these expenses with the permit applicant (Chávez 2002, com. pers.).

Another strategy was to contract forestry regents as outside consultants, but this practice generated no technical capacity within the municipal government and the consultant was the only beneficiary. Such was the case of Matina and Talamanca, in the Caribbean region, where there is immense forest wealth. In those municipalities, a forestry regent was contracted as an outside consultant to handle all the paperwork for the permits and was even in charge of getting Municipal Council approval. As a result, the municipal governments did not directly manage the granting of the permits or the control and did not even have a record of the permits given out (Mora 1999).

[25] MINAE currently exercises this competency, since the majority of the councils have not yet been set up.

[26] The permit for cutting trees in pastureland is only authorized for a maximum of three trees/ha and a total of no more than ten.

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Despite these limitations, however, the provision of this competency mobilized a series of interesting initiatives in some local governments that had very positive effects for forest management and the strengthening of municipal governments as actors in natural resource management. Some of these achievements were:

- Creation of environmental offices and even of forestry units in some municipal governments. In several cases, very positive agreements were approved. For example, the Sarapiquí Municipal Council created an environmental office and opened a salary line for a forestry engineer to assume the competency transferred to the municipal government (Ferroukhi 2001). When it was withdrawn, the post was maintained and the environmental office continued functioning.

- Drafting of joint work agreements with MINAE/SINAC. In San Ramón, such an agreement involved MINAE/SINAC transferring one of its officials to collaborate in the forestry work and natural resource protection. The Environmental Commission and Environmental Office were also created and are functioning with excellent results. Both the agreement and the relation between MINAE/SINAC and the municipal government are still in effect.

- Technical training exchanges between regional SINAC and the municipal governments, which in some cases achieved greater closeness and communication between MINAE and the local governments. In Sarapiquí, the environmental office collaborated fully with MINAE/ SINAC and even coordinated the review of Forestry Management Plans, which were the ministry's exclusive responsibility.

In general terms, however, the transfer of this competency in the conditions in which it occurred weakened municipal forest management rather than strengthening it. Despite the positive experiences, the errors committed deligitimized the municipal governments with the national stakeholders in forestry management and generated strong resistance to any other attempt to repeat the experience.

CURRENT FOREST COMPETENCIES

To eliminate the direct competency assigned through the Forestry Law, municipal forestry competencies were pared down to general coordination directives with MINAE/SINAC. In general, MINAE/SINAC handled all technical procedures for forestry exploitation and the forest management regulating and controlling in activities its headquarters and regional and sub-regional offices. The following insert summarizes the current municipal forest management competencies.

Summary of the municipal forest management competencies

CATEGORY	RESPONSIBILITY
Forest exploitation	• Promote the planning and implementation of forest projects.
Protected areas	• Collaborate with MINAE/SINAC in the protection of Protected Wooded Areas. • Propose to MINAE/SINAC the creation of natural monuments. • Administer the natural monuments created by MINAE /SINAC [27].
Economic resources	• Claim from MINAE the percentage corresponding to the tax on forest projects. • Claim the corresponding percentage (50%) from auctioning off seized timber. • Collect the tax stamp on national parks and reinvest in environmental sustainability projects. • Collect the functioning patents.
Forest protection	• Collaborate in the fire, contamination and disease prevention and control activities directed by MINAE/SINAC.
Administration and norms	• Maintain a record of the forest industries. • Promote the acquisition of financial resources for environmental and forestry projects in particular. • Grant function permits for profit-making activities in general and for forest industries in particular. • Promote the design, implementation and approval of regulatory plans as land planning instruments.
Control	• Collaborate in the forest and fiscal control activities directed by MINAE/SINAC. • Exercise crossed control of the charges filed regarding contamination and the failure of industries and companies to comply with environmental requisites.
Civic participation	• Report to the canton's residents about the works and projects underway or planned. • Prepare public hearings related to the regulatory plans and environmental impact studies. • Call for and organize popular consultations through plebiscites, referendums and town forums.

[27] So far there is no example of the creation of a natural monument, only a bill promoted by the Sarapiquí municipal government to declare the Río Sarapiquí basin as one.

Municipal experiences in forest and environmental management

This section describes some experiences of municipal coordination and of participation in natural and forest resource management. Despite the lack of direct incentives, municipal governments have a natural relationship with the forests and with those who have a stake in local forest management. For that reason they are perceived as a necessary referent and both SINAC and the regional producers' organizations have promoted closer relations with them, despite their having no direct competencies in the issue. In addition, local organizations pressure the municipal governments to intervene in managing the environmental problems.

Experiences in which local governments participate in forest management are specific cases that obey various factors, since the municipalities have very diverse realities. There are municipalities with a large expanse of forested territory and others with strictly urban problems and virtually no forest. In general, the municipalities with forest resources are found in the regions with less economic development and more social problems (southern, Caribbean and northern areas), so their technical and financial resources are minimal. Furthermore, municipal governments tend to get involved in initiatives linked to the environment in general and not with an exclusive aspect such as water or forest.

Some experiences promoted by SINAC to coordinate more closely with the municipal governments are described below, together with the factors that push local governments to get involved in specifically managing their natural and forest resources. At the end are experiences in applying the mechanisms created by the forest management law to attract economic resources.

COORDINATION BETWEEN THE MUNICIPAL GOVERNMENTS AND SINAC

SINAC's regional offices and directors have promoted initiatives to create closer working relations between the local governments and the Conservation Areas (AC), which indicates that SINAC recognizes the need to bring local governments into a closer relationship with its work in practice. The coordination activities generally emanate from the ACs themselves and depend on the initiative and effort of regional and sub-regional officials, support from area directors and the dynamics of the local governments involved in the ACs.[28]

The Caribbean Friendship Conservation Area (ACLA-C), which has had a vigorous policy of coordination with local stakeholders, created a Regional Environmental Commission to promote their participation in decision-making. It also created the Gandoca–Manzanillo Wildlife Refuge Management Committee, in which the Talamanca municipal government is participating and contributing to decision-making on managing the refuge (Valverde 1999). This is an interesting idea, because it creates an arena for sharing with local stakeholders the responsibility for administering a protected area. The committee works actively, despite its unclear legal status since its functions were established through an executive decree not backed by a law (Mora *et al.* 2000).

[28] The number of municipalities that make up a Conservation Area varies greatly. For example, the Central Volcanic Range Conservation Area involves 43 municipalities, while the North Arenal-Huetar one only has 5.

In the North Arenal-Huetar Conservation Area, situated in one of the regions with the greatest forest wealth, there is good collaboration between the Area's regional and sub-regional offices and the five municipalities comprising the area; this has translated into concrete benefits for natural resource and forest management. For example, sub-regional SINAC offices were set up in the offices of some municipal governments and the latter have donated land to MINAE for the construction of regional offices. The Conservation Area also collaborates with the San Carlos municipal government in some reforestation and environmental education activities such as the project to recover and manage the Río San Carlos watershed (Alfaro 2002, pers. comm.).

Interesting initiatives have also been promoted in the Central Volcanic Range Conservation Area. SINAC's sub-regional office in Sarapiquí coordinated various activities with the municipal government's environmental office and the municipalities that are part of the Río Tárcoles watershed. These activities, which include training and strategy workshops, are aimed at involving local government in the efforts to achieve sustainable management of the watershed (Guzmán 2002, pers. comm.).

The Savegre/Araucaria Watershed Management Project, financed by Spanish aid, and the Meso-American Biological Corridor project are currently supporting the Pacific Friendship Conservation Area (ACLAP) and the Central Pacific Conservation Area (ACOPAC) in the development of a Strategy to create efficiency in the work with local governments. This initiative's objective is to prepare and implement coordination instruments between the municipal governments and AC officials, and includes activities to bring the AC directors and Municipal Councils closer, select pilot municipal governments and implement joint projects (Valverde 2002, pers. comm.).

In contrast to these experiences is the case of the Osa Peninsula, in the southern area, a site very rich in biodiversity and forest resources. It has been impossible to consolidate any effective coordination mechanism with the municipal governments there despite the urgent need to join forces to deal with major conflicts related to illegal extraction and abuse in granting management plans in the region. MINAE has even developed an initiative to construct what it calls Agenda XXI in the Osa Conservation Area (ACOSA), in the hope of promoting participatory decision-making processes through the linkage of community organizations, municipal governments, state institutions, private companies and the universities. This process has not succeeded in incorporating the local governments for different reasons, including political infighting and the fact that the environmental issue does not seem to be a priority on the region's municipal agendas despite the serious social and ecological problems (Fonseca 2002, pers. comm.).

THE MUNICIPAL GOVERNMENTS' COMMITMENT TO FOREST MANAGEMENT

The participation of municipal governments in forest management is motivated by diverse factors that in most cases are unrelated to the excessively general competencies described. Furthermore, it is not clear that municipal governments have any special interest in assuming

a more direct role in forest management. In general, they promote actions or initiatives linked to general natural resource management issues that directly or indirectly involve forest conservation. Costa Rican reality shows that municipal interest in having a role in natural resource and/or forest management arises only when certain factors stimulate or foster it or even oblige the municipalities to play a more active role. Some of these factors are the following:

- The presence of international cooperation projects that technically and financially promote municipal involvement in environmental issues.
- A good relationship with the officials of the Conservation Area to which the municipality belongs.
- Legal changes, such as the transfer of direct competencies.
- Forest conservation to protect the watershed areas and aquifer recharge areas.
- The presence of local stakeholders who urge the municipal government to take a more active role. This is most common when there are conflicts linked to natural resource management and those involved want the municipal government to defend their interests.
- A politically stable municipal government and a Municipal Council with environmental consciousness.
- The existence of civic participation mechanisms that channel petitions from local organizations.
- The creation of environmental offices within the municipal government.

Below we describe some initiatives in which municipal governments have assumed an active role in managing natural/forest resources, classified according to the factor that generated them, although various factors are often present.

1. Protection and management of the forest to preserve watersheds and water tables

An issue that has encouraged municipal governments' commitment to manage their forest resources is the protection and management of wooded areas and watersheds to guarantee the canton's water security. The two themes are closely related and have sparked numerous initiatives in which the governments have become involved due to direct pressure from local stakeholders or because they have been aware of some threat to the sources of water supply. In addition, many municipal governments face common problems linked to watersheds shared by several cantons at a national level and even internationally, as is the case of the Río San Juan watershed.

One of the most interesting municipal forest management and reforestation projects originated with an initiative to protect the upper part of the Nosara River watershed, in the north Pacific. In that case, the Hojancha municipal government, concerned with protecting the canton's water sources, contracted a series of technical studies in 1995 that led MINAE to create the Nosara Protected Zone. Parallel to that was the creation of the Montealto Foundation, which is dedicated to buying land in the protected zone, and the Montealto Communal Reserve,[29] created to protect and recover the land that makes up the watershed. To date, 60% of the area has been recovered through land purchase, reforestation projects and negotiation of payments for environmental services to other owners in the region.

[29] The Montealto Communal Reserve currently possesses 346 ha of the 924 that make up the Nosara Protected Zone. The Foundation's actions are aimed at recovering the rest of the area through various actions, including negotiating with the owners.

The Hojancha municipal government has participated actively on the board of the Montealto Foundation since its creation nearly 10 years ago. The board is made up of local stakeholders who are very involved in managing the region's natural resources, such as MINAE, and community representatives. The municipal government collaborates by channeling resources in different ways, whether by loaning heavy machinery for work within the reserve or contributing part of the budget. In addition, a Municipal Council agreement established that the board of the Montealto Foundation would also become the Municipal Environmental Commission, and act on its behalf on environmental issues (García 2002, pers. comm.).

Another interesting initiative linked to watershed management was developed in the framework of the Formulation of the Strategic Action Plan for the Comprehensive Management of the Water Resources in the Río San Juan Basin and its Coastal Zone Project, implemented by the governments of Costa Rica and Nicaragua.[30] The Federation of Border Municipal Governments of Costa Rica was created in 1999,[31] and is currently implementing a project to support local environmental management by the border municipalities that stimulates the creation of environmental offices. All municipal governments belonging to the federation have important forest resources and it is expected that implementation of this project will have a positive impact on municipal involvement in forest management (Mora 2002, pers. comm.).

2. Local civic participation and popular consultation mechanisms

In 1998, with the reform of the Municipal Code and the introduction of direct popular consultations,[32] an important step was taken to offer local actors a more direct relationship with the municipal governments (Ferroukhi *et al.* 2001). The population consultations have allowed the communities to request their local governments to make a greater commitment to the environmental issue. Two of the three plebiscites held to date have been motivated by environmental issues and have arisen in part out of local conflicts over natural resource appropriation and use. In the Guácimo and Sarapiquí cantons, consultations were held in which the communities asked the municipal government to take concrete actions to protect the watersheds and aquifer recharge zones in the face of threats of hydroelectric projects that would affect the watersheds and hence the water supply .

As a result of the Sarapiquí plebiscite a municipal commission was created to follow up on what was established in the consultation, in which other key regional actors such as the Organization of Tropical Studies (OET), the sub-regional office of MINAE/SINAC and the National Watershed Network have gotten involved. This commission has promoted various actions to see to it that the Río Sarapiquí has a management plan and proposes to involve other municipal governments in joint actions (Rivera 2002, pers. comm.). In addition, the municipal government drew up a bill that was presented to the Legislative Assembly to declare the Sarapiquí basin a natural monument (the only ASP category that can be administered by local governments).

[30] For more information on this project, consult the web page of the Organization of American Sates: www.oas.com.
[31] This federation is composed of the municipal governments of Liberia, La Cruz, Los Chiles, San Carlos, Sarapiquí, Upala and Poccí; except for Liberia, all share territories that are part of the Río San Juan watershed.
[32] The code included the possibility of holding town forums, referendums and plebiscites so that citizens could directly speak out on concrete municipal government decisions. These consultations can be held by municipal initiative or at the request of community organizations, but always based on a pronouncement by the Municipal Council.

In the Guácimo case, the canton's municipal government was ordered not to grant any function or construction permit that would threaten the environmental balance of the Protected Zone of Guácimo's water-bearing areas. Although the municipal government is obliged to see to it that these permits respect the environmental plan, this is often not done and the municipalities transfer the responsibility to other entities. The popular consultation, however, generated direct pressure on the municipal government not to neglect this duty.

Another legal reform included in the Municipal Code was the obligation to appoint a Municipal Environmental Commission, which has become a direct mechanism for participation in municipal work. These commissions must be named by the Municipal Council and be made up of council members and síndicos, but they open space for participation to individuals and civil society organizations as advisers, a participation that has energized their labors.

It should be noted that not all municipal governments in the country have these commissions, despite their creation being obligatory;[33] in addition, the commissions generally have no assigned budget or bylaws for their functioning (Ferroukhi *et al.* 2001). Nonetheless, there are very successful examples of commissions that have acted as motors of municipal environmental and even forest action in cantons such as San Carlos, Sarapiquí, Pérez Zeledón, Coronado, Escazú, Desamparados and Curridabat, among others. Normally the commissions that function are those in which there is a presence of local stakeholders together with the council members and síndicos. Another factor of success is when the council members and síndicos are committed to the environmental issue and see the commission as a space to strengthen this commitment.

One of the most successful cases is the municipality of San Ramón,[34] whose Environmental Commission is very active and has assumed an auditing role and also coordinates inter-institutional efforts. This commission is made up of four municipal councilors, one community member and a MINAE representative, and it meets periodically to deal with complaints, discuss priority problems and approve agreements. It has sponsored the holding of environmental conservation workshops in various communities, including some in the northern area of the canton where the deforestation problem is very serious.

These examples show that Municipal Environmental Commissions have the potential to become spaces for direct participation so local stakeholders can participate in Municipal Council decision-making on environmental issues. In addition, when the conditions exist for them to function well, they become a motor force for the municipal governments to assume an active role in environmental and forest management.

3. The creation of environmental offices

Another factor that has promoted municipal participation in forest management has been the creation of environmental offices. The municipal governments that have opened such an

[33] A study of 81 municipal governments revealed that only 39 Environmental Commissions had been named (Ferroukhi *et al.* 2001).

[34] San Ramón is located in the country's central region and has serious environment problems: waste management, expansion of the agricultural frontier and rapid soil deterioration caused by livestock and agriculture, particularly nontraditional products such as ornamental plants. The forest and water resources are seriously threatened by the deterioration of the watersheds, deforestation and contamination of the water tables.

office show a markedly effective difference in managing natural resources locally[35](Ferroukhi *et al.* 2001). The available experiences demonstrate that municipal governments that have an environmental office develop important capabilities:

- Greater capacity to manage different kinds of environmental projects.
- More opportunity to access technical and economic resources coming from international aid.
- Greater capacity to access the resources available for national environmental management.
- Greater investment in environmental issues through the development of technical capacity and awareness about local resource management.
- Greater coordination with other local and national entities (Ferroukhi *et al.* 2001).

From the forest management perspective, the environmental offices' most significant experiences are linked to the transfer of competencies created by the 1996 Forestry Law. One of the most interesting cases took place in the municipality of San Ramón, which was among the first to create an environmental office to assume the granting of permits for cutting trees in pastureland, as mandated by the law.

This municipal government became an example for the country, due to its efficiency in granting the permits and the seriousness with which it assumed the legal mandate, to the point that other municipalities requested advice from it on the issue (Chávez, 2002 com. pers.). When the competency was repealed, the municipal government continued supporting its environmental office, which had a municipal budget and whose activity is regulated.[36] Its bylaws establish that the office has the support and direct collaboration of the San Ramón municipal government's Environmental Commission and the San Ramon Conservation Association (ARCA), a local organization that firmly supports its work.

Another interesting example of the work of a municipal environmental office comes from the northern area of the country in the canton of Sarapiquí, which is described in the following insert.

[35] Twelve municipal governments currently have an environmental office.

[36] Bylaws of the Municipal Government's Natural Resource Office (La Gaceta No 109, June I 9, 1997).

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Environmental management in the municipality of Sarapiquí

The 2,349 km² of the canton of Sarapiquí cover 81.9% of the province of Heredia. The canton is located in the northern part of the country, in the basin of the river by the same name. Although predominately agricultural, this canton is characterized by its natural riches, particularly its great forest wealth. In fact, it is one of the priority cantons for allocation of funds from the Payment for Environmental Services Program. Given its enormous natural wealth, the pressure for access to and use of its natural resources is very strong and there are serious deforestation problems and conflicts over water and land use in the Sarapiquí watershed.

But unlike other cantons in the country, Sarapiquí has a very strong institutional and organizational dynamic around natural resource management, above all with respect to forest issues. It has a very energetic MINAE/SINAC office, and important private institutions and organizations working on the environmental issue, such as FUNDECOR, the Association for the Environmental Development of Sarapiquí, the Canton Agricultural Center, OET, the North Atlantic Training Center, the Natural Resource Vigilance Committees (COVIRENAS), the Rural Assistance Guard (GAR) and the Sarapiquí Natural Resource Commission.

In 1998, given the number of problems that were arising with application of the competency to grant tree cutting permits in unforested areas, the municipal government created an environmental office. Although the competency was eliminated that same year, the office continued functioning with excellent results until 2002, when it was closed by the decision of the Municipal Council. The experience generated by the work done in those years exemplifies the positive impact municipal governments can have when they assume a pro-active role in forest management.

The environmental office's actions drastically changed the municipal role in the dynamic of local natural resource and forest management. Thanks to this office and the dynamism of its coordinator, the local government went from having a nearly nonexistent role to being an important actor. The coordination activities and initiatives that the office assumed helped structure and order the municipal government's environmental role and attract economic resources.

Among the office's achievements that merit mention is its use of the plebiscite to consult the citizenry about the kind of development that should be fostered in the Río Sarapiquí watershed, as well as its later coordination of the inter-institutional follow-up commission for the actions derived from the plebiscite's mandates. The office also developed coordination relations with all the relevant local stakeholders in natural resource management and implemented reforestation activities (with FUNDECOR), forest resource conservation and protection activities (with COVIRENAS and regional MINAE), coordination in channeling payments for environmental services at a local level (with FUNDECOR) and vigilance, training and education activities (with various social and environmental organizations).

After surmounting many administrative obstacles, the office succeeded in recovering nearly US$20,000 of the percentage corresponding to the forest tax on milled lumber in the

canton. This was nothing short of an historic milestone, since Sarapiquí was the first municipal government to manage that payment. Thanks to its efforts, it got MINAE to draft an administrative regulation to transfer the corresponding percentage to the municipal governments.

Another accomplishment of the office was the drafting and presentation of a bill to declare the Sarapiquí River watershed a national monument, as well as the raising of funds from international cooperation to prepare a management plan for the watershed. The municipal government's relations with the communities and environmentalist groups improved and various education activities and follow-up to environment problems were coordinated.

The environmental office generated all these processes with minimal resources, since the only budget assigned to it was for the coordinator's salary and the one-time cost of holding the plebiscite. In this context, the development of coordination relations with other stakeholders and the broad local dynamic around natural resource management was key. Another important factor was the support from institutions and organizations such as the sub-regional office of MINAE/SINAC and FUNDECOR, among others. It should be pointed out that the local stakeholders linked to natural resource management in Sarapiquí have a clear understanding of the importance of involving and strengthening the municipal government's role in this work. In fact, various groups have recently urged the Municipal Council to reinitiate the environmental office.

These two cases demonstrate that municipal environmental offices represent an internal structure that allows the mandates of the Environmental Commission and the Municipal Council to be carried out and followed up on and fulfills the local government's responsibilities for environmental issues. The municipal governments have unarguably become very well integrated into the local natural resource management processes through these offices. Such positive experiences indicate that they can also contribute significantly to improving the relationship and coordination between MINAE and local governments. It can thus be concluded that the environmental offices substantially strengthen the municipal governments' role in local environmental management.

ACCESS TO ECONOMIC RESOURCES FROM FOREST MANAGEMENT

Costa Rican legislation has created specific mechanisms in recent years through which municipal governments can receive income from natural and/or forest resource management. In practice, however, these mechanisms have had no important impact on municipal budgets due to social, political and legal obstacles that have interfered with their application. The balance of the legal instruments designed so far to give municipal governments access to revenue from natural resource exploitation in their cantons for investment in environmental management is thus negative.

The following inserts describe the main mechanisms developed and the practical experiences of applying them.

Legal mechanisms to access economic revenue from natural resource management

From the forestry law (1996)

1) Reform to forest tax collection. A 3% tax is charged on milled lumber. The law establishes that the funds must be distributed as follows: 40% for FONAFIFO, 28% for the government, 10% for the municipalities, 10% for the Regional Environmental Council, 10% for the National Forestry Office and 2% for the College of Agronomic Engineers.

But only a few of the municipal governments know that this tax exists much less that they have a right to 10% of what is collected. Most do not maintain a record of the forest industries or request these resources (Ferroukhi *et al.* 2001). One reason is that the municipalities where forest exploitation activities are important are in rural regions that typically are not very developed; they generally have few economic resources, poor access to information and little management capacity.

In addition, while the tax collection itself is not municipal but is in the hands of MINAE, the major obstacle to collection is that the private forestry sector resists paying what corresponds to them. Each year, when MINAE publishes the tax base on which the percentage will be charged for milled lumber, the Forestry Chamber challenges the procedure used. A year can pass while the challenge is being resolved, during which time the lumber industrialists evade payment. The problem is repeated every year and has greatly limited collection (Méndez 2002, pers. comm.). MINAE has not insisted on a legal solution to the problem, despite the fact that it is very damaging in income terms.

Despite these limitations, there were some interesting experiences during the time in which the tax was collected without problems (1996-1997), particularly in the municipalities with capacity to manage the funds. For example, Sarapiquí and Desamparados requested the resources and invested in reforestation projects. In the North Pacific region, the Santa Cruz and Nicoya municipal governments channeled the forest tax funds to volunteer forest firefighting brigades operating in those cantons (Murillo 2002, pers. comm.).

2) 50% of what is obtained in judicial auctions of seized lumber can be accredited to municipal governments. It has been very hard to implement this mechanism because of burdensome legal paperwork that in some cases prevents the sale being held before the wood rots.

From the biodiversity law (1998)

1) Reform to the park tax stamp The Biodiversity Law establishes that municipal governments have the right to 30% of the funds collected as the charge for the national park tax stamp and must invest it in sustainable development strategies. The collection mechanism was not clearly defined, however, and not until 2001 was a decree issued that establishes how collection should be done (Ferroukhi *et al.* 2001).

Although all municipal governments charge this tax, the majority of them do not have reinvestment projects for local sustainable development strategies. Some simply enter the money into their ordinary budget and use it in normal administration. Others, although aware that they should be generating environmental or sustainable development projects, lack the capacity to prepare and implement such projects. This is the case of the municipal government of Corredores, in the Osa Peninsula, which attempted an alliance with other stakeholders to formulate projects and seek financing, but could not concretize it due to its inability to provide follow-up, since it had no official in charge of the environmental aspect (Moya 2002, pers. comm.).

2) Environmental Water Rate. Municipalities that offer the service of providing potable water can charge a percentage for conserving the forests that protect the water tables, in coordination with SINAC.

Some municipal governments act as providers of drinking water, which gives them access to this category. To date, the only experience of charging the environmental water rate is that of the Public Services Company of Heredia, a public corporation whose shareholders are three municipal governments in the province of Heredia that created the company to provide clean drinking water.

With the funds collected through this fee, the PROCUENCAS Program was created, which manages and channels resources to pay for the environmental services of forest owners who protect the aquifer recharge areas of the rivers supplying the region. The private owners must sign a contract to recover and regenerate the forest to receive the 23,000 colons/ha/year (US$67.83/ha/year) in payment for their Hydro-environmental Service. A regulation establishes priority-setting criteria, technical and legal requisites and owners' commitments (Cordero *et al.* 2001).

Finally, it is worth pointing out that municipal governments have no role in the Environmental Service Payment (PSA) System, which is the main mechanism for channeling and redistributing funds within Costa Rican forest management. Although there have been national debates about the system's equity in terms of who benefits from it, the scheme does not include municipal governments (Camacho *et al.* 2000).

Municipal forest management from various stakeholders' perspectives

MINAE AND ITS POLICY OF RELATING TO THE MUNICIPAL GOVERNMENTS

MINAE's policy on including municipal governments in forest management is unclear. At one point, it promoted transferring the competency of permits for cutting trees in pastures to the local governments, but phrased it in terms of transferring administrative procedures to "unburden" MINAE. In recent years, following the failure of that experience, reality shows that the municipal governments are usually excluded from policy design aspects or significant changes in the forest management scheme promoted by the ministry, the SINAC national director or the National Forestry Office.[37]

This tendency to exclude the municipalities is observed, for example, in the National Forestry Development Plan of 2001. Although the document mentions the need to strengthen the strategies of coordination with local government, it does not promote concrete actions by SINAC to achieve this pledge. Furthermore, a strategic document published by MINAE with initiatives for reducing illegal felling mentioned diverse state institutions with which there must be coordination for dealing with the problem, but did not include municipal governments (MINAE 2002). Nor was the possibility of involving them mentioned among the different mechanisms appraised for solving the forestry regent problems or failure to fulfill the management plans, even though the Forestry Law establishes that municipal governments must collaborate in the activities to control and protect forest resources.

On the other hand, increasingly firm regional efforts are made to work in coordination with the municipalities in the Conservation Areas. The cases described in this chapter demonstrate that both the directors of these areas and their officials are very open to that possibility. Despite that, however, SINAC faces a series of structural and financial limitations that make an appropriate relationship with local governments difficult. For example, the dependence within its three levels (MINAE Headquarters, the regional direction of the Conservation Area and the sub-regional offices) erode coordination relations with other local stakeholders because any decisions made locally are subject to approval by the Conservation Area's regional director and a green light from MINAE.

THE PERCEPTION OF THE PRIVATE FOREST SECTOR

The main concern of the private sector stakeholders is to make forestry activity more dynamic and simplify the procedures and restrictions for exploiting the forests and accessing the Environmental Services Payment (PSA). From the private sector's perspective, the municipal governments do not represent an interesting option in this regard, as they lack efficient administrative structures. This opinion is supported by the negative precedent of

[37] La Oficina Nacional Forestal (ONF), responsable de la elaboración de las políticas forestales en el país, tiene una posición poco amplia con respecto al rol de las municipalidades en la gestión forestal, pues considera que no reúnen las condiciones para administrar los recursos forestales y otorgar los permisos de aprovechamiento (Barrantes 2002, com. pers.).

the municipal competence in the cutting permits, allowing them to argue that local governments also lack the technical capacity to handle direct forest management responsibilities (Campos 2002, pers. comm.).

Some local producer organizations such as ASIREA and CODEFORSA, aware of the importance of the municipalities as local development promoters, have tried to get closer to the municipal governments in their respective regions. And indeed, the experiences have not been positive due to lack of political interest among the Council members and limited technical capacity in the municipalities (Cambronero 2002 and Méndez 2002, pers. comm.).

THE PERCEPTION OF THE LOCAL STAKEHOLDERS

The perception local stakeholders have of the municipal governments' role in protecting natural resources depends on various factors such as local pressure on the natural resources and the relationship of the organized social forces with their governments. In general, faced with problems such as the threat to water sources or conflicts linked to natural resource exploitation, the community, environmental or productive organizations press the municipal governments to intervene on behalf of local interests and natural resource protection. The country does not have organized national movements that can demand greater municipal government participation in natural resource management.

In this context, it should be noted that producers, peasants and small forest entrepreneurs do not think municipal governments help energize the local economy or support and stimulate them in developing their productive activities. This could be explained by the fact that access to natural resources and the forest exploitation system (including the PSA), as well as the development policies, incentives and the system of assigning lands to peasants have traditionally been centralized in Costa Rica's autonomous institutions or ministries. Local actors thus do not relate municipal governments to the issue of fair access to the benefits derived from local natural resource management, but rather to conservation and protection.

THE INTEREST OF THE MUNICIPAL GOVERNMENTS

In general, municipal discourse favors protecting the natural resources and opposes illegal felling, above all in the cantons with major forested areas, such as San Carlos and Sarapiquí in the northern area and Golfito and Pérez Zeledón in the southern area. Nonetheless, the experiences analyzed indicate that, in practice, forest management is not a municipal government priority.

The absence of municipal interest is reflected in various ways. To begin with, coordinating with MINAE/SINAC is not a local government priority. In addition, the municipal governments generally assign few resources to support the work of their environmental office, because they do not perceive forest management as a motor of local development and prefer to invest their scarce resources in activities through which they hope to generate more resources for the canton. They thus have no professionals who can support natural resource management, which in turn prevents them from playing a more active role in local management of these resources.

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Among the explanations for municipal weakness and disinterest in environmental and forest management issues are the following:

- Absence of direct competencies, effective financial mechanisms or decision-making power over forest resource management. A lack of incentives that would motivate municipal governments to become more actively involved in natural resource management.
- Many Municipal Councils have no strategic vision of municipal natural and forest resource management.
- Forest resource management is not perceived as part of a local development strategy but rather as conservation activities, which are considered a responsibility of the state and MINAE, not of local government.
- The lack of clear mechanisms for redistributing the earnings generated by forest management leads to the idea that investing in managing the natural and forest resources represents an expenditure and an additional burden that generates no concrete or direct gain for the municipal government.
- The traditional political-party configuration of municipal government, where mayors were not elected but designated by the political parties fostered the practice of responding to their party's priorities rather than those of the canton.

Another important factor is that the organizations responsible for technically and politically supporting municipal government, such as the Institute of Municipal Promotion and Advice (IFAM), the Union of Local Governments (UNGL) and the League of Municipal Governments, appear to assign no priority to the environmental issue much less to forestry per se. In fact, they have promoted no relevant action to strengthen municipal government capacities and participation in these issues.

Conclusions and recommendations

Decentralizing management and administration of environmental affairs to the municipalities in Costa Rica has been slow and very irregular. To understand this, the country's historic and political-cultural context must be considered. State centralism has functioned with relative success and is very acceptable to Costa Rican society, above all considering that Costa Rica is a tiny country and two-thirds of its population is found on the central plateau. Economic and political power has been concentrated there as well, while the other regions, where a large part of the natural resources are found, have had little influence on central policies and decisions.

This is the context in which Costa Rican society is dealing with the debate about how to reformulate an excessively centralized state apparatus. The resistance to change is reflected in the conflict with the unions of the public institutions when the bill for the Transfer of

Competencies and Strengthening of Local Governments was about to be approved by the Legislative Assembly. The pressures were so strong that the government shelved the bill, thus putting off debate.

Furthermore, in the forestry sector, relations between the central public and private forestry agencies and the municipal governments are characterized by serious mutual mistrust and lack of a comprehensive vision of forestry management in which all entities could assume complementary roles. This attitude is underpinned by the ambiguous experience of the 1996 Forestry Law, which serves to justify the idea that municipal governments cannot be actors in forest management.

Despite these reasons, it is hard to convincingly argue that centralization of forest management is the best way to achieve long-term sustainable forest management in Costa Rica. In fact, there are clear indicators that the current system has serious limitations.

Although SINAC is unquestionably the most capable government institution with the best possibilities of directing forest resource management in the country, it currently faces serious management problems, causing many of its regional offices to show interest in municipal government support and collaboration. This interest still responds to the need to alleviate the regional officials' workload and the waste of resources on administrative procedures rather than the objective of guaranteeing the municipal governments' equitable access to decision-making and the benefits generated by forest activity. Nonetheless, this tendency and the fact that the civil society organizations are increasingly turning to their municipalities to demand concrete actions in natural resource management indicate that a true national debate could eventually be opened about decentralizing natural resource management.

It is important to recognize that the municipal governments have not always reacted positively. Although many municipalities with important forest resources have shown interest in guaranteeing their sustainability, especially in response to problems of permit abuses and illegal extraction, concrete actions to protect them, such as creating environmental offices, drawing up agreements with SINAC and assigning budgets to forest projects, have been taken only in a few cases.

Overall, when the minimal conditions for providing follow-up to forestry issues have been provided and municipal environmental offices and commissions have been created, the municipal governments have shown that they have the capacity to become an important actor in the local dynamics of forest resource management. In this regard, the experiences of municipal initiatives around the natural resource management issue, especially the creation of environmental offices, show the municipalities' potential, particularly with respect to facilitating and channeling coordination activities among the different local stakeholders.

These positive tendencies fundamentally obey the motivation and work of the technicians in the environmental offices, supported by local institutions and organizations, since the Municipal Councils generally lack motivation. It is thus essential to go further in designing and promoting the incentives needed for the municipal governments to assume a more

efficient and pro-active role in protecting the natural resources. As long as there are no incentives to motivate the Council members to make concrete management decisions, it is very probable that disinterest will continue to be the great bottleneck to efficient municipal management of the natural resources.

An essential issue that must also be considered is the major differences among municipal governments depending on the size of their territory, their urban or rural emphasis, the importance of their forest resources, the presence of an organized and dynamic civil society and their access to financial and technical resources. These differences can lead to very different social and environmental results from transferring forest management resources and power to local governments. It should be no surprise that a policy to decentralize forest resource management would promote better and more appropriate forest management in some cases and impede it in others.

Despite these differences, however, it is clear that local governments require assistance to strengthen both their role within forest resource management and their capacity to promote this management. Also needed is a favorable national context that can promote clear decentralization policies that are expressed through incentives for the municipal governments and direct legal competencies accompanied by the economic and technical resources needed to implement them.

RECOMMENDATIONS

1. Open a national policy debate on decentralizing environmental management to the municipal level.

If decentralization is perceived as an instrument to support modernization of the state by increasing civil society's participation and local arenas, discussions of national development issues that include environmental management strategies must contemplate more active municipal participation. Nonetheless, genuine discussion and concertation spaces among the different national and local stakeholders involved in municipal environmental management have yet to be created.

The interested institutions and organizations, such as IFAM, UNGL, the League of Municipal Governments and MINAE, must foster transparent national concertation processes on:

a. The need to increase the participation of local entities in providing environmental services.
b. Equitable resource assignment.
c. The implementation of local environmental programs and processes with efficient municipal responsibility and oversight.

2. Promote greater closeness between SINAC and the municipal governments.

Greater efforts must be made so that SINAC, especially the headquarters, is more informed about the municipal reality and local needs and demands. It is important to replicate

initiatives such as the coordination strategy with local governments promoted by the Savegre Watershed Management Project and the Meso-American Biological Corridor and to work with the directors of the Conservation Areas so they can generate and promote coordination areas with the municipalities.

MINAE should promote a policy of involving municipal governments in the ministry's initiatives and fostering coordination activities that would facilitate SINAC's work.

3. Review the legal framework on the municipal governments' role in forest management.

It is necessary to reevaluate the local, economic and political spaces defined with the aim of having the municipal governments assume an efficient role in forest management. In particular, decision-making and forest management power must be reviewed and discussed and the competencies between the State Forestry Authority and municipal governments analyzed to verify if the balance is satisfactory from the perspective of equitable, efficient and sustainable forest resource management.

Legal, political and technical problems that prevent appropriate distribution of the benefits generated by forest activity must also be solved as quickly as possible.

4. Promote the opening up of the arenas for encounter that have been created by law.

Regional Environmental Councils are the arenas created by law to open up coordination mechanisms between MINAE and the municipal governments. With the exception of two cases, however, they have not been developed. They are evidently needed, but they must be reviewed in light of the following aspects, which were never well clarified:

- Their competencies, mandates and main functions.
- The definition of their members.
- The mechanisms of functioning and decision-making.
- The financing mechanisms.
- An analysis of how representative their members are. Inclusion of a member of the League of Municipal Governments has been planned, but it is clear that this is insufficient for a Conservation Area that covers several municipalities.

5. Foster the creation of environmental offices in all the country's municipal governments.

Municipal governments have the general mandate to see to local development and interests, thus they should foster sustainable natural resource development in their canton. National experience indicates that the creation of municipal environmental offices is an effective tool for complying with this mandate. It is thus recommended that this type of structure be strengthened.

A national municipal strengthening plan needs to be developed that favors the creation of such environmental offices. Their nature and work may vary according to the size and needs of each municipality, but the important thing is to create a space for the

environmental issue and provide resources to it. The process to institutionally strengthen the municipal governments to manage the natural resources should at least include:

- The creation of an environmental office with assigned personnel and a minimum municipal budget.
- The drafting of regulations for the office's internal functioning and for its coordination relations with other institutions.
- The creation of an Environmental Council linked to the environmental office's work to advise the Municipal Council.
- The transfer of technical and economic resources to accompany the creation of the environmental offices.

6. Develop a strategy and implement a training program.

It is recommended that a national municipal government training strategy be designed that will prepare them to assume the transfer of competencies, the increased ordinary budget and future institutional and legal reforms. The components of this strategy must be defined based on case studies that reflect diverse practical experiences. The training must be aimed at improving the municipal governments' administrative, technical and institutional skills to assume their environmental competencies and be accompanied by a training program related to municipal environmental management for MINAE officials.

7. Promote studies on environmental management in some municipal governments.

It is recommended that some case studies be done on pilot municipal environmental management experiences, particularly on coordinated work between municipal governments and SINAC, which is the most regionalized MINAE entity and has natural contact with local governments. These studies could serve as a guide to propose legal and institutional changes in SINAC's natural resource management and to support the definition of decentralization activities and training strategies for the municipal governments and SINAC.

8. Investigate the role and function of the Municipal Environmental Commissions.

The Environmental Commissions have little political weight within the municipal structure relative to that of other commissions such as the treasury and budget or public works. As was already noted, Environmental Commissions are frequently named, but have no regulations or budget and often do not even function. Nonetheless, it is clear that they could become an important tool in the municipal environmental management processes. It is thus important to generate more knowledge about their role and functioning to identify eventual needs for change and proposals for strengthening.

To begin, the following aspects could be analyzed:

- The effectiveness or influence level of the commission's actions.
- How these actions are implemented and how priorities and procedures are established.
- The relationship between environmental problems and the activities undertaken.

- The advocacy level of civil society in these structures.
- The degree of commitment and interest of the Municipal Council members in the creation and functioning of the commissions.

Abbreviations and acronyms

AC	Conservation Area
AFE	State Forestry Authority
ASIREA	Association of Industrialists and Reforesters of the Atlantic
CCF	Costa Rican Chamber of Forestry
CEDARENA	Center of Environmental and Natural Resource Law
CODEFORSA	San Carlos Forestry Development Commission
COVIRENAS	Natural Resource Vigilance Committees
CICAFOC	Indigenous Peasant Forestry Coordinating Body of Costa Rica
FONAFIFO	National Forestry Financing Fund
FECON	Costa Rican Federation of Environmentalist Groups
FUNDECOR	Foundation for the Forestry Development of the Central Volcanic Range
IFAM	Institute of Municipal Promotion and Advice
INBio	National Biodiversity Institute
JUNAFORCA	National Peasant Forestry Board
MINAE	Ministry of the Environment and Energy
ONF	National Forestry Office
OET	Organization of Tropical Studies
PSA	Payment for Environmental Services
SINAC	National System of Conservation Areas
UNGL	National Union of Local Governments

Bibliography

Camacho, A.; Segura,O.; Aguilar, A.; Reyes,V. 2000. Pago por servicios ambientales: punto focal Costa Rica. Informe Final. PRISMA, San José, Costa Rica.

Chávez, S. 2000. El marco jurídico para la participación de la gestión ambiental en Costa Rica. Revista de la Facultad de Ciencias Ambientales No 19. Universidad Nacional, Costa Rica.

Cordero, D.; Castro, E. 2001. Pago por servicio ambiental hídrico: el caso de la Empresa de Servicios Públicos de Heredia. Revista Forestal Centroamericana No 36.

Ferroukhi, L.; Aguilar, A.; WoChing, E. 2001. Gestión local de los recursos naturales: papel del MINAE y de las municipalidades. DECAFOR-SINAC-MINAE- CEDARENA. San José, Costa Rica.

FONAFIFO. 2000. El desarrollo del sistema de pago por servicios ambientales en Costa Rica. San José, Costa Rica.

COSTA RICA

FONAFIFO. 2002. Estudio de cobertura boscosa tropical de Costa Rica con imágenes LANDSAT TM para el año 2001. CCT, San José, Costa Rica.
FUNDACION CECROPIA. 1999. Evaluación de los Planes de Manejo Forestal autorizados en el periodo 1997-1999 en la Osa Peninsula: cumplimiento e impacto de normas técnicas ambientales. San José, Costa Rica.
Mesa Nacional Indígena. 2000. Atlas indígena: vulnerabilidad de los pueblos indígenas en Costa Rica ante los fenómenos naturales.
MINAE. 2002. El éxito forestal de Costa Rica en cinco casos. MINAE, SINAC, ONF, PNUD, San José, Costa Rica.
MINAE. 2001. El sector forestal en el tercer milenio en Costa Rica. San José, Costa Rica.
MINAE. 1999. Tenencia de la tierra en las Áreas Silvestres Protegidas de Costa Rica. San José, Costa Rica.
Mora, J. 1999. Las competencias municipales en materia ambiental. Gestión ambiental descentralizada. Gobiernos locales y sociedad civil en la experiencia de Área de Conservación Amistad Caribe. FUDEU, San José, Costa Rica.
Mora, J.; Salas, S. 2000. Informe de consultoría sobre el análisis de la participación ciudadana en la gestión del SINAC. MINAE
Proyecto Estado de la Nación. 2000. Estado de la Nación en Desarrollo Humano Sostenible: Sexto Informe. 1999. San José, Costa Rica.
Proyecto Estado de la Nación. 2001. Estado de la Nación en Desarrollo Humano Sostenible: Sétimo Informe. 2000. San José, Costa Rica.
Proyecto Savegre/Araucaria. 2002. . Memoria del I Encuentro: "Construyendo una estrategia hacia la eficiencia en el trabajo con los gobiernos locales. Proyecto Savegre /Araucaria-MINAE
Red Costarricense de Reservas Naturales. 1999. Informe de la presidencia. Boletín Informativo No 3.
Rivera, R. 1999. Descentralización y asociacionismo municipal. La descentralización desde la perspectiva de las municipalidades. FLACSO-CASC-UCA, Managua, Nicaragua. 159 p.
Valverde, J. 1999. Manejo descentralizado de los recursos naturales. Gestión ambiental descentralizada. Gobiernos locales y sociedad civil en la experiencia de Área de Conservación Amistad Caribe. FUDEU, San José, Costa Rica.
Watson, V. 1998. Abriendo espacio para una mejor actividad forestal. Políticas exitosas para los bosques y la gente. Centro Científico Tropical/IIED, San José, Costa Rica.

Legal norms

Municipal Code No. 7794
Biodiversity Law No. 788 of April 26, 1998.
Forestry Law No. 7575, reformed by laws No. 7609 of June 1996, No. 7761 of April 1988 and No. 7788 of April 1998.
Organic Environmental Law No. 7554 of October 4, 1995.
Law Creating the National Park Service No. 6084 of August 17, 1977.
Wildlife Conservation Law No. 7317, reformed by laws No. 7495 of May 3, 1995, No. 7497 of May 2, 1995 and No. 7788 of April 30, 1998.
Soil Use, Management and Conservation Law No. 7799 of April 30, 1998.
Law No. 7509 on the Transfer to the Municipalities of Territorial Tax Collection of May 19, 1995.

Law No. 8106 to Reform article 170 of the Political Constitution to increase the municipal budget, published on July 10, 2001.
Bill to Transfer Competencies to and Strengthen the Local Governments. Folder No. 14 310.
Decree No. 24652-MIRENEM of September 20, 1995.

Individuals interviewed

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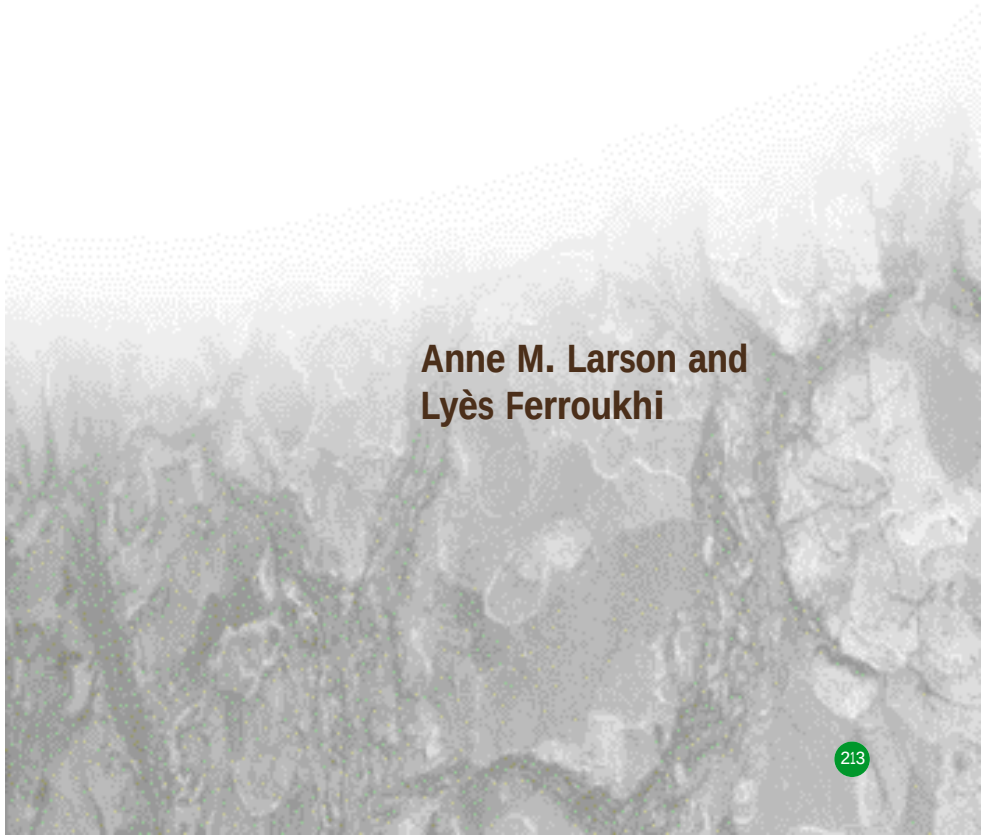
CONCLUSIONS



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The experiences of these six countries demonstrate that local governments and populations are becoming increasingly involved in decision-making on issues that affect forest use and management. The governments in particular have clearly assumed greater leadership in recent years, with or without the support of laws and state policies. It could even be said that decentralization "from below" has already taken root, while formal decentralization is up against many different obstacles. This is due to the greater power, legitimacy and resources that municipal governments have acquired in recent years; the strong pressure exercised by different social groups and donors, sparking government action; and recognition of the forest sector as a possible source of legal or illegal income for the local government. Real decentralized forest management, however, is still an incipient process that will require much more time, political will and institutional and social agreements if its positive effects are to become generalized.

One of this book's main objectives is to offer general analytical elements that characterize the dynamic of these decentralization processes. Our hope is to contribute to the understanding of key factors that will help improve the design and implementation of current forest management decentralization policies. To that end, this chapter assesses the projects described in the region, noting some common elements, then appraises the challenges facing decentralized forest resource management in the region.

COMMON ELEMENTS IN THE DECENTRALIZATION OF FOREST MANAGEMENT IN LATIN AMERICA

Decentralization processes are recent and framed in complex political, social and economic dynamics

The decentralization of the state in Latin American nations constitutes a structural transformation of the region's different political and social systems; hence, many diverse variables intervene. While these processes are very recent in the political history of the majority of these countries and are thus still feeling their way, the decentralization of forest management is even more recent and while it has its own particular characteristics, it is influenced by this larger national decentralization framework. In general, decentralization focuses on transferring competencies and powers to provide public services to the municipalities, but decision-making powers and responsibilities for natural resource and particularly forest resource management tend to be held within the central government ministries and national institutes.

Another relevant factor that becomes apparent in the cases presented—a structural factor that goes beyond the issue of forest management—is that most of the forest wealth is concentrated in municipalities that are remote from the centers of development and economic power. These municipalities have less infrastructure and economic development; greater poverty, more problems and social conflicts and scant presence of either public or private institutions. These factors create obstacles to forest management, independent of whether they are totally centralized or are in the process of decentralizing.

Diverse settings, diverse results

The forest management decentralization processes studied here show quite varied results from one municipality to another, due to the great diversity of settings even within a single country. Some municipalities do not fulfill their legal obligations regarding forest management while others have gone beyond legal obligations and passed ordinances to regulate the management and use of their forests, water and soil. Some local governments use their power to exact bribes from loggers and others manage their budgets transparently and in a participatory manner, even trying to identify and eliminate dubious practices. There are municipalities whose only interest in managing their forests is to generate the greatest amount of income from the sale of timber, and others that seek to implement sustainable use of their resources, promote international certification of their forest products and declare new protected areas. There are municipalities that seek to exclude indigenous and peasant groups, and others that promote community forest management and other arenas for participation; in fact, some indigenous and peasant representatives are now elected members of their municipal government.

In addition to this great diversity of situations within each country, there are important differences between countries. Each has implemented decentralization based on different state policies and institutional and legal frameworks, and in varied cultural, economic and social contexts, including the type of social movements that exist. All of these factors help explain the differences in the depth and nature of each decentralization process, the approach to its implementation, the level of commitment assumed by the central government, the economic support provided to local governments, the incentives created to support the municipalities and the organizational level and demands of civil society.

Local governments are natural actors in forest management

The case studies show that residents themselves, when faced with forest conflicts, seek collaboration from their local government to resolve them. In addition, citizens pressure their local representatives to defend community and local group interests on important issues such as sustainable natural resource exploitation, the right to participate in making decisions that affect them and greater equity in distributing the benefits generated by forest activity. In response, many local governments have had to take an active decision-making role with respect to their forest resources. Others have taken initiatives without such pressure, in part to attract financial resources.

In all of the countries studied, doubts have been raised about the central government's capacity to achieve ecologically, economically and socially sustainable forest management single-handedly. Furthermore, communities frequently reject the decisions it imposes. Thus, independent of their capacity, municipal governments are natural reference points for local forest resource management, particularly regarding the situations of crisis, scarcity or conflicts over forest exploitation into which municipal governments are often drawn.

In the majority of countries, the central government makes at least some effort to employ a forest management model that includes municipal governments, but with the exception of Guatemala, the constant has been that the forest agencies and their staff resist these

tendencies, as discussed further below. In some cases, however, these same forest agencies, motivated by their own resource and logistical limitations, have worked closely with municipalities to open communication channels and increase coordination to facilitate joint work at the local level. This greater cooperation has occurred independent of whether a national decentralization process exists and/or forest competencies have been transferred to the municipalities, as we will see in two very different cases: Bolivia and Costa Rica.

Socioeconomic factors strongly influence municipal interest in forest management

Some municipal governments demonstrate certain resistance to and disinterest in forestry concerns, tending to give greater priority to problems of services and infrastructure than to natural resource management issues. Nonetheless, municipal governments have tended to take an increasing number of forestry-related initiatives, the balance of them encouraging. These initiatives, such as the ones mentioned below, suggest that local governments are taking a position on diverse environmental policies and problems:

- Fire and pest prevention and control
- Environmental education
- Development of environmental and land use plans
- Approval of extraction and change of use permits
- Provision of technical advice on management plans
- Establishment of nurseries and reforestation projects
- Management of forest funds
- Establishment of environmental and forestry offices
- Inspection of logging activities, denunciations and seizure of illegal products
- Promotion and management of agroforestry and watershed protection projects
- Establishment of norms for extraction, use and transport of forest resources
- Establishment and charging of fees and fines on forest resource exploitation
- Creation and supervision of protected areas
- Management of forested *ejidos*
- Promotion of forest certification
- Coordination between local forestry and environmental stakeholders
- Protests against concessions and/or illegal logging
- Declaration of logging prohibitions
- Facilitation of communication between the population and the state forestry office

It is important to remember that, as municipal governments are elected to represent the residents within the municipal jurisdiction, their actions should largely reflect the positions and demands of local actors. Many of the activities mentioned here express a clear political willingness by local governments to assume their autonomy and respond to the demand of local citizens. From this, the importance of the municipal government's political role in forest resource management becomes clear.

The formal transfer of legal powers and the creation of a legal and political framework favoring municipal forest management are important to involving municipal governments in natural resource management. At the same time, however, the cases studied show that

municipalities have assumed a role in forest management with or without the existence of these legal conditions, since other structural, socioeconomic and institutional factors also influence municipal government priorities. Below we present a summary of the main ones.

Population size and degree of urbanization

These two factors, which largely determine the municipal government's tax base, significantly influence its financial and technical capacity to manage natural resources and the kinds of actions it can implement. The more financial and technical capacity the mayor's office has at its disposal, the greater its possibility of establishing environmental offices, hiring forest rangers and promoting forest resource management projects. It should be noted, however, that it does not always work this way; a municipal government's greater ability to get involved in natural resource management is no guarantee that it will do so effectively.

The municipality's agro-ecological characteristics

To a degree, the characteristics and importance of local forest cover affect its importance to the local economy and livelihoods. In some cases, a wealth of forest cover motivates the municipal government to get involved in forest management. This includes, for example, the possibility of exploiting timber or non-timber products or promoting conservation and eco-tourism potential. Or there may be pressures to convert the forest to other uses. Although the forest can stimulate a "forest culture," we have also seen that it can awaken the appetite of a local elite interested in short-term economic gain.

We could say that there is a close relationship between a municipality's agro-ecological characteristics and local political pressures. Loggers and cattle ranchers exert more political pressure in municipalities with agricultural frontier characteristics, whereas municipalities based on extracting non-timber products tend to be more conservationist.

Natural resource scarcity

Local mayors and municipal councils or corporations may decide to invest in management projects or initiatives when faced with the scarcity (or danger of scarcity) of some natural resource. The cases studied demonstrate, for example, that municipalities often organize together with local actors to invest in reforestation and watershed management in response to growing problems with water shortages or landslides.

Accountability to the local population

The existence of democratic accountability mechanisms within local government facilitates government-population communication and reduces the possibilities of corruption. When the population is organized and finds arenas for expression, it can make use of mechanisms such as municipal environmental commissions, plebiscites, community or town meetings and civic watchdog committees to demand that its elected representatives listen to and respect its interests. Despite the limitations and multiple difficulties that some

of these accountability mechanisms face in practice, local participation and debate about natural resource management improve when they work.

Forest ownership

When the municipal governments own forested lands, they are more likely to take forestry initiatives, especially those that offer income-generation possibilities. This factor increases the need to coordinate with the state forestry administration and other actors linked to the forest—communities and the private sector. Although local governments often have problems coordinating with all stakeholders, forest management can foster a culture of participation in the municipality around this issue.

The economic benefits of forest management

The possibility of earning economic benefits from the forest is one of the main motivations for local forestry initiatives. Nonetheless, this may or may not be good for the forest. The income, for example, could come from forest exploitation, tourism or payment for environmental services. Activities designed and implemented appropriately can foster good (sustainable) management. But financial mechanisms do not necessarily have positive effects, for example, when they are not profitable enough at least to cover the accompanying administrative costs, or when the municipal governments are too poor and their administrative efforts too weak. With respect to income transfers from the central government, there has to be sufficient political will at the central level and/or effective local recourse mechanisms to ensure that the funds really are transferred to the municipalities.

Civil society organization and the existence of conflicts

Pressure such as mobilizations and protests by local actors linked to the forest is a determining factor in municipal behavior. By their political nature, municipal governments represent those who elected them and fear unpopularity and social instability, so they feel obliged to play an active role in forest management when pressured. This could be a double-edged sword, however, since some interest groups could pressure the governments to continue unsustainable development schemes for the forest. In fact, local governments in many of the countries, particularly in agricultural frontier areas, are under considerable pressure to convert forests to agricultural land.

The presence and support of NGOs and/or aid projects

We found strong NGO support and international aid in almost all municipalities most actively engaged in forest management in all the countries. In several cases, this support has been decisive in fostering municipal government participation in this arena and, in fact, a number of the most successful experiences enjoyed strong outside backing. Municipal governments often see an opportunity to receive financial and technical aid to which they would otherwise not have access. In some cases, aid projects and NGOs have functioned as facilitators among local stakeholders, including regional offices of forestry agencies, the logging sector and municipal governments. This has helped strengthen relations among them and improved the scope and quality of local forest management initiatives.

On the other hand, not all projects and NGOs work with municipal governments in the best way. At times, their "help" consists of doing the work themselves instead of training others, or of working on their own without communicating with the local government. On some occasions, they even undermine municipal authority thanks to their more abundant financial resources and/or evident disdain for local political leaders.

The existence of a sustainable development agenda

In all cases studied, local politicians with an environmental and/or social consciousness who promote a sustainable local development scheme have a different perception of the municipal government's role and of natural resource management. This may reflect a particular leader's personal position or the strategic orientation of a party or political movement.

Central government resistance to decentralized forest management

As we have seen, the Latin American case studies demonstrate several practical experiences in which the state forestry administration coordinates activities with municipal governments. At the same time, however, we have also found distrust and resistance on the part of central government authorities toward decentralizing forest management to municipal governments.

This resistance is reflected in many ways, in both policies and implementation. There is evidence at the policy level that the "benefits" of decision-making power and financial resources remain concentrated in the central agency while the "burdens" of other responsibilities are transferred to the municipal government. In practice, central agency technicians and officials often disparage local authorities and avoid creating coordination and training relations.

These obstacles are hard to surmount given the absence of directives requiring coordination with and support for municipal governments. In the majority of countries studied, the officials and offices that coordinate with municipal governments do so out of their own needs and convictions, or because of the intervention of aid projects. Because these initiatives generally do not obey a generalized work policy, however, they are subject to the good will and interest of individual officials. In Honduras and Nicaragua, for example, important efforts by the central agencies and local governments to work more closely disappeared with the change of personnel in the central agencies.

In Guatemala, in contrast, decentralization in the forestry sector is taking place under the leadership of the state forestry administration; in fact, this country demonstrates the greatest progress in such relations. Central-level support to activities that strengthen municipal forest management capacity is occurring at both the political level and in practice. Though this is very encouraging, little decision-making power has been transferred to the municipalities.

In general, the argument used to justify central-level distrust and resistance is the lack of capacity and transparency in the municipal governments, but these same objections could

be made about the central forestry agencies. In reality, this justification tends to hide other concerns behind the resistance to decentralizing,[1] such as loss of income or power.

In addition to official directives and committed leadership from the central government, the only way to overcome such resistance is through organized pressure from civil society, municipal governments and their allies. Local grassroots pressure played a decisive role in the promulgation of the new forestry law in Bolivia and has been important in many specific advances for municipal authority in Nicaragua.

Democratic decentralization of forest management in the region does not yet exist

In the introduction to this book, we mentioned various kinds of decentralization, focusing on democratic decentralization as the scheme that in theory should contribute more effectively to expected improvements in efficiency and equity.

In general, the six studies suggest that, at least in forestry, the step toward democratic decentralization has not yet been clearly taken. Decentralization processes have been particularly timid, and the policies that have been promoted mix elements of partial decentralization, deconcentration and continued centralization. In other words, although the various processes delegate different degrees of power, capacities and resources, they still lack the primordial characteristics of a genuine democratic decentralization (see summary in Chart 1). We analyze these failings in detail below.

*In theory, under democratic decentralization**, powers must be transferred to formal local government structures that represent local interests and are accountable to the population they represent.***

In many cases, municipal political structures are deficient in democratic processes and are determined by the tradition of centralized, authoritarian governments. At least some local governments in all the countries suffer from authoritarianism, clientelism and political and personal favoritism, on top of occasional corruption problems and lack of transparency. Even so, we found examples of transparent and efficient local governments capable of good forest management in all the countries.

In general, the main 'guarantee' that local governments will represent the population's interests is that they are popularly elected. Nonetheless, given the way elections are conducted in almost all the countries,[2] accountability mechanisms that ensure the governed an opportunity to get involved in decision-making and demand accountability from their governments must be considered as well. The analysis of the cases shows that thought has been put into this in designing the different laws. Virtually all the countries have included participation and accountability mechanisms in national policies promoting decentralization.

For example, tools have been created for participatory planning and control of the municipal government's administration and budget, as well as environmental commissions

[1] There are also private and civil society groups that manifest resistance to decentralization and, in certain cases, pressure central agencies not to grant greater powers to local government. Certain organized groups of loggers fear that decentralization will entail more strict local controls on their activities, while some environmentalist groups fear that the future of the forests would be threatened if local governments were to gain decision-making power over local forest resource management.

[2] Candidates are usually chosen by national political parties and presented on the ballot not as individuals but as part of party slates. Because the electorate chooses the party and not the person, this system promotes accountability to party bosses rather than to the population.

and councils and direct consultation mechanisms such as plebiscites and town meetings. Institutionalized popular planning and oversight mechanisms created in Bolivia offer a good example of formal spaces through which citizens can demand accountability from their local government. In Nicaragua, the new Municipal Budget Law requires that the budgets be formulated through participatory processes, and allows citizens to demand that they be frozen if the law's requisites are not followed. Mayors' offices in Brazil must create popular participation councils, which have operated well for issues such as health and education but have not yet been applied in forestry.

It is also clear, however, that the formal creation of accountability mechanisms does not guarantee their application. Though we present some preliminary findings here, it would be very interesting and useful to conduct a more in-depth study of the effectiveness of these mechanisms at the local government level in the region.

The cases analyzed reveal at least three general factors that can hinder or limit application of the mechanisms created: a design that impedes their practical operation; lack of political will to implement them, usually based on fear of the consequences of creating such arenas or on a lack of capacity to coordinate them; and limited organizational capacity and interest among local citizens in participating and demanding accountability. In fact, the cases studied suggest that even if there are no formal accountability mechanisms, informal ones such as social mobilization and pressure, local public denunciations, accusations in the media, public meetings and participatory processes will be used if the local population is well organized.

Nonetheless, accountability to the population can be improved in various ways, which include:

- modifying the electoral rules so people and not parties are elected, and so local candidates without party affiliation can run via some sort of petition system.
- promoting civic education and local organization of civil society to improve the information available to the population and its capacity to demand accountability.
- designing simple and effective formal mechanisms to promote transparency.[3]

*Under democratic decentralization, local governments must have **an autonomous decision-making sphere and power to make significant decisions.***

It can be concluded from the analysis of the cases studied that while the autonomous sphere of municipal government decision-making regarding natural resources is growing, it is still very limited, whether because the assigned legal competencies are weak or without much local importance, or because budgets are insufficient and support to the development of municipal capacities is inadequate.

In the majority of the countries studied, the legal framework has given the municipal offices the right and responsibility to define local development policies and priorities while attending to environmental protection. In addition, various laws establish that municipal

[3] For example, the municipal budget must be presented publicly and permanently on a billboard outside the municipal offices; the minutes of all Council meetings must be public information; the population and the Council must have the faculty to recall officials; and the legal recall mechanisms cannot be too cumbersome.

governments must coordinate with other lead entities with specific technical and administrative capacities on the issue of natural resource management. It would appear, however, that legislators are content to proclaim the importance of the municipal government's role in natural resource management in general, while relegating them to a secondary role in actual management schemes, specifically forest management, rather than grant them any real power.

The decentralization processes in which greater powers have been transferred to the municipalities have been in Honduras and Bolivia. In Honduras, local governments have substantial autonomy to administer *ejidal* lands, which represent 28% of the country's territory, and can exploit the forests on these lands directly or though third-party contracts, subject to the state forestry administration's approval of the management plans. In Bolivia, local governments can obtain certain control over 20% of the public forests located in their territories, creating municipal forest reserves in which they may only grant exploitation contracts to Local Social Associations (ASL), again subject to approval by the state forestry agency, from which the municipal governments receive 25% of the royalties.

It is notable, however, that the local governments in these two countries have no decision-making power over the contracts granted by the central government in other forests within their jurisdiction. In Honduras, they are supposed to be consulted regarding such contracts, though they are not in practice, and receive 1% of the royalties; in Bolivia, they get 25% of the patents and royalties, just as they do with their own contracts. The Nicaraguan case offers an interesting example: although the municipalities have no territory under their control, municipal authorities must issue a non-binding opinion on extraction permits before they can be approved. In 2002, four municipalities pressured the forestry administration into signing an agreement making this endorsement binding and obligatory.

Of the cases studied, large-scale forest exploitation requires management plans whose requisites are defined and must be approved by the state forestry administration. With the exception of the ASLs in Bolivia and the *ejidos* in Honduras, the state forestry administration is the entity that makes not only technical but also political decisions about forest exploitation: who may exploit it and who receives the benefits.

Local governments participate very little in defining norms for the forestry sector. In Nicaragua, however, they may indirectly issue natural resource management norms through municipal ordinances. This same possibility exists in Honduras but is rarely used with regard to forestry. Drawing up technical norms through municipal ordinances is not a formal transfer of power, however; it is a general competency validated by municipal governments as a way to intervene in management of their forests when they deem it necessary—often due to conflicts. The legal status of municipal ordinances is not always clear, nor is the possibility of enforcing them.

In both Nicaragua and Costa Rica, although local governments have no forest area under their control, certain mechanisms have been established to give municipalities access to a portion of the benefits generated by forest sector activity. In Guatemala, local government is considered the spokesperson for state forest policy; its main role is to support INAB in control, inspection and reforestation activities. Although *ejidos* legally belong to municipal

governments, their decision-making power over these lands is limited by the fact that there are no clear regulations about *ejidal* forest management and the authority local governments exercise is more historical and cultural than formal. In some cases, existing forestry laws are applied, and, in others, traditional regulations prevail.

Brazil's case is more complex. The three levels of Brazil's federated government are empowered to create Comprehensive Protection Units and Sustainable Use Units, to operate under the administration of the government level that creates them. This possibility, together with the fact that Brazil's municipalities have more resources than those of the other countries studied, ought to facilitate their participation in forest management. Brazilian forest management, however, at least for the Amazon region, is centered in IBAMA, and the direct forest management competencies (drawing up of technical norms, planning, control and permit approval) are still in that institute's hands. Furthermore, the Amazonian municipalities generally do not perceive forest activity as an important income source; in fact, they tend to view forest regulations and the creation of protected areas as burdens and limitations to social and economic progress.

Democratic decentralization requires ***a balance between the formal powers granted and the transfer of economic and technical resources needed.*** *This means working with the municipalities to build capable structures for sustainable local development and changing the traditional vision of the municipality's role in this arena.*

Decentralization processes are frequently fragmented, and forest management responsibilities are often granted without considering the costs that such responsibilities imply. Although powers may be decentralized, there can be neither authority nor autonomy if there are no funds to implement them in practice. The more important the responsibilities transferred, the stronger the commitment to support and increase municipal management capacity should be. In the majority of cases, this balance does not exist. In Nicaragua, for example, central government transfers are not guaranteed, and municipalities do not even have the right to charge significant taxes.

The Honduran case presents a dramatic example of imbalance between an important transfer of power—the administration of *ejidos*—and the municipalities' extremely limited capacity to use their opportunities to benefit the local population. Municipal governments receive a very small percentage of the national budget and only 1% of the taxes on forest activity outside of the *ejidos*. There is little training of local governments in forestry. Their economic weakness and limited management capacity are important impediments, but aid from cooperation projects has begun to improve the panorama.

"Burdens" such as forest control and inspection, environmental education and forest fire control have been decentralized in Costa Rica, Nicaragua and to a certain degree Guatemala. These examples do not reflect a clear willingness to decentralize decision-making power; it rather appears that the goal is to reduce the costs of forest management.

Another problem appearing in the four Central American countries studied is that the formal mechanisms created for redistributing economic resources from forest management do not function in practice. The percentage of forestry taxes earmarked for the municipalities

does not reach them because these taxes are not collected effectively at the central level (Costa Rica), or arrive only after a long and complex bureaucratic process (Nicaragua), or the full amount does not arrive at all (Honduras). The situation appears better in Guatemala, possibly thanks to INAB's direct support for decentralization, but even at that, the revenue from forest taxes as well as from reforestation incentives through the Forest Incentives Program (PINFOR) does not represent significant income for the majority of the municipalities.

Although for different reasons, the Bolivian and Brazilian cases present a better balance between existing opportunities and the transfer of economic resources. In Bolivia, municipalities receive an important percentage of income from the management of both national and municipal forests in their territories, although some municipalities receive much more than others. In addition, Bolivian municipalities receive a substantial portion of the national budget. In Brazil, too, the municipalities manage important economic resources coming mainly from the federal and state governments. Although Brazil's municipalities have greater power and economic capacity, this model fosters paternalism in the relations between the municipal governments and local residents, given that the former have no incentive or interest to tax their own population.

Chart 1. Actors, powers and income from decentralizing forest management in the countries studied

	Bolivia	Brazil	Costa Rica	Honduras	Guatemala	Nicaragua
% of national budget to municipalities	20.0	n.a.	1.28	5.0 by law, «2.0 in practice	10.0	There is no law 1.2 in 2001
Main environmental agency for protected areas	SERNAP	IBAMA	SINAC	COHDEFOR	CONAP	MARENA
Main forestry agency	Forest Superintendence	IBAMA	SINAC	COHDEFOR	INAB	INAFOR
Forest management decentralized to:	Municipal governments	There is no formal decentralization	Regional SINAC offices and Regional Councils	Municipal governments	Municipal governments	Municipal governments
Number of municipalities	314	5,561	81	298	331	151
Area under direct municipal government control	Up to 20% of public forests	None	None	28% of the country (*ejidos*)	*Ejidos* (historic right)	None
Municipal government's decision-making rights over area under central control	None	Can establish norms, but does not do so	None	-Opinion on management plan -Declaration of logging prohibitions	Permits for up to $10m^3$/year in urban zones	-Opinion on contracts -Declaration of logging prohibitions and parks -Ordinances
Income established by law	25% of forest patents for extraction contracts and clearing permits	None	-10% processed wood -50% seized wood -30% parks	-1% of royalties -100% on *ejidos*	-50% of royalties -subsidies for reforestation -rent and sale in *ejidos*	25% of royalties

TOWARD DEMOCRATIC FOREST MANAGEMENT IN THE REGION

The cases studied demonstrate the limitations of decentralized forest management in Latin America so far, but also the wealth and potential of the experiences that have blossomed in different settings. The appraisal of these experiences leads us to conclude that forest management must be democratized still more. To that end, we present below a balance sheet of the potential for decentralization and the most important challenges these processes will have to face in the future.

Appraisal of decentralization's potential for sustainable forest management

An appropriate policy design for the democratic decentralization of forest management is not the only relevant factor in the attempt to achieve sustainable, equitable and efficient forest management. Many other factors come into play, including the quality of and capacity for planning, management of the state's forestry administration, the national and regional development model, the organization of local interests and the government's capacity to improve its democratic institutions.

Despite the difficulties in appraising the processes underway, the experiences demonstrate the importance of decentralization, particularly if the municipal governments' 'natural' role as a leading local actor in forest management is considered. Strengthening local government capacity to play that role responsibly and effectively will promote and improve the possibility of building sustainable forest resource management schemes that recognize local interests.

As local leaders, municipal governments have a direct relationship to the natural resources in their jurisdictions, as well as to the population they represent, which is the first to be affected by natural resource exploitation or deterioration. The cases analyzed in this book demonstrate that constructive relations between central agencies and local governments facilitate the work of all actors involved in forest management, especially those operating locally.

In addition, though decentralization itself cannot ensure the sustainability of forest resources, it has helped build more democratic, equitable and efficient forest management schemes in the region, despite their limitations. We present below an abbreviated assessment of the effects on these three arenas.

Efficiency

It is helpful for a region's residents to be able to directly request a felling permit or the solution to a forest-related problem from their local government; doing so can provide important cost and time savings for both citizens and the central government. To a certain extent, this is demonstrated every time a municipal government succeeds in channeling and

managing local forest-related conflicts, or takes charge of granting certain permits in the absence of central authorities, as is seen in Bolivia, Guatemala, Honduras and some municipalities of Nicaragua.

The creation of local environmental offices usually entails better institutional coordination, less dispersion of efforts and resources and more efficient mechanisms to promote conflict negotiation and resolution. Experiences show that when environmental offices have the conditions to work effectively, they can enhance the municipal government's position as an important actor in environmental management while significantly improving coordination between the central agencies and the local government, and between the latter and local stakeholders. These stakeholders frequently find that municipal environment officials are valid interlocutors for channeling their demands and concerns and negotiating decision-making.

Some local government offices have succeeded in using the financial mechanisms offered by law to plan and implement activities negotiated with local stakeholders, incorporating them into their own municipal plans. In other cases, officials from the sub-regional offices of the state forestry administration and from the municipal governments have mutually benefited from improved relations and coordinated efforts.

Having at least one person dedicated to forestry issues in the municipal government offices significantly increases the number of environmental and forestry initiatives taken, as well as the capacity to plan and coordinate coherent forest resource management at the municipal level and control illegal felling. Nonetheless, the condition of the environmental offices is still far from satisfactory, especially in small municipalities. The most common problems are a lack of trained personnel, high personnel rotation for political reasons, marginalization of the office within the municipal administrative structure due to low political priority and the lack of budget and a consequent dependence on outside projects for its operation. Despite all that, however, environmental offices have good prospects for helping improve the efficiency of local forest management.

Equity

In almost all the countries, at least a small part of forest-related income is now returned to the municipal level. Although this does not always represent an important amount of funding, it still represents a better income distribution than existed under the centralized management model. In Bolivia, Nicaragua and Guatemala, local governments receive between 25% and 50% of the income from exploitation contracts granted by the central government; in Honduras, they receive income from the *ejidal* forests as well as from other fees and taxes.

Among the countries studied, the greatest increase in equity is found in Bolivia, where local groups that previously had no legal access to forest resources now do thanks to the decentralization laws. The same thing is occurring with Honduras' agroforestry cooperatives.

The cases also demonstrate that municipal governments with strong and responsible forestry or environmental offices have transferred benefits to local groups through

environmental training and education, technical support to community groups, and control of and support to the work of the central agencies.

Democracy

In many municipalities, decentralization has created a new space that allows the population to oversee the government more effectively and have greater participation in decision-making about local natural resources. When decentralization includes institutionalized participation mechanisms such as town meetings, participatory planning and/or watchdog committees, it helps promote democracy. In some municipalities of Nicaragua, Honduras and Bolivia, previously marginalized groups such as peasants and indigenous communities have managed to get elected to their municipal government. In such cases, decentralization has directly increased their decision-making power.

It should be added that the work of local environmental commissions and offices, as well as development committees, has allowed at least some local stakeholders greater involvement in decision-making about local forest management, especially through the coordination of common agendas and environmental management programs by the state forestry administration, the private sector and civil society. This has helped foster not only efficiency in forest management, but also participatory democracy. Nonetheless, the Guatemalan case also demonstrates that deconcentrating power can generate conflicts and serious imbalances in local relations if traditional natural resource management systems are excluded.

Future challenges

The local governments have demonstrated that they can be—and in many cases already are—protagonists in forest management. As a whole, an analysis of the case studies suggests many ways to facilitate the kind of decentralization that will encourage local governments to make responsible decisions about the future of forest resources. Below we highlight four important spheres that represent challenges for the future: i) the central government's commitment, ii) an adequate balance of powers, iii) training and accompanying local governments, and iv) democracy and equity in the local sphere.

Central government commitment

Decentralization always encounters obstacles in the implementation process. Many of the cases presented reflect the existence of unclear and even ambiguous policies, lack of support for local governments and central agency resistance to relinquishing significant power. This is not a coincidence but rather the result of contradictory pressures. Obviously, central governments cannot simply be required to assume a greater commitment to decentralization. But in many cases, at least a few key central government officials support decentralization, including some forestry office officials, while others, including lower-level technicians, oppose it. It must be recognized that a committed leadership helps break through this resistance.

Clear political support—not only for the law but also for its enforcement—can help ensure the needed accompaniment and a more balanced transfer of powers. It is possible, however, that this level of political commitment will only be achieved through organized pressure from the local governments themselves, with support from their allies at both the central and grassroots levels, as well as from international donors and NGOs.

Appropriate balance of powers

Promoting decentralized forest management does not mean promoting the transfer of all power into the hands of municipal governments. There must be a balance between the central government's protection of national interests and the local governments' defense of municipal interests. Forestry regulations must be realistic, so that strategic resources are protected but local rights and needs are also recognized. One idea, for example, would be to establish minimum standards by region or by ecological characteristics, leaving ample room for local discretionary decision-making. In addition, specific mechanisms should be created that permit crossover control between the central and local levels, such that transparency and control of the administrative actions of both spheres are strengthened.

Local governments must have some autonomous decision-making power over the use of local forest resources and receive some type of benefit from managing those that can be channeled to local development and sustainability of the forest. This includes adequate financing that allows the governments' decisions to be implemented and, hence, increases their authority and legitimacy.

A balance is also needed between general decentralization policies and those of the forest sector, to avoid the transfer of broad powers to municipalities with little real capacity or authority, or the concentration of power at the central level when the municipal governments enjoy important mandates and authority. Between these two legal frameworks, the "gray areas" regarding coordination and contradictory or overlapping competencies among various institutions must be cleared up.

Local government training and support

In the socioeconomic context of the countries studied, it is not surprising that municipal governments are not particularly competent in forestry and that their administrative-managerial capacity is often weak, especially in areas with less economic development. The challenge is precisely to trust in municipal capacity-building as an indispensable element of decentralization in general, not only in the forestry sector.

The cases presented suggest that powers and responsibilities can be transferred in various ways that increase the municipal authorities' managerial capabilities. According to the model chosen, more or less effective results can be achieved. The Costa Rican case demonstrates that decentralization objectives tend to get distorted when responsibilities are turned over without financial support or even minimum training and accompaniment.

The political commitment to a transfer of power must thus be accompanied by a commitment to municipal capacity building, a field in which international cooperation can

play a major role. Effective and responsible local forest management, however, also requires that this accompaniment engage organized local civil society as well. The experiences show that such accompaniment has generally been poor in the region. The cases of greatest success have occurred when a concert of actors determined to support the municipal government is achieved due to special circumstances. Even when such commitment and support exist, however, local government must go through a transition and adaptation process that takes time.

We present four essential elements that must be strengthened in such a process:

- The transfer of technical and administrative know-how and knowledge, as well as the state forestry administration's follow-up to the municipal capacity-building processes. This does not mean dismantling national agencies, as it is clear that the more capable the central agency, the more it will be able to accompany and train municipal governments.

- The transfer of sufficient financial resources for the municipal government to meet its new responsibilities. Not only must the municipality's general budgetary structure be strengthened, but the mechanisms for redistributing the benefits of forest management must also be improved. Some countries studied show major weaknesses in this aspect.

- The strengthening of arenas in which the central government, international cooperation and municipal and local organizations can work together to support local governments and hold them accountable. Municipal governments do not just need technical capacities to become good forest administrators; they also need to improve their ability to provide effective democratic leadership and facilitate cooperation and coordination among interest groups.

- The documentation and dissemination of comparative case studies of municipal forest management is an especially valuable tool that permits the lessons learned to be accessible to others.

- La documentación y publicación de estudios comparativos de casos sobre gestión forestal municipal es una herramienta especialmente valiosa que permite divulgar las lecciones aprendidas.

Democracy and equity in the local arena

Decentralization and its effective application depend on the particular reality of each local setting, specifically the power relations among different local interests, the organizational capacity of local stakeholders and the relationship of each group with the municipal government. The cases studied show that the stronger the capacity for social organization, the greater the opportunities for decentralization to help promote equitable and democratic forest management.

It may be that the only way to meet the three challenges described above is through an internal political process promoted by the municipal governments and local populations. Decentralized forest management can promote equity when organized groups that have previously been marginalized can claim their right to use and benefit from the local resources, especially scarce ones. This interest is reflected through political pressure to

which the local governments must respond, particularly where effective accountability mechanisms exist.

The relations among local interest groups and the political pressure they exercise play an important role in determining the outcome of the decentralization process. In some cases, decentralization has led to the strengthening of certain local elite groups and further weakening of marginal populations. As a political entity, no local government is immune to favoring certain groups and interests to the detriment of other weaker and more marginal sectors. In this regard, decentralization by itself is no guarantee of equity, making it necessary to consider other factors that can promote greater equity in forest management:

- Accountability mechanisms. Despite the limitations of the various mechanisms that have been put into practice, they have helped improve local government decision-making in many cases.

- The election of conscientious municipal leaders committed to sustainable development and/or to marginalized sectors.

- The presence of organized social groups that demand their rights.

- The creation of formal mechanisms that favor marginal groups in resource exploitation, such as in Bolivia with the creation of the Local Social Associations.

- Civic education and organization, which can improve the information that citizens have about their rights and their local government's responsibilities, and increase their capacity to exercise those rights and both monitor and make demands of their elected leaders.

IN SYNTHESIS

As an alternative to national forest management strategies that have been under the control of national institutions in the recent past, decentralization represents an attractive option for improving efficiency, equity and sustainability by fostering participatory and democratic decision-making. The formal processes of transferring powers to municipal governments have been characterized by slowness and irregularity, but a more assertive role by municipal governments can already be seen in local decision-making and in the different ways they exercise their authority regarding natural resource management.

The decentralization experiences studied are still incipient and their results incomplete and varied. The models applied rarely include the structural changes needed to promote both genuinely decentralized autonomous decision-making arenas and the responsible exercise of power. At the same time, decentralization is no panacea that operates outside of the political, socioeconomic and cultural contexts of each country and each municipality. For all that, as the power and authority of local governments increase over time, as they have over the past decade, greater decentralization in forest management may be inevitable.

The analysis of the six case studies presented here suggests that if greater attention is paid to the elements discussed in this concluding chapter, policy-makers and policy-implementers will be able to improve both the design and practice of decentralized forest management in Latin America, and thus help deepen these incipient democratic processes. We hope that this book will contribute its grain of sand to this end and spark discussion and debate around this increasingly important issue.

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