

MUNICIPAL GOVERNMENTS AND FOREST MANAGEMENT IN LOWLAND BOLIVIA

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Introduction

Decentralization and strengthening local government are flavors of the month. Add to that natural resource management and forests and you have a guaranteed best seller. Beyond the rhetoric, however, the available literature provides little empirical evidence about whether decentralization is good for forests and people who depend on them. This paper analyzes that issue in the context of Bolivia's recent efforts towards decentralization and its 1996 forestry law, which gives municipal governments a strong role in forest management.

Among possible advantages of decentralized natural resource management mentioned in the literature are that: management decisions can incorporate local knowledge about the resource base; it is easier to monitor resource utilization; local groups may feel a sense of ownership of rules regarding natural resource use and thus more compelled to abide by them; and poor and marginalized groups who lack effective national organizations may find it easier to influence policy if decisions are made locally. At the same time, local governments often lack technical expertise and administrative skills, are subject to political pressure and bribes from local resource users, and may not share national and international concerns with resource conservation (Brandon and Wells, 1992; Carney, 1995; Poffenberger, 1990; Utting, 1993).

While it is still too early to draw firm conclusions, initial indications in Bolivia suggest that decentralization, along with other aspects of recent Forestry and Land Laws, have offered new opportunities for indigenous people and, to a lesser extent, small farmers and timber producers to access forest resources, restrict encroachment by large timber companies and ranchers, and influence policies affecting forests. This, combined with a new timber royalty system more favorable to municipal governments, will probably lead to more timber revenues remaining in local communities.

Little evidence suggests municipal forestry units will be better than their predecessors at controlling unsustainable logging and promoting sustainable forest management, but they probably won't be much worse. Local governments' present capacity for managing forests is minimal, but efforts are underway to overcome that. How successful municipalities are at managing forests will also depend in part on a newly created national Forestry Superintendency and local organization's own efforts to manage their forestry activities.

Conflicting pressures from groups who support and oppose restrictions on local access to resources for conservation purposes has made most municipal governments ambivalent about protected areas. Some municipalities have raised legitimate concerns regarding conservation projects which fail to benefit local communities. Only a few have actively supported forest protection.

Several municipalities have tried to plan local land use, but they have achieved few concrete results. Still, current local - level discussions about land use may yield long-term benefits. On the other hand, many municipalities invest a large portion of their revenues in road construction, and that may lead to greater deforestation.

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The material in this paper is based largely on an exploratory mission to the municipalities of Santa Rosa and Yapacaní in the Department of Santa Cruz and Rurrenabaque in the Department of Beni by Pablo Pacheco and Raul López in December, 1996 and interviews in February, 1997 with key informants from government agencies, forestry projects, non governmental organizations (NGOs), international missions, research centers, municipal governments, and indigenous and small farmer organizations in La Paz, Santa Cruz, and Trinidad by Cristian Vallejos, Pablo Pacheco, and David Kaimowitz. In total, some 66 persons were interviewed. These interviews are cited in the text with the name of the person interviewed, followed by "p.c.", for personal communication. The material forms part of a broader study on decentralization and forest management in Bolivia by the Sustainable Forestry Management Project (BOLFOP), the Centro de Estudios para el Desarrollo Laboral y Agrario (CEDLA), the Taller de Iniciativas en Estudios Rurales y Reforma Agraria (TIERRA), and the Center for International Forestry Research (CIFOR), to be completed in early 1998.

The paper is divided into seven sections. The first section provides background on forests and forest management in Bolivia. The second focuses on Bolivia's decentralization process and the role of municipal governments under the 1996 Forestry Law. The third section describes the struggles of local community groups and governments to influence forestry policies and gain greater access over forest resources prior to 1996. The fourth, fifth, and sixth sections look at the municipalities' roles with respect to logging, protected areas, indigenous territories, and land use planning and road building respectively. A partial list of Lowland municipalities with important forest resources or protected areas can be found in an appendix.

1. Tropical Forests and Forest Management in Bolivia

Forests cover approximately half of Bolivia, or some 50 million hectares. Eight percent of these are located under 500 meters above sea level, mostly in the departments of Santa Cruz, Beni, La Paz, and Pando (López, 1993).² Cochabamba has tropical forests located at slightly higher altitudes.

Commercial logging in Bolivia became important in the 1970s, and has expanded rapidly in recent years. In 1994, Bolivia exported over \$112 million in primary and processed forest products. Four species, mahogany (*Swietenia macrophylla*), cedar (*cedrela sp.*), oak (*Amburana cearensis*), and *ochoó* (*Hura crepitans*) account for 60% of the wood produced between 1985 and 1994 and an even larger percentage of exports (Quiroga and Salinas, 1996).

As of 1994, the Bolivian government had assigned 185 logging areas, covering almost 21 million hectares to 173 timber companies (Quiroga and Salinas, 1996), although less than 100,000 hectares are actually logged each year (Anderson, Constantino, and Kishor, 1995). Santa Cruz had 72% of the assigned logging area, Beni 16%, and La Paz 10% (Quiroga and Salinas, 1996). Most logging in Santa Cruz is in northern and eastern Santa Cruz, in the provinces of German Busch, Guarayos, Ichilo, Nuflo de Chávez, Sara y Velasco. The main logging provinces in Beni are Ballivián, Iténez, Márban, San Ignacio de Moxos, and Yacuma. Most logging in La Paz is in Iturrealde. Cochabamba has no assigned logging areas, but tropical forests in the provinces of Chapare and Carrasco are logged nonetheless. The number of municipalities per province ranges from one to four. In total, perhaps 30 municipalities have major logging activity. (See appendix.)

Until recently, the Bolivian Forestry Service ("Centro de Desarrollo Forestal" or CDF) was responsible for ensuring timber companies complied with forestry regulations and followed forestry management plans. In reality, however, the CDF's principal concern was collecting timber royalties, and it did little to encourage sustainable forest management. Corruption and illegal logging practices were widespread.

² Bolivia is divided into 9 departments, which, in turn, are composed of 112 provinces and 311 municipalities (also referred to as provincial sections.)

Brazil nuts collection and processing are the main income sources in several municipalities in Pando and in Vaca Diez province in Beni. These areas export \$10-15 million of Brazil nuts annually. Both medium and large - size *barracas* (camps) and independent rural families collect brazil nuts, but the activity is largely controlled by the *barracas* and larger brazil nut processors.

In 1996, the Bolivian Congress passed a new Forestry Law which changed government policy towards logging. Previously, most logging areas had been assigned on a short-term basis and could not be sold or transferred. Now, forty year forest concessions will be granted, which can be renewed if concessionaires comply with logging regulations, and can be sold and inherited. Companies which already have logging areas can convert them to concessions. Private land owners and indigenous peoples with legally recognized territories will have the right to exploit forest resources on their land for the first time, although they still must pay a royalty based on the area logged and follow an approved forest management plan.³

The law replaces all volume-based timber taxes with an area-based royalty of at least \$1 per hectare for timber and .30¢ per hectare for non-timber forest products, such as brazil nuts. This gives loggers an incentive to reduce their concession size and, as a result, it appears the area controlled by timber companies has declined from 21 million hectares to five or six million hectares. Public forests which existing logging area holders fail to convert to forest concessions will be auctioned off to other timber companies or made available for logging by local community groups.

Bolivian forests have also been affected by conversion of forests to fields and pastures. Before the mid-1980s, Bolivia had low deforestation, but this is changing. Major sources of forest clearing include expansion of: large farm soybean production in the Pailón - Los Troncos area in Santa Cruz, small farmer shifting cultivation in north-west and northern Santa Cruz, northern La Paz, and the Chapare in Cochabamba, and large-scale ranching in eastern Santa Cruz.

This problem, as well as a general rise in environmental consciousness, have led the Bolivian government to attempt land use planning and expand its protected areas. In 1995, the national government issued a decree regulating land use in Santa Cruz based on a land use zoning plan (PLUS) produced by the departmental government and German consulting firms. Similar land use planning exercises are underway in the remaining Lowland departments. Support for Lowland protected areas has also increased. These now cover several million hectares and include the Amboró, Noel Kempff Mercado, and Kaa-iyá National Parks in Santa Cruz, the Isiboro-Securé National Park in Beni, and the Pilón - Lajas Biosphere Reserve in Beni and northern La Paz, among others. Most, but not all, protected areas are located in municipalities where logging also take place.

Approximately 200,000 indigenous people live in Lowland Bolivia, including Ayoreos, Chimanés, Chiquitanos, Guaranis, Guarayos, Mostenes, Moxeños, Tacanas, Sirionos, and Yuracarés, among others. Many of them depend greatly on forest products for their livelihoods, and have a tradition of forest management. During the 1980s, indigenous groups became increasingly organized and adamant in their demands for territorial rights. This led to a "March for Territory and Dignity" in 1990, which helped convince, Jaime Paz Zamora, the president at the time, to issue a decree establishing four indigenous territories (Lieberman and Godinez, 1992). Later the government recognized five additional territories, making a total of nine territories covering 2.5 million hectares (Quiroga and Salinas, 1996). These territories are largely located in the same provinces as logging and protected areas - Ballivián, Yacuma, and Moxos in Beni, Nuflo de Chávez in Santa Cruz, and Iturrealde en La Paz - and there is a lot of overlap, and conflict

³ Under the previous law, landowners did not have rights over the trees on their properties. This led to frequent overlapping claims and conflicts between those with land rights and those with rights to timber. Overlapping claims among loggers and among farmers were (and are still) also common.

between the three types of land rights and utilization. In 1996, the Bolivian Congress established a new land law, which mandates the government to delineate and title indigenous communal lands, but this has yet to happen.

As the previous discussion implies, most forested lowland municipalities have numerous, often - conflicting, interest groups, who can potentially influence local governments. These include: large and small loggers, small and large farmers of different ethnic origins, ranchers, brazil nut collectors, indigenous people's organizations, environmental and development NGOs, merchants, local service providers, and government officials, among others. Although not all of these groups directly exploit forest resources, they all influence municipal government's behavior with respect to forest management.

2. The Struggle for Local Control Over Forest Resources prior to 1996

For much of the last fifty years, Bolivia has been characterized by strong regional movements that struggle to increase their region's share of national revenues. These movements seek greater participation in policy formulation, national funding for highway and rail road projects, and the allocation of part of the royalties from petroleum, natural gas, mineral, and timber exploitation to the regions where these activities occur.

The "Committee for Santa Cruz", commonly referred to as the "civic committee", has helped lead these movements and was established in 1957 (Sandoval, 1985). It includes representatives of business, trade, and professional groups, social organizations, and local government, has independent chapters in each province, and is a powerful force within the department. Beni established similar committees in 1967 (Navia, 1989).

Within this context, in 1979, local civic committees and governments in San Borja and San Ignacio de Moxos in Beni began a struggle to increase the benefits for local communities from logging by large companies from Santa Cruz. To press their demands, they blocked roads and conducted other types of protests (Navia, 1989).

The social forces behind these movements cannot be easily characterized. A wide range of groups within Beni resented outside logging companies exploiting the department and the national government neglecting it. Many community, trade, social, and professional organizations with no material interest in logging participated in these efforts, whose sincerity there is no reason to doubt. Other key movement participants were from the traditional Benian ranching elite and may have been partly motivated by a desire to increase their own access to Beni's timber and limit outside competition.

Eventually, the movement in Beni and other areas led to the creation, in 1982, of an 11% timber royalty to be used for regional development. In Beni, the companies began paying the royalty soon after it was announced. Local offices collected the revenues and used them to finance infrastructure and services in timber producing provinces. In Santa Cruz and other departments, however, payment did not begin until several years later, control over the funds was centralized in the departmental capital, and funds were often not for local development. In those departments local inhabitants continued to complain they did not benefit enough from logging in their regions.

In the mid-1980s, Beni was again at the forefront, in an effort to decentralize the national forest service (CDF) and create a departmental forestry policy. This initiative grew out of a 1985 symposium on "Forestry Resources and Regional Development in Beni" and involved the Beni congressional delegation, local governments, civic committees, chamber of forestry, university, and others. Following the symposium, the government of Beni established an inter-institutional forestry commission to formulate a regional forestry, and that policy was later sanctioned by a departmental decree. Among the commission's proposals were: 1) to increase the physical presence of departmental forestry service, make it more autonomous, and put it under the control of a departmental board of directors, and 2) to allow logging in one of the department's largest

forests, the Chimanes forest, but only under strict regulations designed to make it a model of sustainable forest management (Navia, 1989).

The movement in Beni to decentralize the CDF used frequent demonstrations and other pressure tactics and was accompanied by a similar effort in Santa Cruz. Together they achieved the deconcentration and partial decentralization of the two departmental CDFs in 1986. However, these changes failed to make the CDFs more efficient or effective. The institution continued to have a reputation for being corrupt, overly politicized, and ineffective (Quiroga and Salinas, 1996).

During the 1990s, the regional movements' main focus shifted from Beni to Santa Cruz and northern La Paz. Local governments and civic committees in those areas demanded greater support from departmental governments and timber companies and established road blocks to collect fees from passing timber trucks.

These conflicts, along with many logging companies' failure to pay their timber royalties on time, led the government and logging companies of Santa Cruz to agree in 1993 that logging companies would pay 80% of their timber royalties in-kind directly to the provinces where logging occurred. This permitted companies to provide tangible benefits to local communities, while at the same time reducing their costs by inflating the declared worth of goods and services provided (Quiroga and Salinas, 1996).

One province where local government - timber company conflicts were particularly strong was Ixiamas, in northern La Paz. In 1992, the province tried to expell all timber companies, arguing the companies had failed to benefit local communities. The forestry chamber (CNF) responded that the local government had been taken over by illegal chain saw operators, who were simply seeking to eliminate their competition.

3. Decentralization, Popular Participation, and the 1996 Forestry Law

Bolivia took its first important step towards decentralization in the late 1970s, and created departamental development corporations. These corporations' income came mostly from petroleum, gas, mineral, and timber royalties and the national treasury and by 1992, they had a combined investment budget of \$114 million (Blanes, 1993). The corporations were much stronger in Santa Cruz, Chuquisaca, and Tarija, who received most of the royalties from natural gas and petroleum. They remained weak in poorer departments, such as Beni and Pando.

The corporations initiated the first serious regional planning and provided the Lowland elite opportunities to influence policy. However, they remained under the auspices of the central government. Their boards of directors included representatives of local civil society, but the national government named their presidents. There were (and are) no popular elections at the departamental level.

During this period, the departamental government (prefect)'s role was to represent the national government in the region and maintain public order. Their participation in most technical issues was marginal.

Then, in the mid-1990s, President Gonzalo Sánchez de Losada made decentralization a center piece of his policies. Consequently, in 1994, the Bolivian Congress passed a "Popular Participation" law, that fundamentally altered the role of municipal governments. The law expanded municipal governments' jurisdiction beyond the urban centers to the entire territory covered by provincial sections (Secretaría Nacional de Participación Popular, 1994). It made municipalities responsible for local schools, health facilities, roads, and water systems. To finance these new responsibilities, it allocated 20% of the national budget to the municipal governments, with each government receiving an amount proportional to its population. Rural

and urban property taxes were also earmarked for the municipal governments, who now administer their collection.

The law sought to introduce community control over municipal governments by recognizing base level organizations (“organizaciones territoriales de base” or OTBs) in each community, and permitting them to influence municipal investment decisions and elect oversight committees to monitor municipal finances. Local farmer organizations, neighborhood committees, and indigenous groups become OTBs by simply registering as such.

The Popular Participation Law strengthened municipal governments and made them more democratic. Municipal budgets grew dramatically and the rural population gained the right to participate in municipal elections. In many Lowland municipalities, small farmers and indigenous people were elected to office for the first time, representing different political parties.⁴ The changes also gave municipal governments more political power and strengthened their bargaining position with other actors.

Since the law was enacted, municipalities have devoted their energies mostly to education, health, roads, urban infrastructure, and water supply. Nationally, these areas received over 90% of their investments in 1995. Only 1-2% of their budgets went to natural resource management or agricultural activities (Rojas, 1996).

The Popular Participation Law does not give municipal governments any explicit new functions related to natural resource management.⁵ Nevertheless, it contributed to some municipal governments becoming increasingly involved in natural resource issues.

In 1995, a second law on Administrative Decentralization changed the role of the departmental governments (prefects). That law abolished the departmental development corporations and transferred their responsibilities to the prefects, who are now supposed to be involved in more technical issues, as well as maintain order. It also created councils to oversee the prefects, elected by the municipal councils from each province.

The Popular Participation and Administrative Decentralization Laws contributed to a political climate in which it was politically viable to propose giving municipal governments a strong role in forest management. In the debates leading up to the 1996 Forestry Law, congressional representatives disagreed sharply about how much to decentralize public forestry administration, but ultimately they gave municipal governments an unprecedented amount of authority.

Under the new law and accompanying regulations, municipal governments will receive 25% of royalties (“patentes”) from forest concessions to be used to promote sustainable utilization of forest resources and for social infrastructure. They will also manage up to 20% of public forests as municipal forest reserves for use by local groups and have a role in ensuring timber concessions and saw mills comply with forestry regulations.

To carry out their responsibilities, municipal governments are expected to create municipal forestry units within six months after receiving their first timber royalties. These units can be created either by individual municipalities or groups of municipalities (“mancomunidades”) and are supposed to identify and request areas for municipal forest reserves, decide who to allocate those forests to, help local organizations prepare forest management plans, monitor compliance with forestry regulations and existing management plans, promote forest plantations and agro-

⁴ Municipalities where indigenous people were elected mayor or municipal council member include: Ascención, Charagua, Concepción, El Puente, and Urubichá. Small farmer representatives were elected in Chimore, San Julián, Santa Rosa, Puerto Villaroel, Villa Tunarí, and Yapacaní, among others.

⁵ The previous, 1985, municipality law had already given municipalities a vague responsibility for “preserving the environment, controlling pollution, and maintaining ecological balances”.

forestry, and maintain a register of forest plantations and natural forests in private lands within their jurisdiction. If the municipalities fail to create forestry units, they can be deprived of access to timber royalties and their forestry functions revert to the national government.

The 1996 Forestry Law also creates a new national Forest Superintendency, responsible for allocating forest concessions and municipal forest reserves and supervising them. This superintendency is supposed to help determine the municipal governments' exact functions and monitor their performance. Municipal governments who suspect timber concessions of violating forestry regulations are generally expected to request the Forest Superintendency to intervene, rather than do so themselves.

Under the new system, the process of assigning public forest lands to local community groups begins with the mapping and classification of all public forest lands by the Ministry of Sustainable and Development and Environment (MDSMA). Once this is done, the MDSMA, in collaboration with municipal governments, must provide the Forest Superintendency a list of areas suitable for municipal forest reserves. Then the municipal councils propose who the forests should be assigned to, this is approved by municipal oversight committees, and the Forest Superintendency assigns the forests to those groups. Once existing concessionaires of logging areas declare which areas they will retain under the new system, municipalities get the first opportunity to claim their portion of unassigned public forest lands.

4. Local Governments and Logging

Some municipalities became involved in logging issues even before the 1996 Forestry Law was passed, often entering into conflict with logging companies. In certain instances, this may have been encouraged by the Popular Participation Law and more generally by the municipalities' increased political power. In Puerto Villaroel, Rurrenabaque, Yapacaní, and other towns, local governments established road blocks and collected fees from passing trucks carrying timber. The chamber of forestry (CNF) and the departmental governments fought hard to stop this practice but in some places it continued any way. In Rurrenabaque, Beni the municipal government joined together with other groups to force timber concessionaires out of the Pilón-Lajas Biosphere Reserve. Local chainsaw operators in Rurrenabaque hold three out of five council seats, and are openly hostile to outside timber concessions that compete with them for wood. In El Puente, Santa Cruz, the municipal government distributed parcels along a road within a timber companies logging area to farmers, and forced the concession to abandon part of the area (Avila, p.c.).

CIPCA (Centro de Investigación y Promoción del Campesinado), an NGO operating in Santa Rosa, Santa Cruz, tried to organize a small farmer forest management project, including a cooperatively owned saw mill, but the local mayor initially blocked their efforts and refused to let the saw mill operate. According to CIPCA representatives, he was under pressure from local saw mill operators to restrict competition to their activities. After Congress passed the Popular Participation Law, however, small farmers elected a representative to the municipal council, who was able to get municipal support for the CIPCA project (Villagra p.c.).

Situations such as these have led the Chamber of Forestry (CNF) to oppose a role for local governments in forest management. They believe many municipalities are controlled by chain saw operators, small farmers, and other local groups hostile towards timber companies, who these groups perceive as outsiders (Avila, p.c.). Instead, they tend to favor giving control to the departmental governments, which are less influenced by local interests and where the CNF has greater influence. Similar concerns led the Bolivian Congress to include explicit language in the 1996 Forestry Law preventing municipalities from "disrupting the normal operations" of timber concessions.

Other forestry - related municipal activities prior to the 1996 Forestry Law were limited and most did not get beyond the planning stage. The mayor of Riberalta negotiated a project with the Dutch government to finance municipal efforts to recuperate degraded lands, but was replaced by

another mayor who turned the project over to the local university (Moscoso, p.c.). Several municipalities, including San Matías, San Ignacio de Velasco, and Santa Rosa, incorporated small forestry management or reforestation projects in their annual plans (PAOs), but failed to implement them (Alcaldía Municipal de San Ignacio, 1995; Alcaldía Municipal de San Matias, 1995).

After the Forestry Law was passed, mayors and municipal council members in several areas began to analyze the its content and implications. Eight municipalities in Germán Busch, Nuflo de Chávez, and San Ignacio de Velasco in Santa Cruz met several times to discuss the law and its regulations. These meetings were organized by IP Latina, a consulting company that advises the municipalities, and focused on how to avoid unrealistic demands on municipal forestry units and ensure local governments were allowed to use their timber royalties flexibly (De las Muñecas, p.c., 1996). Other local officials also obtained copies of the law and began to study it.

Still, most municipal governments remained confused and uninformed about the Forestry Law and their role in forest management. National and departmental governments have not yet begun to train local officials about the law, and very few local officials have ever seen the regulations accompanying the new Law. The Ministry of Sustainable Development and Environment (MDSMA) has a legal obligation to inform municipalities about the concessions located in their territory, but has far failed to do so.

Many of those interviewed stressed that most rural municipalities have weak administrative capacity, and few local officials are conversant with or concerned about forestry issues, even in heavily forested areas. Some municipalities are corrupt and poorly managed. So far, none has formally created a municipal forestry unit.

Despite these limitations, municipalities with large forest concession areas have a clear interest in obtaining timber royalties. Most have budgets smaller than three or four million dollars (some much less) and the opportunity to obtain \$50,000 or \$100,000 in timber royalties attracts them.⁶ Several people interviewed for this study speculated that municipalities might somehow seek to expand the concession areas within their territory to increase timber royalties, and in a few cases existing municipal border disputes may have been aggravated by a desire to annex royalty-generating forest concession areas.⁷

So far, one municipality in Guarayos has hired forestry personnel and several others, including Puerto Suarez and San Ignacio de Velasco, have allocated funds for municipal forestry units in their 1997 budgets (Alcaldía Municipal de San Ignacio de Velasco, 1997; Alcaldía de Puerto Suarez, 1996).⁸ The eight municipalities advised by IP-Latina in eastern Santa Cruz have formed a joint rural development group (mancomunidad), which includes forestry issues, and the municipalities of Chimore, Puerto Villaroel, Villa Tunarí in the Chapare in Cochabamba have discussed doing the same.

International agencies and local NGOs have begun initiatives to help municipal governments overcome their technical weaknesses related to forest management. The Sustainable Forest Management project (BOLFOR) will train officials from six municipalities about the 1996 Forestry Law and sustainable forest management, and provide intensive support to two municipalities. The Bolivian Tropical Forestry Action Plan (PAFB) will provide courses on similar topics and the

⁶ The municipality of San Ignacio de Velasco, which probably has the largest area in forest concessions in Bolivia, calculates they will receive \$200,000 in timber concession royalties in 1997.

⁷ This may be the case, for example, of some of the boundary disputes between Rurrenabaque and San Borja in Beni.

⁸ Puerto Suarez and San Ignacio de Velasco budgeted \$20,000 and \$28,000 respectively for this activity in 1997. San Ignacio refers to its office as an “agro-forestry” office and it will also help implement the Land Law passed in 1996.

Cochabamba Forestry School has designed special courses for technicians from municipal forestry units. The Christian Women's Association (ACF) has hired several foresters and lawyers to support the municipal forestry unit in Ascención de Guarayos. Both the second phase of a Food and Agriculture Organization (FAO) forest management project and the FAO Forest, Trees, and People (FTP) project plan to support local government forestry activities in tropical Cochabamba. NGOs have been providing technical assistance to many local governments, and are increasingly getting into the area of forest management. IP-Latina will also begin to provide technical assistance in this area to the eight municipalities in eastern Santa Cruz where it works. Thus, many municipal governments seriously interested in receiving training and advice related to forest management and the new forestry law should be able to do so.

In summary, lowland municipal governments are currently poorly equipped to handle forest - related matters, but those with substantial timber resources tend to be interested in the topic, and may be able to obtain training and advice from foreign-financed projects and NGOs. They have an incentive to obtain as much timber royalties as they can, but may also enter into conflict with absentee logging companies. Conflicts and competing land claims over forest resources among different groups within municipalities remain unsolved and their implications uncertain.

5. Protected Area Management

No law in Bolivia gives municipal governments an explicit role in protected area management. Existing legislation centralizes control over protected areas in the National Department of Biodiversity Conservation (DNCB) of the MDSMA, in La Paz. Nonetheless, the empowerment of local governments has increased their involvement in practically all topics of local interest, and this is no exception.

Most protected area managers have created management committees to improve their relations with local communities. A wide range of local groups are represented in these committees, including local governments. The committees have no formal power and are purely advisory, but they are some times important forums for conflict resolution and negotiation.

The municipal response to protected areas varies sharply, depending on the local correlation of forces. In places where well-organized small farmers, chain saw operators, and other local groups resist having their activities' restricted by protected areas, they can strongly influence local governments' positions on the issue. In addition, some governments resent large amounts of funds being spent by environmental NGOs who administer local protected areas with few tangible benefits to local communities. However, these same NGOs some times directly benefit local governments and the governments themselves are becoming increasingly interested in the protected areas' potential for tourism. In most cases, these conflicting tendencies coincide and local governments try to "hedge their bets", and maintain good relations with all parties.

One example of this is Rurrenabaque in Beni. The municipality is largely controlled by chain saw operators who are generally hostile towards the Pilón - Lajas Biosphere Reserve, which occupies a large part of the municipality. The local officials are quietly resentful of Veterinarios Sin Fronteras (VSF), an environmental NGO that administers the reserve on behalf of the DNCB, and have even proposed the municipal forest area for local loggers be located within the Reserve. At first, these officials expected Biosphere Reserve projects would bring substantial direct material benefits and they became frustrated when that did not happen. At the same time, many of the same officials publicly support the Biosphere Reserve and want to promote it as a tourist attraction, sometimes host reserve management committee meetings, and actively favored expelling outside logging companies from the Reserve.

Buena Vista in Santa Cruz is a similar case. For several years, it has been the scene of a sharp struggle between park officials and small farmer organizations over the boundaries of the Amboró National Park. In the last elections, small farmer groups elected one municipal council member and supported the current mayor's election campaign in return for a promise for support on the

issue of park boundaries (Crespo p.c.). However, the mayor is also interested in promoting tourism in the park and obtaining support from a buffer zone project managed by the NGO CARE, and she may slightly resent the farmers' pressure. This situation has led her to make contradictory statements regarding her support for the park, and while she attends park management committee meetings, she avoids doing so in an official capacity.

In San Ignacio de Velasco, certain local groups opposed a recent decision to expand the Noel Kempff Mercado National Park. But the Fundación Amigos de la Naturaleza (FAN) that administers the park, got the municipality to at least partially accept the plan by working together with it to decide on how to use part of an \$ 8 million fund to be generated by a carbon - offset project currently being negotiated with the American Energy Corporation and by giving them a direct contribution of \$200,000.⁹

The ambivalence displayed by these municipal governments contrasts sharply with the positions adopted by local representatives of the departmental governments (sub-prefects). The latter consistently follow national government orders, and on several occasions have arrested small farmers for encroaching on protected areas or protesting against conservation - based restrictions (Crespo, p.c.).

On the other hand, in a few cases local governments have actively promoted protected areas. The clearest example of this is the Kaa-iyá National Park, created in response to demands from the Izoceño Amerindians and managed by them. There, the traditional Izoceño authorities, organized in a Capitanía, control the local municipal district, and are represented in the municipal government of Charagua, of which their district forms part. On a much smaller scale, the government of Urubichá in Santa Cruz, which is controlled by Guarayos Amerindians has protected a local lagoon and created a botanical reserve, in response to perceived threats from outside tourist companies (Tejada p.c.). In El Torno, Santa Cruz, the local mayor prohibited a local community from charging entrance fees to a local water fall, but now wants the municipality to manage that area itself (Crespo p.c.).

Other municipalities are indifferent towards protected areas, particularly when they involve neither major conflicts nor benefits. This applies, for example, to San Borja's attitude with respect to the Pílon - Lajas Biosphere Reserve, San Ignacio de Moxos' view of the Isiboro-Securé National Park, and Yapacaní's relation to the Amboró National Park. Those municipal governments do not participate in park management committees or participate only marginally.

In summary, municipal governments have become increasingly involved in issues concerning protected areas. The positions they take depend largely on the organizational capacity and resources of the groups who support and oppose these areas and local official's own material interests. Conflicting pressures from different local groups have led many municipalities to take ambivalent or contradictory positions on this issue.

6. Indigenous Territories

Many protected areas also overlap with indigenous territories, and this has created confusion regarding indigenous people's right to manage resources in those areas, and conflicts between indigenous organizations and the DNCB. The Pílon - Lajas Biosphere Reserve and the Isiboro-Securé National Park, for example, overlap with the territories of the Chimanes, Mosevenes, Moxeños, and Yuracares. Both areas are officially designated as indigenous territories and protected areas through the same supreme decree.

⁹ The \$200,000 was not formally a donation, but rather resulted from an agreement between FAN, the municipality, and a logging company, that FAN would pay the municipality back debts owed by company if the company would relinquish its rights over an area within the Noel Kempff Mercado park.

The popular participation process has given indigenous people the opportunity to create separate indigenous municipal districts and negotiate with the municipalities they form part of about managing their own municipal investment funds. Indigenous districts have been formed in Loreto, San Ignacio de Moxos, Reyes, and Trinidad in Beni, Chimore in Cochabamba, and Charagua in Santa Cruz. Indigenous people also largely control the three municipalities of Guarayos province in Santa Cruz.

Increased political leverage associated with indigenous peoples' recent participation in municipal governments is one of several factors which has strengthened their territorial claims and ability to limit incursions by loggers, ranchers, and colonists.¹⁰ Since being elected to local office in Ascención de Guarayos, the Guarayo Amerindians have increased their efforts to regulate migration to the area by small farmers from the Bolivian highlands. In Concepcion, Santa Cruz, a town mayor who actively supported large ranchers in a local territorial dispute with the Chiquitano Indians, has been suspended, and replaced at least temporarily by a Chiquitano municipal council member.

No one can guarantee stronger territorial rights for indigenous people will improve natural resource management. Recent experience in San Borja and San Ignacio de Moxos shows that indigenous people there are willing to give outside the right to log in their territories in return for employment and timber royalties. Nevertheless, such rights may help diminish the conversion of forests to crop land and pasture, and add an additional layer of social control and supervision of logging activities.

Several organizations and projects train and advise indigenous groups about how to manage their natural resources or plan to. These include: the NGOs Apoyo para el Campesino - Indigena del Oriente Boliviano (APCOB), Centro de Investigación y Documentación para el Desarrollo del Beni (CIDDEBENI), and Fundación Ivi - Iyambae, the "Sello Verde" project of the Indigenous Confederation of the Bolivian Chaco and Amazon (CIDOB), the Dutch Development Cooperation Service (SNV), and a Project for Sustainable Development of Indigenous Peoples of Beni (PRODESIB). These agencies' combined efforts may further increase the probability natural resources in the indigenous territories will be sustainably managed.

In summary, indigenous people's participation in municipal governments is one of several factors which has strengthened their territorial claims and help defend their natural resources from undesired encroachment. Indigenous territorial rights does not guarantee sustainable resource management, but it may increase the chances for it, particularly with support from indigenous organizations, NGOs, and donor projects.

7. Land Use Planning and Road Construction

In theory, the Bolivian government is committed to land use planning. It has established a Vice-Ministry of Land Use Planning within the MDSMA. It issued a decree legitimizing the Santa Cruz Land Use Plan (PLUS) and is implementing projects to make similar plans in other departments. Moreover, the regulations accompanying the 1996 Forestry Law require all large land owners to have an approved land use plan for their properties.

Practical progress in this area, however, has been slow. Forest concessions, protected areas, private properties, indigenous territories, and mining concessions continue to frequently overlap. Appropriate land uses cannot be determined for individual properties at the scale used for the Santa Cruz PLUS (1/250,000) and the only effort to enforce the PLUS has been to require certificates of appropriate land utilization to qualify for agricultural credit. No other department has finished its land use plan.

¹⁰ Bolivia's new land law and the indigenous people's negotiations with the national government have also helped strengthen their territorial rights, and have probably been more important than decentralization in this regard.

There are now plans in Santa Cruz to create municipal land use plans, with support from the departmental government and GTZ. To test the methodology, in 1996 the "Micro-Regional Development Program for the Provinces of Sara and Ichilo (PRODISA), financed by GTZ, sponsored an initial exercise in municipal land use planning in the northern portion of the municipalities of Santa Rosa and San Carlos. This area was chosen because it has multiple long-standing conflicts between government agencies, colonists, logging companies, and the state-owned petroleum company. The effort brought together much of the available information on land use, provided a forum for negotiation between the different actors, and eventually led to a land use proposal and implementation plan. While the municipal governments did not lead the process, it was actively involved throughout (Prefectura del Departamento de Santa Cruz / PRODISA / Proyecto de Protección de Recursos Naturales, 1996).

A different set of circumstances inspired another municipal land use planning exercise in Comarapa, Santa Cruz. That area's economy depends partly on irrigated vegetable production and in recent years local farmers have become increasingly concerned that the clearing of cloud forest in the hillsides within Amboró National Park may threaten the supply of irrigation water. As a result, the municipality and local sub-prefect formed an inter-institutional committee to address the problem. The committee has met several times and hired a consultant to help work on the problem, but so far with little success (Camacho, p.c.).

In the nearby municipality of Samaipata, the FAO, an autonomous departmental watershed management agency (SEARPRI), and the municipal government are trying to stop deforestation and land degradation in the upper watershed of the Pirai River, which has led to flooding in the city of Santa Cruz. Together they have assembled relevant information, produced several maps, and promoted the use of cover crops and agroforestry systems in the affected areas (Flores, p.c.).

In all three cases, most resources went into information collection and meetings between key actors. Municipal governments have no formal power to enforce land use regulations, and their limited attempts to alter land use have had little success so far. Nevertheless, these attempts have greatly increased local awareness of land use conflicts and promoted negotiation between the different groups involved.

Another important way municipal governments can affect land use is through their investments in rural roads. Road construction and maintenance is one of the rural populations in these municipalities' most widespread demands, and municipal governments dedicate substantial attention to building and maintaining roads and pressuring national and departmental agencies to do so.

In the long run, municipal support for road construction may yield the most negative impact of the decentralization process on forests. Past experience with road building in forested areas, both in Bolivia and other countries, shows that it generally leads to increased deforestation (Chomitz and Gray, 1995; Liu, Iverson, and Brown, 1993; Ludeke, 1987; Royden and Wennergren, 1993; Sader and Joyce, 1988). This problem is particularly intractable since roads are essential for providing many rural people with access to markets and social services, and it is usually difficult to control nearby forest conversion once they are built. Theoretically, land use planning might help solve this problem, but in practice, this seems unlikely.

8. Conclusions

The Bolivian experience to date shows that strengthening the role of local governments in forest management can lead to greater equity and (perhaps) even more sustainable resource use. It also shows that these outcomes are by no means assured. Without strong support and supervision by national agencies, foreign donors, and private organizations, local governments are unlikely to manage resources appropriately, and may make existing problems worse.

Decentralization in Bolivia has created new opportunities for indigenous people, small farmers, and small - scale timber producers. Many representatives of these groups have been elected to public office for the first time or expect to be in the future. The municipal governments they form part of are more powerful. The allocation of up to 20% of public forests for local community groups and rights over forest resources within their lands and territories potentially represent a important opportunities for these groups, and rural municipalities have gained direct control over a portion of timber royalties. The process has also contributed, at least marginally, to a broader trend towards official recognition of indigenous territorial rights. In certain cases, the rise of local governments has also weakened the influence of non-resident forest concession and saw mill owners and large ranchers.

Pre-existing local elites have not lost their power. Most forested municipalities are still dominated by local merchants, professionals, ranchers, and saw mill operators. Strengthening municipal governments, strengthens these groups as well. Nevertheless, they are under increasingly pressure to acknowledge the presence of groups who were previously marginalized and negotiate with them. The door has also been opened for those groups to win even greater power in the future.

Since ranchers, and timber producers whose current production systems tend to degrade the forests have great influence in local municipal governments, those governments are unlikely to become strong proponents of restricting these activities. In those cases where municipal governments are willing to enforce regulations, they still lack the technical capacity and financial resources to do so. To date, their principal interest in forest management has been to gain greater access to timber royalties and their relation to protected areas has generally been ambivalent. The growing power and resources of municipal governments may also lead to greater deforestation in forested areas, as a result of increased investments of road construction and maintenance.

Thus, it would definitely be premature to conclude that giving municipal governments a greater role in forest - related issues contributes to forests being managed more sustainably. However, in specific instances, municipal governments have shown a willingness to promote forest management, reforestation, nature conservation, and land use planning, and if they receive the appropriate training, resources, and incentives perhaps they could move farther in that direction.

This would require greater support for municipal natural resource manage efforts from national and departmental governments than has been forthcoming so far. In the future, municipal governments will need to depend heavily on the Forestry Superintendency, MDSMA, prefects, and other government agencies for information about forest concessions, guidelines about their own activities, support in conflicts between municipal forestry units and timber producers, training, and financial resources. They can receive some, but definitely not, all the support they require from forestry projects and NGOs; the rest must come from higher levels of government.

As noted earlier, decentralization in Bolivia is still in a very early stage, and a great deal can be learned from studying how it evolves. Some key questions which this initial study suggests that it will be important to follow include:

- 1) How will national and departmental government agencies treat municipal involvement in forest-related issues, and why?
- 2) What factors influence whether specific municipalities develop competent, honest, municipal forestry units?
- 3) Can governmental, NGO, and project support for municipal governments and forest utilizers overcome these groups' current weakness with respect to sustainable forest management?
- 4) Do negotiations between national government agencies, environmental NGOs, municipal governments, and local community groups lead to protected area management which preserves ecological functions and also benefits local communities?

- 5) Will municipal land use planning alter landowners' use of their resources? Why?
- 6) How much does decentralization increase road construction and maintenance in forested areas, and what impact does that have on forests? and,
- 7) What political, economic, and ecological factors lead some municipalities to promote more sustainable natural resource management, while others do not?

Appendix: Lowland Municipalities with Major Forest Resources and/or Protected Areas

BENI

Ballivian Province

- Rurrenabaque (logging, protected area, indigenous people)
- San Borja (Logging, protected area, indigenous people)

Iténez Province

- Baures (logging, indigenous people)

Moxos Province

- San Ignacio de Moxos (logging, protected area, indigenous people)

Yacuma Province

- Santa Ana (logging)

Vaca Diez Province

- Riberalta (Brazil nuts, logging)

COCHABAMBA

Carrasco Province

- Chimore (logging, colonists)
- Puerto Villaroel (logging, colonists)

Chapare Province

- Villa Tunarí (logging, colonists)

LA PAZ

Franz Tamayo Province

- Apolo

Iturrealde Province

- Ixiamas (logging, colonists)

Nord Yungas Province

- Caranavi (colonists)

SANTA CRUZ

Angel Sandoval Province

- San Matías (logging)

Cordillera Province

- Charagua (protected area, indigenous people)

Florida Province

- Mairana (protected area)
- Samaipata (protected area)

German Busch Province

- Puerto Suarez (logging)

Guarayos Province

- Ascención (logging, indigenous people, colonists)
- El Puente (logging, indigenous people, colonists)
- Urubichá (logging, indigenous people, colonists)

Ichilo Province

- BuenaVista (colonists, protected area)
- Yapacaní (colonists, logging, protected area)

Manuel María Caballero Province

- Comarapa (protected area)

Nuflo de Chávez Province

- Concepción (logging, indigenous people)
- San Javier (logging, indigenous people)

Sara Province

- Portachuelo (colonists, logging)
- Santa Rosa (colonists, logging)

Velasco Province

- San Ignacio (logging, protected area)
- San Miguel (logging)
- San Rafael (logging)

N.B. Due to the authors' lack of information, this list does not include the five provinces of Pando. That department is almost entirely forested, but major logging is recent, managed protected areas do not exist, and indigenous organizations are weak. Brazil nuts are important in eastern Pando.

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