COMMUNITY FORESTRY AS EMBEDDED PROCESS: TWO CASES FROM DURANGO AND QUINTANA ROO, MEXICO*

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INTRODUCTION

Mexican community forestry has become widely known as a resource management regime capable of effectively governing access to common pool resources and organizing owners toward sustainable use of the forest (Bray 1997; Klooster 1997). Nevertheless, more than a decade of neoliberal economic restructuring, including entry into the GATT in 1986 and the NAFTA in 1994 and profound changes in rural land tenure arrangements, have transformed agrarian production (Harvey 1996). In the forestry sector, a new legal framework turns forestry technical services over to the market and authorizes internal economic groups independent of the ejido or agrarian community assembly. These neoliberalism-inspired reforms undermine peasants' hard-won organizational capacity to deal with their own resource problems.

This paper examines two cases of peasant-based forestry organizations, the Union of Forestry Ejidos and Agrarian Communities "General Emiliano Zapata" (UNECOFAEZ) in the north central pine and oak forests of Durango and the Society of Ejido Forestry Producers (SPFEQR) in the south-eastern tropical forests of Quintana Roo. Both the UNECOFAEZ and the SPFEQR are well-known for promoting high quality technical services, supporting peasant-controlled processing and serving as influential interlocutors on behalf of their members. Both organizations face crises created by internal and external structural pressures. Nevertheless, restructuring is peopled by social actors; the organizations' trajectories are shaped by complex interactions between structural pressures and social agency. Community forestry organizations, therefore, are best understood as historical processes rather than as static arrangements of incentives and procedures, and as being embedded in levels of context ranging from local to global.

COMMUNITY FORESTRY AND THE "TRAGEDY OF THE COMMONS"

Garret Hardin's famous 1968 article, "The Tragedy of the Commons" set off a lengthy debate on collectively-held natural resources. Hardin (1968) posed a

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hypothetical scenario in which rational calculation led animal herders to destroy their common pasture rather than cooperate to avoid overgrazing because the utility of adding an extra animal was appropriated individually while the ecological burden was distributed collectively. Privatization proponents (see Alchian and Demsetz 1973) drew on Hardin's individualistic model to claim that rational individuals cannot cooperate to achieve rational collective outcomes.

However, critics of tragedy arguments such as Wade (1987) pointed out that the tragedy scenario assumes that participants can only choose once what behavior to engage in and that they cannot learn from experience that collective management of resources can work in their favor. Other critics have observed that Hardin's approach assumes that collectively-held resources necessarily involve open access. On the contrary, researchers have identified many common pool resource regimes operating among communities of beneficiaries, limiting non-owner access and governing use among co-owners (Feeny, Berkes, McCay, and Acheson 1990).

One of the most influential critiques of Hardin's Tragedy is the "institutional choice" perspective pioneered by Elinor Ostrom (1990). According to Ostrom, individuals may develop successful common pool resource regimes when they share a common understanding of their situation and strategies for change, they value the benefits from collective activity relative to its costs, and they constitute a relatively well-defined and stable group (1990:90, 211; 1999:4–7). The institutional choice perspective's focus on internal design principles is highly useful for understanding and predicting the individual's investment in rural change (McCay and Jones 1997).

Nevertheless, common property scholars now suggest more fully engaging the dimensions across which management regimes operate. McKean (1997) advocates moving "outside" to complement the institutional choice perspective's "inside" focus on specifying the institutional arrangements of successful management. Others draw on economic sociology's notion of "embeddedness" to place property regimes in historical contexts of external and internal social relations (McCay and Jentoft 1998). Fortmann and Roe (1993) argue that community boundaries are often ambiguous or based on diverse class, religious, ethnic and other characteristics which give members different, often contradictory, relations to forest benefits. Klooster (1997) recommends that common property theory "sally forth out of the institutional details of organization and excessively parsimonious models of rational choice" to focus on external and internal social contexts of struggle within forest communities (1997:310–311).

This study is based on qualitative research during seven visits to Mexico over a three year period. Field research[1] included observation and over eighty interviews in forestry communities and organizations. Below, I move back and forth between discussing the political economy in which Mexican community forestry is embedded and the case studies of its changing social institutional framework. Mexican community forestry is an exemplar of common pool resource regimes

1. Much of the Quintana Roo analysis draws on research presented in Taylor and Zabin (2000).

(Richards 1997). About 80 percent of its forests are owned collectively by ejidos and agrarian communities.[2] In 1992 organized communities were responsible for 40 percent of total timber production and 15 percent of industrial wood products. Today, Mexican community forestry organizations are among the world's vanguard (Bray 1997). As "nested enterprises" (Ostrom 1999:7), such secondary level forestry organizations have institutional characteristics similar to those of communities pursuing sustainable common pool resource use.

This study approaches the UNECOFAEZ and the SPFEQR as "embedded processes." Peasant-based organizations, once the linchpin of Mexican community forestry, are now being undermined directly and indirectly by a new legal framework. Unprecedented combinations of communally organized forestry and smaller local associations are emerging. New actors with diverse interests exert influence over forestry at different levels. Both the UNECOFAEZ and the SPFEQR are pushed by internal and external pressures to reevaluate the arrangements which researchers find necessary for viable common pool resource management (Ostrom 1990). They are reformulating common resource objectives, reworking the way they provide benefits necessary to keep member support, and even redefining the boundaries of their respective "communities" of stakeholders.

THE EMERGENCE OF MEXICAN PEASANT FORESTRY AS EMBEDDED PROCESS

Mexico's fifty-five million hectares of temperate and tropical forest comprise about 25 percent of its territory. Durango has some 10 percent of the forested area, with 5.5 million hectares of mostly pine and oak forest (see Figure 1). Quintana Roo contains about 6 percent of forests, with 3.7 million hectares of tropical forest (SEMARNAP 1996). Mexico's forests are the world's fourth most important genetic reserve (Téllez Kuenzler 1994:75–76) and provide carbon fixing, micro climate regulation, and hydrological watershed protection services (Merino and Alatorre 1997). Though the forestry sector contributes only about 0.4 percent of GNP (Téllez Kuenzler 1994:24), forests are home to 17 million of Mexico's poorest indigenous and mestizo peasants (Merino Pérez 1997:141). These forest dwellers' economic needs have an important impact on the health of the forest. Deforestation occurs at a rate as high as 700–800,000 ha./year (Chapela 1997), with rural poverty-induced forest conversion to agriculture and animal-raising the major factors.

Despite being legal owners, Mexico's peasants have struggled for genuine control of their resources. Historically, Mexico's forestry sector has been dominated by concessionaire firms which have received exclusive exploitation rights to forests in a given region (Bray 1997). In Durango, the parastatal PROFORMEX (Productores Forestales Mexicanos) won concession to 2.5 million hectares of pine and oak forest. In Quintana Roo, the parastatal MIQRO (Maderas Industriales de

2. *Ejidos* are communities formed by twenty or more ejidatarios who together work land granted by the State. *Comunidades agrarias* have similar collective tenure characteristics, but have roots in land claims dating as far back as the colonial period. Together, ejidos and agrarian communities account for 48 percent of Mexico's land surface (Cabarle, Chapela, and Madrid, 1997:20).

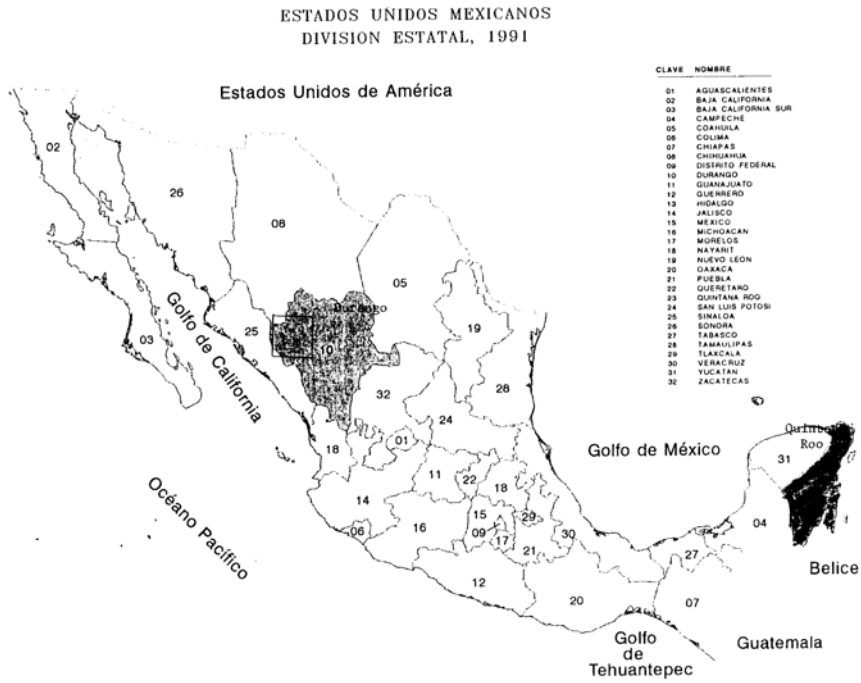

Figure 1. United States of Mexico, by state
Source: INEGI (1994: ix)

Quintana Roo) was conceded 550,000 hectares of tropical forest containing precious species such as mahogany and Spanish cedar. Required to provide roads, schools, clinics, and waged jobs, concessionaires established the basic infrastructure of Mexican forestry. Their critics, nevertheless, observed that inefficiency, corruption and poor silviculture encouraged them to mine the forests (Argüelles Suárez and Armijo Canto 1995:3). Timber represented practically no income for the peasant as the parastatals paid only a minimal stumpage fee (Galletti 1992).

During the early seventies, seven ejidos and agrarian communities in northwestern Durango began opposing PROFORMEX. In Quintana Roo, the first peasant protest against MIQRO began in the mid-sixties in two ejidos (Merino and Alatorre 1997). Incipient peasant resistance throughout Mexico to the concession system (see Zabin 1998) began to find support from federal governments seeking collaboration with their agrarian policies (Galletti 1994; Fox and Gordillo 1991). This collaboration drew on the peasant movement's "change in terrain" *(cambio de terreno*) from its historic demand for land to the appropriation of the production process (Bartra 1991). In many sectors, organized peasants began obtaining capital and equipment, forming technical teams and assuming control over production, processing and commercialization (Bray 1997).

Just as the parastatal concessionaires' failings were becoming less acceptable to policymakers beginning a neoliberal turn, peasants were arguing that they could

organize forestry more fairly, efficiently, and in an ecologically sound fashion. Officials and peasant forestry organizations negotiated to give peasants more responsibility for their own technical support, extraction, processing and marketing. In 1986, a new Forestry Law ended the concessions, removed technical services from the parastatals' direct control and allowed communities to arrange for their own services and marketing (Merino Pérez 1997).

The year 1986 was the apex of Mexican community forestry and a turning point for the worse as it marked both the new Forestry Law and Mexico's entry into the GATT. The North American Free Trade Agreement's implementation in 1994 culminated over a decade of shift toward laissez-faire economic policies. Though the forestry sector's transformation cannot be entirely attributed to this new policy environment, neoliberalism has had an important impact. To promote Mexico's integration into the global economy, Article 27 of the Constitution was modified in 1992. This and related legal reform not only ended more than 70 years of land redistribution, but changed how collectively owned resources in Mexico's rural sector can be used. Ejido assemblies could vote to divide communal property into individual parcels which could be purchased, sold, rented or used as collateral (Harvey 1996). Most relevant to the peasant forestry organizations discussed here, the reforms led to the reorganization of technical services and facilitated new local organizational forms.

CASE STUDIES: THE UNECOFAEZ AND THE SPFEQR

The UNECOFAEZ is widely viewed as one of Mexico's most successful community forestry organizations (Chapela 1994). The UNECOFAEZ in 1999 encompassed fifty-eight ejidos and agrarian communities distributed over nearly a million hectares in northwest Durango. The Union lies at the center of a decentralized matrix of organizations, including a plywood factory, machine tool shop, five independent forestry technical service units, a plant nursery, a credit union, an agrarian input store, seven road improvement committees, and a training center. The Union also represents members' interests before official agencies and shapes state timber prices by publishing production costs.

The SPFEQR is another of Mexico's most prominent community forestry organizations (Bray 1997). In 1997 the Society represented ten ejidos with 110,000 hectares of commercial forest, representing the state's richest precious timber stands. The Society provides technical services through its Forestry Technical Department and sponsors a saw-sharpening workshop and a Wildlife project. The SPFEQR represents members' interests externally and helps resolve social and political issues within its ejidos. The SPFEQR has also become a go-between (*gestor*) for externally-funded projects.

Though they are secondary level "nested organizations," these two peasant-based forestry organizations established structures which resemble those of successful community-level common pool resource management regimes (Ostrom 1999). Both organized relatively stable groups of participants with a common interest and helped them define collective objectives. Both managed to respond credibly to members' resource management needs. Both organizations served as political instruments,

albeit at a federation level, for the definition of viable "communities" of stakeholders in sustainable forestry.

Nevertheless, the Union and the Society are not finished organizations with essentially static arrangements for individuals' participation in collective resource management. Rather, they are best seen as "embedded processes" in which changing external and internal conditions introduce opportunities for action as well as impose limitations. Below, I compare how the two organizations face three sets of organizational problems as the changing policy and legal framework of Mexican forestry simultaneously weakens their capacity to do this organizational work. First, their collective objectives have been subject to change. Second, both the UNECOFAEZ and the SPFEQR have been pushed to restructure to continue providing the benefits necessary to ensure their members' support. Third, both have become involved in redefining the communities of stakeholders involved in their project of sustainable forest management. Both organizations' responses to these problems occur in the context of internal crises of legitimacy.

DEFINING THE COLLECTIVE OBJECTIVE

Ostrom writes that successful common pool resource regimes tend to rest on a consensual understanding of the collective resource situation and what needs to be done (1999:4; 1990:211). Both the UNECOFAEZ and the SPFEQR began with a similar problem: members' forests were being mined, with little local benefit. Yet while the objectives of peasant mobilization in both regions were initially similar, in Durango, a grassroots political movement underwent a difficult transition to an organization in which competing social and business objectives introduce growing distance from its original peasant constituency. In Quintana Roo, a largely top-down initial process gave rise to a more broadly-based organization.

The UNECOFAEZ: Change in Terrain, Change in Objectives

For the first 15 years of its existence, the Union was primarily a grassroots political organization which defended communities' right to develop their own forest resources. Over the direct opposition of PROFORMEX and its allies, twenty ejidos and agrarian communities legally founded the Union in 1976 and obtained official permission to begin their own harvesting and milling. Though not all of the members' local economies relied heavily on forest-derived income, the Union helped define a collective objective to obtain direct peasant control over forestry, large or small.

Though the Union's most important support lay in the countryside, it also drew on support from allies in the federal government, including a Sub-secretary of Forestry who personally promoted community forestry in Durango. It also had support from some of PROFORMEX's own foresters. In an interview, one long-time forester recalled that he and his colleagues had realized that "there was a contradiction between PROFORMEX's economic objectives and ours. It wanted more volume. We looked for good management, environmental protection."

Though the 1986 Forestry Law had ended the concessions, PROFORMEX controlled forestry paperwork. The Union, now expanded to forty-four ejidos and

agrarian communities, organized a series of roadblocks in 1987 to demand peasant control of the documentation. A tense standoff ended with minimal violence when the Agricultural Secretary reluctantly handed over the documentation. By 1989, PROFORMEX was effectively paralyzed.

In 1990, over the strong opposition of the state governor and local timber industrialists, the Union won the right to lease and then purchase PROFORMEX's plywood factory on behalf of its members. In 1999, the plywood factory had forty share-owning ejidos and agrarian communities and its manager and many of its employees were recruited from Union members.

Although the Union helped create space for members to develop their own resources and established a material base upon which to build, acquiring the plywood factory implied an important shift in the collective problem addressed by the Union. The Union embarked on a transition to an industrial producer which focuses much of its energy on its productive activities. Chapela (1994) notes that the Union's interests as a timber buyer now potentially conflicted with members' interests as sellers.

The SPFEQR: Focusing on Forestry Services

Like the UNECOFAEZ, the SPFEQR's organizers defined their collective objective as helping peasants gain control over their forests. Yet the Society was originally neither a principally grassroots peasant organization nor an instrument of political struggle, though it drew on resistance to MIQRO and the new spaces opened by the peasant movement's "change in terrain." However, despite a relatively top-down origin, the SPFEQR's continuing focus on supporting ejido-level production kept it close to its original service objective.

Argüelles and Armijo (1995) report that by the end of its concession, MIQRO extracted 400,000 m3 of precious timber, mainly mahogany and cedar. MIQRO's harvests (combined with federal government-subsidized colonization programs) resulted in the loss of half the original forest cover of the concession area. Nevertheless, the end of MIQRO's concession came less as the result of organized grassroots resistance than from an unusual configuration of higher level political forces.

By the early eighties, MIQRO enjoyed relatively less official support than PROFORMEX in Durango. In addition to inefficiency, corruption and resource mining similar to that in Durango, MIQRO failed to diversify production. It harvested 99 percent of its authorized volumes of precious species and only 4 percent of authorized volumes of other species (Galletti 1992). These problems, the growing neoliberal policy shift and mounting pressures from a production-oriented peasant movement elsewhere in Mexico led to MIQRO's concession not being renewed when it expired in 1982. Instead, a community-based alternative, the Forestry Pilot Plan (PPF), was created.

The PPF was made possible by an unusual coalition of the federal Forestry Sub-secretariat, the state government, ejidatarios and the German Agency for Technical Cooperation (GTZ). The PPF aimed to "replace the traditional police role of the

forestry department with one that stimulated and promoted development" (Galletti 1994:160). A forestry technical team was organized in 1983, subsidized by the federal Agricultural Ministry but enjoying operational autonomy. The PPF foresters' promotion of local timber extraction was facilitated by a rise in the first year of the price ejidatarios received from $800/m3 to $19,000 m3 (Argüelles Suárez and Armijo Canto 1995:35). Ejidatarios participated in delimiting Permanent Forest Areas in their own communities, an innovation which recognized the seriousness of poverty-driven land use change and countered the notion that forests were empty, unused lands. Eventually, over 500,000 hectares in more than fifty ejidos would be reserved for forestry activities (Galletti, Rosales Salazar, and Argüelles 1997:10).

The Forestry Pilot Plan did not at first include intermediate-level forestry organizations but explicitly maintained the autonomy of each ejido (Galletti 1994:160). However, the ejidatarios needed a united marketing front relative to MIQRO, still one of the region's most important timber buyers. PPF participants also feared that the program might not survive a change in state government. In 1986, the PPF's ejidos established the SPFEQR in the south and the Organization of Forestry Ejido Producers of the Maya Zone in the central region. As Argüelles and Armijo remark, these secondary level ejido federations, or forestry civil societies, provided a way to survive the usual six year nature of most projects in Mexico. In 1987, the societies established their political credibility by blocking a new state government's attempt to again require ejidos to sell to MIQRO (Argüelles Suárez and Armijo Canto 1995:44–46). Though strictly speaking the PPF today no longer exists, its technical and organizational principles still coordinate forestry in the SPFEQR's ejidos.

By contrast with the UNECOFAEZ, the SPFEQR never developed its own income generating production activity. Rather, it retained its objective of providing technical support for ejido-organized forestry production. It assumed increasing importance as a conduit for external assistance from national sources such as the Agricultural Ministry, and international ones, such as the GTZ. Despite the top-down nature of its origin and its continuing dependence on external institutions, the SPFEQR's objectives have, therefore, remained relatively closer to its peasant constituency than those of the UNECOFAEZ.

DELIVERING THE GOODS: RESPONDING TO MEMBERS' RESOURCE MANAGEMENT NEEDS

Ostrom writes of the importance of "low discount rates" for successful common pool resource organizations – that is, benefits must justify participation costs (1999:4; 1990:211). Peasant organizations such as the UNECOFAEZ and the SPFEQR are often described as rural democratic and ecological movements. Fox and Gordillo argue that the "change in terrain" toward production has led toward more democratic, "horizontal" peasant organizations (1991:69, 70). Toledo sees organizations such as the UNECOFAEZ and the SPFEQR as part of "a new ecological movement of indigenous and peasant peoples" (quoted in Bray 1997:7). While such organizations may have significant democratic elements, Hellman

(1994) argues that the more successful peasant organizations are not those which prioritize internal democracy, but those which provide concrete benefits to members. Bray cautions that though community forestry organizations may genuinely adopt an environmental discourse, they pursue sustainable exploitation for its economic benefits (1997:8).

One of the most important of the UNECOFAEZ and the SPFEQR's benefits is provision of forestry technical services. Foresters develop resource management plans, negotiate harvest permits on the peasants' behalf, mark trees for authorized cutting and help combat forest disease and fire. Moreover, as technicians work closely with peasants and carry information about the forestry organizations' activities, they help generate solidarity between members and their organizations. Technical services, then, represent crucial community-level organizing instruments. Unfortunately, Mexico's recent forestry laws undermine intermediate level peasant forestry organizations' capacity to deliver services directly to members.

The New Forestry Laws and the Reorganization of Technical Services

Soon after the 1986 Forestry Law was passed, private sector opponents began pressuring to roll back peasant control over forestry (Wexler and Bray 1996). By the early 1990s, neoliberal-leaning federal policymakers began "modernizing" the sector. A new Forestry Law accompanied the economic liberalism-inspired reform of Article 27 (Chapela 1997). It and a subsequent law eliminated "excessive" state intervention, promoting private investment and creating free products and services markets (Wexler and Bray 1996). They reduced harvest documentation to a permit and a hammermark on authorized trees, eliminated the regional forestry service providers and allowed communities to hire any certified forestry engineer (Cabarle, et al. 1997). Critics point out that the technical services market promotes a quality decline by encouraging cheaper bids offering only the provision of harvest permits (Merino and Alatorre 1997).

UNECOFAEZ: Indirect Facilitation of Technical Services

Mexican community forestry organizations usually directly provide members with technical services (see Merino and Alatorre 1997). Peasant control of services helps prevent power abuses. Employee foresters usually provide their employers with broader organizational support. The UNECOFAEZ, nevertheless, does not directly provide technical services. When services were separated from PROFORMEX, federal authorities organized them into independent Forestry Administration Units (UAFs). The Union, nonetheless, coordinates closely with two UAFs based in Santiago Papasquiaro. Besides their technical work, these UAFs assist the Union with planning and institutional networking. As numerous interviewees put it, the two UAFs also serve as the "eyes and ears of the Union" among members. Union leaders lack the resources to visit widely-dispersed communities frequently. UAF staff travel regularly to the most isolated villages, generating solidarity with the Union by explaining its activities and answering questions. One technician remarked that where UAFs coordinate less with the Union, ejidatarios "think the Union isn't necessary anymore and so don't come to meetings and don't pay their

quotas." Another peasant interviewee remarked that "when the Union becomes distanced, the power of the [timber] industrialists increases."

Post 1992 forestry laws placed the UAFs in chronic financial crisis as they now compete with technicians who offer only permit paperwork. UAF competitiveness is further undermined as declining volumes of large diameter timber obligate staff to reduce authorized harvests. The Union supports these UAFs by helping persuade members not to opt for lower-quality services and helps obtain external resources. For example, the Union received in 1997 US$45,000 from the Ministry of the Environment to support UAF technical programs. As one forestry staffer explained, "The Union has the ability to request outside funds. We need good relations with the Union. The government wouldn't give it directly to us. They want to deal with peasants." With Union support, the UAFs have kept most of their clients, though they have drastically cut costs, halving their staffs and curtailing fieldwork.

Thus, the complicating of the UAFs' technical mission by the post 1992 forestry laws weakens the Union's direct relevance to members. To continue to provide benefits necessary to keep members' support, the Union has diversified into regional development activities. With a new department of Project Management, financed by government funds, the Union has extension agents supporting agriculture, cattle-raising and other local development projects. Leaders explain that they are "taking problems off the back of government" and helping address the poverty underlying Durango's deforestation, narcotic cropping and out-migration. Yet diversification also responds to an organizational imperative to remain relevant to a diverse and largely inactive membership.

SPFEQR: Direct Provision of Technical Services

By contrast, the SPFEQR provides technical services via employee foresters. This technical team has supported sustainable harvesting while still retaining strong ejido support. In 1997, most of the SPFEQR's forestry staff were ejidatarios or sons of ejidatarios and trained ejidatarios worked as auxiliary forest technicians. Significantly, the Society's technical staff has been lowering authorized harvests as new inventories reveal lower actual mahogany populations than previously estimated. For example, one ejido's annual authorized harvest was recently reduced from 1,500 m3 to 800 m3, with proportionate reductions in benefits (Argüelles Suárez and Armijo Canto 1995:39). The ejidos' acceptance of these reductions underscores the Society's local authority and credibility. As in Durango, the SPFEQR's technical services help generate solidarity between with its ejidos. Foresters transmit information about the Society's activities and help maintain connections with members. Because technicians are Society employees, however, the link ejidatarios make between their work and the SPFEQR is more direct than in the UNECOFAEZ.

Nevertheless, the SPFEQR's technical services are in serious financial crisis. Though subsidies were available until the late 1980s, the Society is now wholly responsible for financing its technical department. Most of the cost is charged to mahogany extraction; the charge per cubic meter for mahogany is almost four times that for tropical woods, though the actual costs of services is similar (Taylor and

Zabin 2000). Economies of scale make service financing easier in ejidos with larger Permanent Forest Areas and more mahogany. As in Durango, the Society's technical department now competes with foresters who bid low by offering only harvest permits. Competitive pressures are intensifying as declining volumes of precious timber lead staff to reduce authorized harvests. The SPFEQR has drastically cut costs, including reducing its forestry staff. It recently lost one of its two certified forestry engineers to the Ministry of Environment.

Outside advisors have urged the Society to diversify its activities to promote non-timber forest product development, including ecotourism. It could then help address the poverty underlying clandestine felling and land use change, particularly in ejidos with little precious timber. Diversification could attract external funds, stimulating local support and relieving the SPFEQR's acute organizational and financial crises. Nevertheless, the Society does not seek to diversify. Its leaders seek external support for forestry services and focus shrinking resources on more prosperous ejidos where timber generates the most revenue and political visibility. One ejidatario who had helped found the SPFEQR explained in a 1998 workshop that non-timber activities would overwhelm the Society's organizational capacity. "Diversification would be our death" he insisted.

INTERNAL GOVERNANCE AND THE REDEFINITION OF "COMMUNITY" FORESTRY

Ostrom writes that common pool resource regimes are more likely to succeed if those with rights to benefit from the resources are a relatively small, stable group with well-defined boundaries (1990:90; 1999:7, 8). In Mexican community forestry, that "group" represents the people with rights to participate in managing and benefiting from the forest. For intermediate level community forestry organizations such as the UNECOFAEZ and the SPFEQR, "community" is the stakeholders who benefit from and participate legitimately in the organization's activities. Rather than constituting a stable group once and clearly defined, the UNECOFAEZ and SPFEQR's communities of stakeholders have been continually redefined as participants renegotiate internal governance. This at times conflictual negotiation over who is to control the resource-related activity and how, has been peopled by titled ejidatarios and comuneros, new groups emerging within the ejidos and agrarian communities, and an evolving set of external support agencies.

The UNECOFAEZ: Centralized Leadership

For most of its turbulent years of struggle, the UNECOFAEZ was led by two individuals elected by the delegates assembly to two consecutive three year terms each. In 1997, though a new president assumed office, decisionmaking remained concentrated in the hands of a relatively stable administrative board, with limited direct participation by ejidatarios and comuneros. Many distant communities delegate their vote to the President, ensuring a legal assembly quorum but weakening institutional controls over leaders' discretionary power.

Nevertheless, internal governance became contested after the Union acquired the plywood factory. One interviewee complained that "after they won the battle with

PROFORMEX, the conflicts began. People wanted to seize control of the Union for their own personal benefit." For their part, dissenters have argued against re-election, called for broader participation in the Union's higher leadership and advocated linking communities' voting power to the size of their commercial timber volumes. In 1992, an internal movement to prevent the incumbent president from being re-elected failed after extensive assembly debate, when the incumbent president won with 80 percent of the vote (UNECOFAEZ 1992).

Fernandez Villegas argues that with the peasant movement's change in terrain, the "half-*caudillo agraristas*, half *compadres* with a well-established clientele, who based their power and influence on political mediation, have been displaced by a new type of leader, more apt at economic management and administration, whose influence and prestige rests on their management capacity" (1991:35). The stability of the Union's top leadership has almost certainly helped it form lasting networks with policymakers. It has also helped the Union accumulate the experience necessary to operate its income generating activities profitably. Interviewees in Mexico City and in Durango admitted that power in the Union is relatively concentrated, but characterized its elected leaders over the last fifteen years as exceptionally honest and capable individuals. The Union aims to institutionalize integrity and competence by giving new leaders experience in different activities and finding administrative spaces for past leaders.

The SPFEQR: Strong Assembly

By contrast, the SPFEQR might be said to have more participatory internal governance than the UNECOFAEZ as its general assembly of delegates exercises closer and more frequent oversight over elected leaders. Indeed, the Society's frequent turnover of leadership inhibits the capacity to effectively develop policy, administer projects and represent ejidos' interests. The Society's leadership is elected from the assembly's own ranks to one year terms and can be re-elected. In practice, the president and usually the entire administrative committee, are replaced annually, removing leaders just as they gain the experience to operate effectively.

According to interviewees, the frequent turnover stems from delegates' fear that elected leaders are susceptible to corruption. This suspicion and its results are mirrored in the ejidos themselves, where elected authorities (*comisariados*) are frequently replaced by the ejido assembly before their terms are ended. "Nobody leaves looking good" one ex-comisariado complained. Second, except for election procedures, the SPFEQR's assembly lacks a formal means to evaluate performance and if necessary impeach an incumbent leader. Ironically, a Society leader can be removed if his home ejido withdraws his status as forestry delegate. This, interviewees reported, has recently happened to two of the SPFEQR's presidents.

Article 27 and Agrarian Law Reform and Work Groups

In addition to these electoral issues, a new problem of governance and the definition of "community" was set in motion by the new Constitutional Article 27 and related Agrarian Law. Before 1992, any activity employing collective resources had to be open to all titled members and formally administered by the local assembly.

Reforms permit smaller groups of peasants to carry out for-profit activities using their share of the collective resource (López Nogales and López Nogales 1999). In Durango and Quintana Roo, forestry work groups have emerged as a new way of organizing extraction and processing.[3] During the fieldwork periods, work groups ranging from ten to one hundred members each had formed in five communities in the UNECOFAEZ and in three in the SPFEQR. They compel the Union and the Society to rethink the composition of their communities of stakeholders and the ways in which they arrange governance.

Though facilitated by the new neoliberal legal framework, work groups also emerged from peasants' long-standing frustration with inefficiency and corruption in collectively organized forestry. With the new model, ejidatarios and comuneros form smaller groups, each allotted shares of the community's annual cut. Each selects a chief to coordinate technical services, allocate tasks, supervise harvest and negotiate sales. Profits accrue only to group participants. Interviewees asserted that smaller groups encourage more efficient, transparent operations because the comisariado no longer manages funds. Taking operational decisions out of assembly hands both broadens participation and distributes benefits more fairly than the collective system, in which some factions controlled forestry and blocked access to coveted jobs. In one Quintana Roo ejido, for example, profit distributions per member reportedly rose four-fold in the first year of group work.

Nevertheless, the groups pose several existing or potential disadvantages. Production costs can increase as economies of scale are lost. Now that forest funds no longer pass through the comisariado's hands, group chiefs find themselves assuming responsibility for members' social welfare. Vital community expenditures are often neglected. Existing collective facilities such as sawmills become more difficult to maintain and capitalize when operated by multiple groups. The cost of technical services rises, for the UAFs in Durango, and for the SPFEQR in Quintana Roo, as technicians make multiple trips to a community and become involved in the often conflictual allocation of timber volumes. Collecting technical and membership fees becomes more difficult as groups market timber and pay quotas separately. With the work groups, the social boundaries of the UNECOFAEZ and SPFEQR's communities of stakeholders are effectively being redrawn. Some participants spoke of their groups as a nascent form of representative government. Others feared they were participating in the political disintegration of the ejido and community. Though still few in number, the groups significantly challenge the formal governance structure of intermediate forestry organizations designed to serve and be controlled by undivided ejidos and communities. At a minimum, groups require that the Union and the Society deal with several local leaders rather than a single elected authority. More significantly, one community with groups in the UNECOFAEZ and another ejido with groups in the SPFEQR have demanded, thus far unsuccessfully, separate assembly delegates for each group. Both organizations

3. Though peasants have long organized in small groups for some non-timber forest production such as *chicle* (gum) extraction in Quintana Roo, interviewees in both field sites were unanimous in characterizing timber extraction in groups as a post 1992 development.

are reluctant to agree as the change would drastically alter existing distributions of power in favor of ejidos and communities with groups and encourage the formation of groups for political rather than technical motives. Moreover, Union leaders and some peasant interviewees concurred that a community's internal division makes it more difficult to attract outside project funds. Another danger, some critics insist, is that the groups may encourage the parcelization of forests.[4]

Neither the UNECOFAEZ nor the SPFEQR directly oppose the work groups. The Union view them as a matter internal to member ejidos and communities. The SPFEQR's policy currently is to engage the groups to reinforce their generally positive goals of efficiency and professional management while minimizing their disadvantages. Nevertheless, significant tensions are emerging as both organizations struggle to incorporate this new form of participation. The phenomenon underscores that community forestry confronts a new set of pressures distinct from those of earlier years when it mainly sought to win a radical expansion of participation in forestry. Declining volumes of wide diameter pine in Durango and precious species in Quintana Roo, plus the inefficiency problems of much collectively-organized activities, mean that the economic benefits of community forestry no longer fulfil participants' expectations. Significantly, the peasants are not waiting for external solutions, but actively seek new answers to their forestry problems.

The Role of Outside Agencies: Donors and Stakeholders?

Internal conflicts over internal governance and the redefinition of the communities to which the UNECOFAEZ and SPFEQR are accountable are also shaped by their ties with external support institutions. According to Bartra, such external relationships potentially compromise the autonomy of peasant-controlled organizations. Understanding "autonomy" to mean "political indefinition," he argues that when peasant organizations are dependent on national agencies, they become more subordinate to gain access to development funds (1991). Though outside government, donor and NGO institutions lack a formal role in the UNECOFAEZ and SPFEQR's internal governance, by granting technical and financial support they gain influence in management and, thereby, represent part of the organizations' communities of stakeholders (see Ostrom 1999:preface).

The UNECOFAEZ has received little international support but has relied heavily on federal funds. The Union has received assistance from federal sources such as the Ministry of Environment, the National Reforestation Program, the Secretariat of Development and Solidarity, the Ministry of Agriculture, the Bank of Mexico, and others. According to NGO interviewees in Mexico City, the UNECOFAEZ is widely identified with the ruling PRI (Institutional Revolutionary Party). Because the federal agencies supporting the Union are PRI-controlled, this perception of partisanship is unsurprising. Though the PRI still controls Durango's governorship,

4. Though formally dividing the forest is illegal, one large agrarian community in Durango has divided into eleven subcommunities called "annexes." By internal agreement, the forest plots of each annex are claimed by individual families who receive most of the profits from the "collective" resource.

the PAN (National Action Party) won the municipality of Durango in 1994 and in 1998 gained control of Santiago Papasquiaro municipality. Given the evidence of movement in Mexico toward a multiparty system, the Union may find that its identification with a single party becomes a liability both in Durango and in the nation's capital.

These party considerations aside, the Union's external ties influence its trajectory and introduce new constituencies. For example, the Bank of Mexico, Nacional Financiera and the Agricultural Ministry assisted the Union in establishing a Credit Union in 1993. Instead of exclusively serving peasants, the Credit Union's beneficiaries include urban businesspeople. The road committees organized by the Union with federal and state funds include participation by private landowners and local timber industrialists as well as peasants. The National Program of Reforestation and the Ministry of Development and Solidarity helped the Union establish its nursery, whose services are available to the public. The UNECOFAEZ agricultural and animal husbandry extension project is funded via the latter Ministry and targets not the Union's traditional peasant foresters but farmers and housewives. These activities, then, represent not only outside agency involvement in key Union services but the broadening of the community the Union serves and the range of stakeholders to which it is accountable.

External assistance to the SPFEQR, by contrast, has emphasized timber-related activities. The SPFEQR has received support from Mexican government agencies and NGOs such as the Environmental Ministry, the Ministry of Development and Solidarity, Ecosur, and the University of Quintana Roo. The Ministry of Development and Solidarity, for example, has financially supported forest inventories and the Society's involvement in timber marketing.

Unlike the UNECOFAEZ, the SPFEQR has also received significant assistance from international agencies concerned with tropical forest conservation. The GTZ long provided crucial financial and technical support to the PPF forestry societies, including the SPFEQR, by financing inventories, forestry training, and alternative timber species development. Today, ex-GTZ advisors still influence the Society's activities because of their experience and institutional memory. The British Department for International Development has supported extraction infrastructure and advised the SPFEQR on organizational matters. The MacArthur Foundation funds a wildlife monitoring project in the Society, through which it supports an eco-tourism project in one of the ejidos. Because of Quintana Roo's tropical forests, the SPFEQR operates in more of a fishbowl than does the UNECOFAEZ, attracting significant international attention. By contrast with the Union, most of the external assistance channeled through the Society has consistently benefited titled, mostly male forestry peasants in its four most timber-rich ejidos rather than creating new beneficiaries/constituencies.[5]

5. Armijo and Robertos (1998) point to still-overlooked stakeholders in Quintana Roo's managed forests, who include young people, women and non-ejidatario residents who also use the forest and contribute to pressures on it.

Nevertheless, in both the UNECOFAEZ and the SPFEQR, controversy over how the organization is to be controlled and by whom remains largely in the peasant hands. Governance issues are frequently revisited, especially with the appearance of the work groups. Despite the influence of external institutions, the UNECOFAEZ shapes its own trajectory through autonomous choices of projects to pursue. Though the SPFEQR operates in the bright light of external interest in tropical conservation, it has resisted pressures to diversify and, for better or for worse, concentrated on its traditional strength – supporting precious species timber exploitation. In both organizations, but especially in the UNECOFAEZ, the "communities" of stakeholders who require accountability have been renegotiated over time. They include today not only peasants involved in traditional forestry activities, but beneficiaries of the organizations' non-timber projects, the new economic associations emerging within member ejidos and agrarian communities, and the external agencies that provide funds and technical assistance.

CRISES OF LEGITIMACY

Both the UNECOFAEZ and the SPFEQR face crises of legitimacy brought on by their internal restructuring, the shifting boundaries of the communities they serve, and external pressures from changing policy and legal frameworks. The Union's transformation into a production organization with business-oriented objectives has encouraged growing distance from its member base. Though the plywood factory is legally owned by shareholding ejidos and communities, one interviewee remarked that the Union "concerns itself mainly with the plywood factory." Another claimed that the Union has become "a timber buyer like any other." One comisariado complained, "[the Union] doesn't do anything for us…," though he then added, "except we do have the radio [a Union-sponsored network]." When asked about some members' concern about the factory, one senior leader replied "those who are too far away don't understand the business. They're not willing to take the risk [of participating]."

When it was a grassroots political organization, the Union's task was simpler: uniting ejidos and communities around the objective of gaining control over forestry production. Today, the Union's major emphasis is on its business, and communities' material interests in its activities vary widely. Some ejidos and communities have substantial forest resources and experience but forestry is economically irrelevant for many member communities. Most rely heavily on agriculture and animal raising or are quite impoverished; their Union ties are consequently weak. The UNECOFAEZ has no direct role in delivering forestry technical services to bind its members to it and few members have appreciable direct contact with the Union's plywood factory. Its roles in lobbying, keeping road committees operating, maintaining the radio network and influencing timber prices, are not readily visible to most peasants.

The Union's reluctance to grant work groups separate delegates has caused a rift with one of its largest agrarian communities, which has eleven annexes. One Union leader explained: "if the annexes legally convert to independent agrarian communities, we will be happy to have each as separate members with their own

delegates. Until then, we can only deal officially with the legal agrarian community." From the perspective of one comunero from that community: "the Union fears that with forty-four delegates, we could take over the organization." While this controversy remains unresolved, Union relations with other ejidos and communities in the same area have also become strained.

The SPFEQR also faces a crisis of legitimacy. Its internal financial problems and external structural pressures undermine its capacity to deliver concrete benefits. The disarray of the Society's technical services is serious, as they are vital not only to forest conservation but to the survival of the organization itself. Zabin (1998) notes that the privatization of forestry technical services appears to be triggering the disintegration of secondary regional organizations of ejidos throughout Mexico. The Society's four resource-rich ejidos have long complained that they subsidize services to the poorer ejidos. In 1996, nearly 80 percent of the Society's revenue came from these four communities (Taylor and 2000). In reality, the SPFEQR's technical team devoted most of its attention to its timber-rich ejidos. Nevertheless, the Society's leaders have feared that these members might emulate one Mayan ejido which left its forestry society, the OEPFZM, in 1995 to hire its own technical services. Their fears were realized in 1998 when the SPFEQR's most prosperous ejido left the Society and contracted its own services from a private firm established by members of the PPF's original technical team. Ejidatarios from less financially well-off ejidos express discontent, too: one complained recently that the SPFEQR "does not approach the ejido, perhaps because it is considered small and simple" (Armijo Canto and Albrecht Arellano 1998:68).

There are also signs that the SPFEQR's credibility with key external support agencies has been weakened. Interviewees in several of these institutions criticized the Society for not firmly opposing the forestry work groups. They feared that the groups represent the breakdown of PPF principles, signal the political disintegration of the ejido, and lead to the eventual physical division of the forest.[6] They have suggested that the forestry civil societies no longer possess the distance to effectively advocate their conservation agenda. Significantly, at the 1997 Forestry Agenda Forum, a plan to institute municipality-based technical services in the Maya Zone was originally supported by some public agencies though quickly denounced by the forestry societies (Galletti, et al. 1997). In a 1998 workshop on the role of forestry support agencies, one government representative proposed that the responsibility for delivering technical services be removed from the forestry societies.

Neoliberal policy reform contributes to these crises of legitimacy by helping popularize the notion that it is the collective tenancy of the forest itself which has permitted "disproportionate, anonymous depredation" (Cabarle et al. 1997:28). A World Bank Sector Review states that ill-defined ejido and agrarian community boundaries create tenure insecurity, forest management is rarely a community

6. This fear is not far-fetched, despite legal barriers to division. In Durango, in at last one of the agrarian community annexes referred to above, the forest has been mapped and fenced into "individual" plots by internal (albeit extra-legal) arrangement.

priority, technical support for sustainable systems is lacking, and mutual distrust between private industries and communities discourages joint venture investment (1995:xi, xii). Constitutional reforms have created a "legal framework for a redeployment of institutional power that seeks to bypass existing rural organizations by dealing directly with the individual (usually male) ejidatario" (Harvey 1996:152). Indeed, as an influential policymaker put it, "one of the principal objectives of the new forestry policy is to establish conditions so that the economic agents involved in the activity will be the principal custodians of the forest resources" (Téllez Kuenzler 1994:268). Wexler and Bray (1996) suggest that this statement indirectly advocates "private stewardship of forests" (1996:238).

CONCLUSION

Common pool resource management regimes can be fruitfully approached as historically embedded processes rather than as static legal and organizational arrangements. This approach makes possible a more textured assessment of the external structural pressures and social agency shaping local organization. In Mexico, neoliberal reform has direct and indirect influences on how collective forest resources are managed by reorganizing technical services and facilitating more individualistic forms of local organization. Nevertheless, these external pressures' impact is mediated at the local level by human actors who grapple with their own political, social and technical issues. Mexican community forestry organizations are historical processes in which collective objectives, management arrangements and the social boundaries of cooperation are periodically renegotiated.

The variety of possible agentic responses to structural pressures helps account for why two community forestry organizations began with similar problems of parastatal control of local timber resources yet developed into quite different organizations. The UNECOFAEZ modified its collective objective as it moved from a political movement to a production organization with a strong focus on business profitability. The SPFEQR has maintained a primary focus on supporting members' timber activities. Unable to directly provide technical services, the Union developed a diversified array of services which are, however, less effective in generating local participation. The Society's technical services allow it to exercise a direct role in local level forestry but its financing crisis threatens its ability to deliver the benefits that maintain its social base. Both organizations have struggled with issues of who is to govern the organization and how; the Union has developed relatively stable yet centralized control while the Society's assembly intervenes frequently to replace its leadership. These governance questions are complicated by shifts over time in the stakeholder communities to whom both organizations are accountable.

Both the Union and the Society risk ceasing in future to be peasant organizations effectively controlled by peasants. The Union's very success with a growing range of productive activities is a source of pressure away from the service orientation necessary to keep its social roots. The Society's fall back to emphasis on its most prosperous members and within those ejidos, smaller groups increasingly assuming

political and social functions beyond their original forestry mandate, are likely to weaken the effective control a more broadly representative assembly of delegates can exercise. The loss of their social bases could make these organizations vulnerable to outside threats, from their traditional enemies to changing policy conditions.

One question the crises of legitimacy raises is whether the historical moment of intermediate level peasant-based forestry organizations has passed. What would be lost in Durango and Quintana Roo if the peasant-based forestry unions and societies were to disappear? Experience in Mexico and elsewhere suggests that neither top-down, repressive state enforcement nor privatization can promote forest conservation where trees and large numbers of poor people exist side by side (Fortmann and Bruce 1988). Community forestry emerged from the insight that forests can be best protected by first, encouraging forest dwellers to view trees as renewable resources and second, genuinely involving them in managing those resources (Bruce and Fortmann 1991:481). While neoliberal forestry reform has ostensibly aimed to improve competitiveness (Téllez Kuenzler 1994:268), it is likely to prove counter-productive economically, socially and environmentally if it undermines peasants' capacity to participate effectively in managing their forests.

Neither the UNECOFAEZ nor the SPFEQR are likely to disappear in the short run. Both the UNECOFAEZ and the SPFEQR still enjoy significant credibility and support among their members. The UNECOFAEZ can meet international competition, its plywood factory is a revenue generator and it exercises significant influence in official policy circles. Interviewees expressed pride in their Union's achievements, even as they criticized it for its growing distance. Most associated ejidos and communities have followed the Union's advice to continue paying for comprehensive technical services from the UAFs rather than opting for cheaper, limited services. Though the SPFEQR's crisis appears to be the most severe and immediate, it still enjoys strong grassroots support. The Society answers a strongly felt need for technical assistance and for peasant political representation in Quintana Roo. The Society remains at the center of current debates over the future of the state's forestry policy. Despite its top-down origin, it has become a more participatory and broad-based organization.

Without their peasant members' active commitment, the UNECOFAEZ and the SPFEQR would have long ago become merely paper organizations, like others in Mexico (see Hellman 1994). However imperfect, these two organizations are still run by peasants and remain committed to creating and consolidating the conditions necessary for community-managed forests. Forestry communities have been controlling their own resources and production for less than twenty years, with less support than that given to other branches of agrarian production (Merino Pérez, 1997:73). Even so, the UNECOFAEZ and the SPFEQR have served as effective advocates for their peasant members and for an ecologically sustainable forestry. They have promoted effective technical assistance and facilitated a real transfer of skills and knowledge to several generations of community leaders and technical staff. They have been of key importance in bridging and coordinating the interests

of peasants and outside agencies. They represent, in sum, a significant augmenting of the local governance capacity essential for sustainable common pool resource management.

Their experiences with forestry are also relevant to broader issues of agrarian production because timber, agriculture and animal-raising activities have long been closely related in Mexico. This relationship has often been associated with deforestation as policies promoting colonization, federal subsidies of agriculture and animal raising (Galleti 1994), geographical isolation and forestry's inefficiency problems (Merino and Alatorre 1997) create incentives toward land use change from timber to food production. Nevertheless, forestry, agriculture and other agrarian production activities do not necessarily involve zero sum resource management relationships. As one Durango Union leader put it: "People here have always been farmers and done a little cattle raising as well as forestry. For subsistence. They never stopped being one for the other." The overall economic strategies of many peasant families and communities include forestry, agriculture, animal raising and wage labor. An important question is whether those diverse economic strategies represent sustainable activities which allow peasants to remain in the community or unsustainable production which eventually propels peasants outward as permanent migrants. Both the Union and the Society have begun to realize that they need to consider timber in a broader context of the rural development of Durango and Quintana Roo, respectively. Viable timber production and viable food production will together result in less pressure toward land use change and in more opportunities for rural families to meet their needs in their own communities.

Despite strong outside interest in Mexico's forests, today the peasant producer carries nearly all the cost of forest conservation. External support of peasant forestry is customarily derided as "subsidy," unquestionably anathema in the neoliberal globalizing world in which community forestry operates. Yet Mexico's forests are not privately owned and appropriated resources, but represent important means for community livelihood, a constitutionally protected national heritage, and a source of vital ecological services to Mexico, the region, and the globe. In other words, the "community" with a stake in Mexico's forests includes public and private actors at state, national and international levels. Assistance to forest owners' efforts to be responsible stewards might best be seen not as "subsidies" but as co-investments in a common sustainable future. Such co-investment is needed to assist with the physical and technical infrastructure necessary for a healthy forestry sector, including financial, technical and other organizational support for peasant-based forest management. Despite their weaknesses, the peasant forestry organizations are one organizational means by which peasants exercise real control over their resources. The history of the parastatal era, marked by social injustice and environmental devastation, suggests that when local people are denied effective participation, they, and with them the forest itself, suffer. Mexico and the other stakeholders in its forests may find that the sustainability of local people's commitment to their communities and their environment is too valuable to entrust wholly to the global market.

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