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# The Mexican model of community forest management: The role of agrarian policy, forest policy and entrepreneurial organization

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## Abstract

In Mexico, the “democratization of natural assets” through an agrarian reform process laid the territorial foundation for the establishment of a large community forest sector. The common property regime and agrarian policies established by the Mexican Revolution also created a common form of governance for all of rural Mexico. Concepts from common property theory and social and natural capital are used to analyze this sector and its emergence. It is argued in this paper that agrarian reform laws have been more crucial in creating a large CFE than specific forest legislation. Agrarian reform distributed forest lands to communities and provided a template for community governance that could later serve as an institutional platform for the development of CFEs. Forest laws and programs have been important in different places and periods in developing this potential, by providing subsidies, training, and markets for incipient CFEs. Forest legislation also served, at different periods, to empower communities to take more responsibility for managing their own forests. More recently, major new funds have been directed at subsidizing some aspects of community forest management. The agrarian governance platform has shown flexibility in being able to develop and adapt more entrepreneurial organizational forms. However, there are a wide range of forms that have evolved, ranging from making the enterprise directly dependent on the community governance structures to creating a clear division between community and entrepreneurial governance through Community Councils and Managers, and to dissolution of the single CFE model into subcoalition enterprises. This variety shows that it is possible to combine community governance forms and entrepreneurial organizational forms to compete successfully in the marketplace. The Mexican case provides a model for the world-wide devolution of forest lands to local communities, and shows that community initiatives and policy support can result in common property regimes that can organize to compete in the marketplace and deliver social, economic and ecological benefits.

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## 1. Introduction

The case of Mexico represents an unusual set of circumstances where agrarian policy beginning in the third decade of the 20th century established communal governance institutions (in some cases blended with traditional forms of governance) and a common property resource on a nation-wide scale. The agrarian governance institutions, with episodic influence from forestry legislation, then served as the organizational and social capital “platform” for the development of more entrepreneurially oriented institutions that permitted the vigorous development of a very large sector of community forests managed for the commercial production of timber (Bray et al., 2003, *in press*). Reforms to agrarian law in 1992 encouraged a transition from state-led to a community-led community forestry sector (de Janvry et al., 2001). The objective of this paper is to present evidence that, in general, agrarian policy, government forest programs unrelated to forest legislation, and grassroots action have been more important in developing this sector than forest laws, despite four new forestry laws between 1986 and 2003. It is further argued that social and natural capital endowments have been the most important factors in driving the emergence of this sector. It will also be demonstrated that this agrarian reform platform has served to launch a variety of community entrepreneurial forms.

This paper is based on an analysis of Mexican agrarian and forest policy and a survey of 42 forest communities in the state of Oaxaca, here analyzed for the variety of forms of entrepreneurial organization that have emerged from the original agrarian governance matrix (Antinori, 2000; Antinori and Bray, 2005). As a vigorous community forest sector emerged beginning in the 1970s it combined, to varying degrees, traditional, agrarian reform, and entrepreneurial forms of governance and organization to establish unique enterprise forms, “community forest enterprises (CFEs)”, that differ significantly from profit-maximizing firms and even other forms of agricultural and industrial cooperative enterprises (Antinori and Bray, 2005). Organizational charts of a representative sample of these different forms reveal the tensions between community forms of governance and the demand for efficient administra-

tion of an enterprise competing in the marketplace. We discuss common property, social capital and natural capital concepts relevant for analyzing Mexican community forestry, provide an overview of agrarian policy and the consequent democratization of natural assets (Boyce and Shelly, 2003) in a common property framework, and examine forest policy processes and the emergence of CFEs as unique economic institutions that create linkages between community governance institutions and markets.

Political scientists who have worked on forest policy in British Columbia have applied the framework of policy cycles and policy regimes (Hoberg, 2001). Policy cycles can be analyzed as consisting of five stages: agenda setting, policy formulation, decision-making, implementation, and evaluation and monitoring. Policy regimes are analyzed as being composed of actors, institutions, and ideas. It is also noted that “Most new policies are revisions of previous ones, so it is perhaps more appropriate to refer to policy succession; that is the historical evolution of policy through multiple cycles” (Hoberg, 2001). This framework will provide a general guide for analyzing recent shifts in Mexican agrarian and forest policy. Mexican agrarian policy had many sharp swings in terms of the rhythm of land distribution through most of the 20th century, but large areas of forest lands ended up in the hands of communities as an unintended consequence of the reform process (Bray and Wexler, 1996; Wexler and Bray, 1996; Klooster, 2003).

The implications of the Mexican model for global community forestry are multiple. For many years, it appeared that the Mexican experience was unique in the world. However, recent trends in the devolution of control over forests to local communities under various forms of co-management and an emerging consensus that most non-timber forest products (NTFPs) hold little promise for either poverty alleviation or economic development (Neumann and Hirsch, 2000) force new attention on the potential for community managed timber production. Thus, although the Mexican case may have some unique features, emerging experiences in community forest management for timber elsewhere in the world suggest that it has much to offer as a model.

## 2. Conceptual framework and magnitude of the Mexican community forestry sector

Most of the common property literature focuses on traditional forms of Common Pool Resource (CPR) management. These are most commonly analyzed as being in a process of dissolution or disappearance or with governments now trying to design modernized versions of them in the growing perception that they may confer some management advantages at the community level (Arnold, 1998, 2001). However, Mexico presents an unusual and little discussed case in the common property literature. In Mexico a large-scale common property sector was created by state action during most of the 20th century. The 1992 reform to Article 27 of the Mexican constitution, discussed further below, may be thought of as a form of devolution or decentralization of control over natural resources as it is occurring elsewhere, but marked by the very particular agrarian history of Mexico. In an era when many governments are trying to institute new forms of common property, Mexico is embarked on a reform, but not dissolution, of a massive state-directed effort to create common property. The Mexican case may be thought of as a form of “co-management”, but on the basis of *privately held communal property*, with the government maintaining significant control over the disposition of forest resources through the regulation of extraction in the forest and environmental laws (Bray et al., 2005).

The Mexican case also demonstrates, as has been discussed elsewhere, that governments can create social capital, although it can then become invested in ways that governments did not want or anticipate (La Porta et al., 1998). Social capital may be defined as a flow or investments made in organizational and institutional processes by individuals or groups that enhance economic competitiveness or as a stock, “those forces that increase the potential for economic development in a society by creating and sustaining social relations and patterns of social organization” (Turner, 2000). Social capital is based primordially on the concept of trust between individuals and groups of individuals (Fukuyama, 1996), so that they may organize themselves for economic goals. Although the Mexican case has its roots early in the 20th century, some Mexican cases also reinforce the argument that social capital can be created in rela-

tively short time periods and can be influenced by public policy. As Krishna has noted in the case of the Rajasthan Watershed Development Program in India, “What is of importance to this discussion of social capital is the evidence that social capital—embodied in functioning and legitimate Users Committees—was not available ready-made to the program and that it was developed, actually quite quickly, in the course of program implementation” (2000). In Mexico, the social capital that has accumulated in the community forest sector has, depending on the community, both ancient roots and has been much more recently created in relatively short periods of time within the context of the ejido system and other agrarian policies, as in the case of the community El Balcón (Antinori, 2000; Bray and Merino-Pérez, 2004a; Torres-Rojo et al., 2005).

The Mexican experience is also based on the large-scale transfer of natural assets, which could then be mobilized as natural capital with the historic creation of the CFE sector. The process of agrarian reform stemming from the Mexican Revolution led to as much as 80% of Mexican forests being in the hands of local communities (Klooster, 2003). Boyce and Shelly (2003) have suggested four strategies for increasing the value of natural assets for the rural poor: investment, redistribution, internalization, and appropriation. The agrarian reform and forest policy processes in Mexico have featured aspects of the first three of these strategies with the agrarian reform process itself representing redistribution, followed by internalization, “increasing the ability of the poor to capture benefits flowing from natural capital they already own” through the creation of the CFE sector, and investment, which has been done by the communities themselves with profits from their CFEs.

The confluence of these factors has led to the largest sector of community-managed common property forests dedicated to the commercial production of timber in the developing world, both in numbers of communities and in the total number of hectares under commercial production. There is, however, a much older tradition of community forests managed for timber in Europe, with thousands of such communities in Austria, Italy, and elsewhere (Casari and Plott, 2001; Herbst, 2004). An unpublished study shows that 2417 communities in Mexico were engaged in commercial logging in 2002 (Antinori et

al., ms). The study shows that average size of these communities is around 5300 ha with an average forest cover of 58%. In these communities the size distribution is very biased ranging from a few hectares to more than 100,000 ha, although almost 68% of the communities have a total area smaller than 5000 ha. Besides timber production, most of these communities (61%) use non-timber forest products and live under extreme poverty conditions. It has been suggested that very poor forest communities obtain up to 22% of their total income from forest activities (Vedeld et al., 2004) and that almost 20% of them are predominately indigenous people (Esteve, 2004). Communities engaged in commercial logging have many different levels of vertical integration, some 54% of them sell standing trees with limited participation in logging activities; 35% sell logs with almost no value added labor and 11% sell sawn wood processed with different levels of quality (Antinori et al., ms).

This production of timber by communities implies the organization of CFEs at various levels of vertical integration and diversification into other forest products, from selling timber on the stump through contracts with little direct community involvement, to communities with advanced processing such as moldings and furniture with export markets, and diversification into other forest products such as water bottling and ecotourism (Bray et al., 2003). Communities are also afflicted to varying degrees with internal conflict and corruption, or “covert privatization” as they struggle to democratically manage their forest resources (Klooster, 2003). A national study currently being planned will help to better characterize the sector (Antinori et al., ms). In the following section we will document the agrarian and forest policy history of the emergence of this sector.

### 3. Policy processes and impacts

#### 3.1. The agrarian reform agenda

Secure access to natural capital as forests is the foundation of community forest management, and policies of land redistribution were the main agenda of the Mexican Revolution, which was significantly driven by peasant demands for lands. The Mexican Constitution of 1917 established three forms of rural

property: national lands, private property, and the agrarian reform sector composed of *ejidos* and *comunidades*. The literal translation of *comunidades* is “communities” but in Mexico it refers to a term in agrarian law, meaning indigenous communities with demonstrated long occupation of the land, in contrast to *ejidos* which are based on a group’s new land grant from land redistributed through the agrarian reform process. Hereafter, when referring to the specific Mexican agrarian legal term we will use the Spanish term *comunidades*. When we use the term “communities” in English, we refer to both *ejidos* and *comunidades* as a general category. The government retained ultimate ownership of these lands, but peasant possession was regarded as a long-term, stable usufruct right enshrined in Article 27. This common property form gave substantial community control over a territory, created a structure of local political and territorial governance, provided a structured relationship between local communities and the state, and has now become a deeply rooted aspect of rural culture in Mexico. Agrarian reform authorities frequently exercised a very high degree of control over internal decision-making in the communities, and particularly over the use of forest resources, and thus the validity of the characterization, “state-led common property” (de Janvry et al., 2001).

The Mexican agrarian reform process took place in waves throughout the 20th century, and as the century progressed the lands that were available for redistribution were increasingly in remote forested areas. Fig. 1 below shows the patterns of land distribution by presidential period in 20th Century Mexico. The peak in the 1934–1940 period corresponds to the presidency of Mexico’s great reform President, Lázaro Cárdenas. The most intense period of land redistribution took place relatively recently, in the 1958–1976 periods, as Fig. 1 indicates.

Some 44% of all land transfers took place between 1958 and 1976 alone. It is not known how much of this was forest, but it is commonly noted that in this period the reform process reached less agricultural and more forest lands. As two examples during the latter part of this period, 256,611 ha belonging to a private company in Chihuahua were turned over to *ejidos* and the Guerrero community of El Balcón received 19,150 ha of prime forestlands, both in 1972 (Parra Orozco, 1995). This massive transfer of natural assets to local

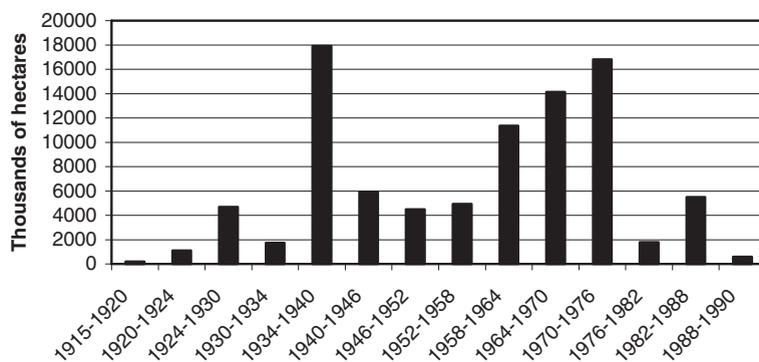


Fig. 1. 20th century agrarian reform in Mexico by presidential periods.

communities appears to be virtually unique in recent world history, although the State clearly tried to maintain a high degree of control, as will be detailed below.

### 3.2. Forest policies and community mobilization 1970–1986

The agrarian legislation that regulated the *ejido* and *comunidad* systems allowed the government to maintain substantial control over forest resources. The text of the original agrarian law notes that “land and water within the limits of the national territory belong originally (*originariamente*) to the Nation” (Ley, 2002). This “original ownership” and other language asserting government rights allowed the government in the 1940s to institute forest polices that were a partial expropriation based on Article 27 of the Mexican Constitution (Griffiths, 1958). The communities were to be paid an administratively set stumpage fee (*derecho de monte*) under a concession system. There were persistent efforts over the years by reform-minded bureaucrats and others, driven by the ideals of the Mexican Revolution, to empower communities to manage their own forests. The earliest effort was during the Cárdenas period (1934–1940), when 240 forest *ejido* cooperatives were organized, but these were mostly fictions for logging by contractors (Hinojosa Ortiz, 1958). When the conservative government of Manuel Ávila Camacho came to power in 1940, the period of cooperative promotion, as inadequate as it had been, came to an end. For the next thirty years the forest policy agenda would pay virtually no attention to the issue of community forest management, even as agrarian policy continued to hand out valuable forest

lands to communities. From 1940 to 1970, two policies and two trends, frequently contradictory, would set the agenda for the Mexican forest sector. The policies were 1) The attempt to harness forests to import-substitution industrialization (Aguilar-Espinoza, 1990) through logging concessions on community lands established in the 1940s and continued to varying degrees through the 1970s and 2) The policy of bans (*vedas*), conceived as an effort to halt clandestine logging, particularly in areas where large economic interests did not exist, but also making it illegal for communities to harvest timber in their own forests. By 1958, total and partial bans were in effect in 21 states, covering an estimated 32% of the entire forest area of Mexico (Hinojosa Ortiz, 1958). The two trends were 1) Incipient and isolated efforts by government agencies to train local communities to manage CFEs, albeit to serve as exclusive suppliers to large forest industries, and 2) grassroots mobilizations, particularly beginning in the 1960s, when the first major wave of protests from communities organizing against abuses in the concessions emerged (Bray et al., 2003).

The presidential period of Luis Echeverría (1970–1976) established both the high water mark since the Cárdenas period in land redistribution (see Fig. 2) and a new wave of government activism in the rural sector. A government agrarian trust fund, the National Fund for Ejido Development (*Fondo Nacional para Fomento Ejidal*—FONAFE), was in charge of organizing community enterprises to be suppliers to the parastatals, making investments in social, human, and physical capital. In the early 1970s FONAFE organized 135 CFES, 68% of which were in the large

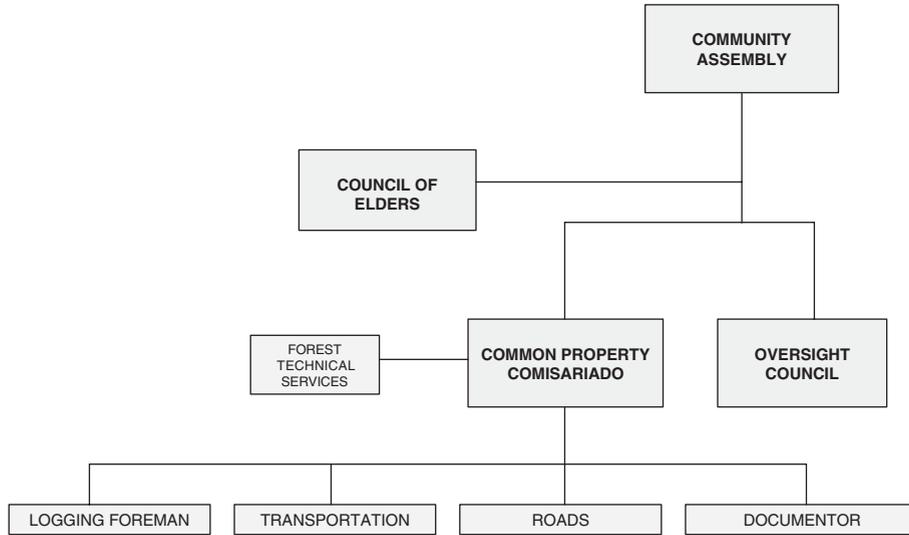


Fig. 2. Stumpage and roundwood community CFE organization.

forest states of Durango and Chihuahua (Enriquez Quintana, 1976). In 56% of the total, sawmills were funded, representing an important leap forward in vertical integration, and there were also investments in training (Enriquez Quintana, 1976). These CFEs were frequently controlled by rural bosses (*caciques*) and were created solely as suppliers to parastatals (Guerrero, 1988). Nonetheless, many of these CFEs survived and began creating more autonomous organizations (Bray and Merino-Pérez, 2004a).

In March 1973, reform-oriented actors within the Forest and Fauna Subsecretariat, the General Division for Forest Development (*Dirección General para el Desarrollo Forestal—DGDF*), were created and quickly moved to lift bans in seven states (SARH, 1973). The DGDF had its most notable early impact in Puebla and later in northern Veracruz. It promoted new community-level enterprise institutions (Aguilar-Espinoza, 1990) and, by 1978, had promoted a second level or inter-community organization, representing government investments in social capital, and by 1979 logging permits had been extended to 52 ejidos and 253 small owners under what was termed Plan Puebla (SARH, 1979). In the early 1980s, the DGDF also established an important inter-community forest organization in the state of Oaxaca (López-Arzola, 2005) and a joint federal and state government–German foreign assistance effort in the tropical state of Quintana Roo, the Plan Piloto

Forestal (Kiernan and Freese, 1997; Taylor and Zabin, 2000; Bray, 2001). Grassroots resistance was also important in this case, and particularly in the case of Oaxaca. In that state 1980 the Organization in Defense of the Natural Resources and Social Development of the Sierra Juárez (ODRENASIJ) emerged in 1980 fighting against the renewal of a 25-year concession to a parastatal pulp factory that was due to end in 1982.

### 3.3. Forest policy instability

Beginning in the mid-1980s, there has been a period of great instability in Mexican forest laws, with new laws being passed in 1986, 1992, 1997, and 2003, four new laws in a 17-year period. This instability in forest legislation was punctuated by important 1992 changes in Article 27 of the Mexican Constitution, which regulated rural land tenure, and a new Agrarian Law that attempted to “recraft property rights” (Muñoz-Piña et al., 2003). Another major legislative change that impacted forest communities was the passing of the North American Free Trade Agreement (NAFTA) in 1992. But despite this legislative turbulence, to a significant degree Mexican community forestry continued on a path marked by agrarian policy and the first wave of government programs and grassroots activism in the 1974–1986 period.

Thus, the first stage of the creation of a large sector of CFEs took place without any changes in the basic legal framework of forest management in Mexico. However, beginning in 1986 there was the previously mentioned period of changes in agrarian and especially forest laws that continued through 2003. This rapid recurrence of forest policy cycles suggests a forest sector where there is still little institutional stability, where strong actors can assert different policy agendas at different moments, and where more dramatic policy change rather than “policy succession” has been the rule.

### 3.3.1. The 1986 law

The 1986 law was an attempt by the bureaucratic reformers within the Forestry subsecretariat to set an agenda of consolidation of the institutional changes in the forestry sector. The law was developed by the forest reformers, with little public participation. This watershed law 1) ended all private concessions and initiated a process of dismantling the parastatals; 2) required more detailed and environmentally sensitive studies for logging permits and 3) authorized communities directly or through inter-community organizations hire their own forest engineers to develop management plans, the so-called Technical Services (FTS) (Bray and Wexler, 1996; Muñoz-Piña et al., 2003). Historically, these services had been monopolized by the government and communities had little control over the performance of the forest engineers. The devolution of this responsibility directly to the communities, in association with forestry engineers directly hired by them, was an important step forward in the control of logging on their lands.

### 3.3.2. The new agrarian reform of 1992

In the early 1990s the administration of President Carlos Salinas de Gortari set an agenda of sweeping neo-liberal reforms to the legislative framework that governed rural Mexico. A major innovation permitted *ejidos* to have their land surveyed, divided into private landholdings, and even dissolve the *ejido* if voted on by the majority (Ley, 2002). *Comunidades* were not allowed to dissolve themselves, but could enter into joint ventures with private enterprise (Article 99). There were two major objectives, 1) to encourage the option of the dividing up of *ejido* agricultural lands in order to create more “normal” capitalist

rural land markets and 2) to encourage the concentration of land holdings by raising the maximum size and creating mechanisms for *ejido*–private sector joint ventures. However, the reforms also strengthened common property ownership by removing references to land belonging “originally” to the State, making it clear that the property form was a corporate communal property, but with some continued regulation of internal affairs by the state. This has been characterized as a transition from a state-led common property regime to a community-led common property regime (de Janvry et al., 2001), and in a parallel fashion it can be said that it constituted a transition from state-led to community-led community forest management, although logging itself became ever more heavily regulated through environmental legislation.

Most importantly, the new agrarian reforms also strictly regulated the disposition of forested lands by forbidding the dividing up or parceling of forests (Article 59). If an *ejido* did vote to dissolve itself, any forested lands on the *ejido* would become property of the Nation (Article 29), which could be either an incentive to deforest or an incentive to not dissolve the *ejido*. A final new provision of the agrarian law that would prove to have a significant impact on the organization of CFEs was that groups of individual *ejidatarios* had the right to organize subcommunal enterprises (locally termed “work groups”) under a legal category called “Rural Production Societies” using the common property resource when authorized and regulated by the community Assembly (Article 111) (Wilshusen, 2003). There were frequently expressed concerns that the impact of these agrarian reforms would be create perverse incentives to deforest, divide, and sell, but this does not seem to have happened on a significant scale.

### 3.3.3. The 1992 forest law

This law represented a dramatic break from a past dominated by the dialogue between proponents of state-led forest industrial development (1943 and 1960 laws) and proponents of state-tutored community forestry (1986 law). It was also part of an agenda set by neo-liberal bureaucrats with little public participation. It was primarily aimed at encouraging forest plantations and turning over natural forest management to the market as much as possible given the constraints of Mexican land tenure (Tellez Kuenzler,

1994). It also made virtually no reference to the fact that Mexico's forest sector was dominated by community ownership that the agrarian reforms actually strengthened. The law also dramatically simplified the paperwork involved in cutting, transporting and processing wood products (opening the door to a surge in clandestine cutting), and privatized the provision of forest technical services (FTS). Although most aspects of the law were focused on plantations, one important feature of the 1992 law for public participation in forest policy was the creation of a "national consultative technical forest council" (Article 6).

#### 3.3.4. The 1997 law

The 1996 law resulted from initiatives of different stakeholders in forest production, including ejidos and comunidades, forestry engineers, the forest private sector, and government actors, most notably the Secretary of the Environment, Natural Resources and Fisheries (SEMARNAP) Julia Carabias. The plantation thrust of the 1992 law had foundered both on depressed world markets for paper and the realities of rural land tenure in Mexico, with one analyst commenting that "The ejido system of land ownership has made commercial forest plantations impossible" (Feagans, 1997). The felt need for a new law was also based on informal monitoring of the impact of the 1992 law, which suggested that illegal logging had increased as a result of it. Unlike the previous two laws, the 1997 law was a result of a broad consultative process, representing a new opening for public dialogue on forestry issues. The official count of public opportunities to discuss the law include 9 meetings of CONAF, five regional fora, four meetings with social organizations, the private sector, and NGOs, and the receipt of 171 comments. The 1997 law had two thrusts: to reregulate the management of the natural forest and introduce more avenues of support for community forestry, and to both regulate and promote new incentives for plantations.

The new programs and incentives for plantations and community forestry respectively were the *Programa de Apoyos para el Desarrollo de Plantaciones Forestales Comerciales* (PRODEPLAN) and the *Programa para el Desarrollo Forestal* (PRODEFOR). PRODEFOR started out with a very modest budget but was the first government program directed at

support for community forestry since the early 1980s. In addition to the PRODEFOR program, this period also saw the development of a less politicized but highly significant new program in support of community forest development known as the *Proyecto de Conservación y Manejo Sustentable de Recursos Forestales* (PROCYMAF, 2001). PROCYMAF was developed as a regional pilot program supported by the Government of Mexico and the World Bank, with a primary focus on Oaxaca, but with some program work in Guerrero and Michoacan as well (PROCYMAF, 2001).

#### 3.3.5. The 2003 law

The government of President Vicente Fox (2000–2006) created the National Forest Commission (*Comisión Nacional Forestal*—CONAFOR), a high-level commission reporting directly to the Secretary of the Environment and Natural Resources (SEMARNAT).<sup>1</sup> CONAFOR is responsible for the promotion and preservation of the country's forests, which, basically, includes all activities except for forest regulation, which remained in the hands of SEMARNAT. The new Director of CONAFOR pushed for another new forest law, with the agenda once again being set by a powerful bureaucratic actor rather than grassroots demand. The new law represents a very mixed bag of regulations, but the most important changes during this period were in the forest programs. PROCYMAF's budget increased ten times, expanding into the states of Guerrero, Michoacán, Durango, Jalisco and Quintana Roo. (Merino-Pérez and Segura-Warnholtz, 2005). The budget for PRODEFOR quadrupled in the first years of the Fox administration, signalling major new state support for community forest management. PRODEPLAN, which started out with an exclusive focus on large plantations, was reoriented to also benefit smaller landholdings and emphasis from pulp production to a broader suite of options, such as Christmas tree and firewood plantations. Thus, the most recent period represents a significant new phase of support for community forest management from the Mexican government.

<sup>1</sup> The Fox government reorganized the environmental ministry and changed the name from SEMARNAP to SEMARNAT (*Secretaría de Medio Ambiente y Recursos Naturales*).

#### 4. The agrarian governance platform for CFE organization

Despite this turmoil in forest legislation, it is the agrarian legislation which has remained the most basic legislative framework for creating and perpetuating the CFE sector in Mexico. The amended Agrarian Law retains many of the features of agrarian governance and established after the Mexican Revolution. The most important body of governance is the Assembly, with wide authority on governance and land use matters (Article 23) with each registered member of the community (*ejidatario* or *comunero*) having one vote. Voting can be by consensus or majority rule and elections to office are usually held every three years. Common property management responsibilities fall to the *Comisariado Ejidal* (*Ejido* Supervisory Body) or *Comisariado de Bienes Comunales* (Supervisory Body of Community Assets), and is composed of a President, Secretary, Treasurer, and their seconds. A second governing organ is the Oversight Council (*Consejo de Vigilancia*) composed of a President and two Secretaries and their seconds, and serves in a check and balance and auditing function (Article 36). These offices are typically unsalaried and unspecialized towards forestry or any other management skill. Assemblies meet from monthly to twice a year, depending on needs. Although not legally required, Assemblies also frequently establish multiple committees to carry out civic duties from establishing potable water systems and clinics to restoring churches, and such committees are also frequently used to administer CFEs. If it is a community with a traditional *cargo* system, then many of these voluntary functions are carried out within that traditional system, where people steadily occupy more responsible positions, with a convergence in the top administrative positions between the system mandated by agrarian law and the traditional system. The *cargo* system is a civil–religious hierarchy present in many indigenous communities (*comunidades*), especially in southern Mexico and it has both governance and religious dimensions. Although it has far older roots than the 20th century agrarian reform structures of Mexico, it now functions within certain constraints placed upon that system in the agrarian legislation governing the *comunidades* and there is a form of

“political syncretism” between the *cargo* and *comunidad* systems (Mathews, 2005).

This agrarian community governance “platform” has been adapted to the creation of a CFE in stages corresponding to their particular circumstances and the degree of vertical integration along the production chain from stumpage to transformed wood products (Antinori, 2005). Enterprise forms and functions are grafted onto community governance in a variety of ways. In this way, the community governance functions become an institutional base for developing entrepreneurial forms. In the following discussion, we will present some representative organizational charts for CFEs to demonstrate the melding of the agrarian governance platform with entrepreneurial forms, including 1) stumpage and roundwood production CFEs, 2) sawmill CFEs and finished products/diversified CFEs, and 3) “work group” communities.

Legally, CFEs can assume various legal forms or have no formal legal standing at all. For example, the highly vertically integrated and internationally competitive CFE of San Juan Nuevo Parangaricutiro in Michoacan operates with no legal registration other than its agrarian registry as a *comunidad*.

As an additional aspect of traditional governance forms, many communities have service requirements where public works are carried out by unpaid community labor, known as *tequio* or *faenas* in different regions of Mexico. In Oaxaca, almost all communities in the 42-community sample held *tequios* throughout the year, for an average of 3 days each and from 1 to 5 times a year, with the least integrated groups having the most unpaid *tequios* and the more integrated communities relying more on wage labor (Antinori, 2000).

In order to develop an analysis of the organizational innovations that have emerged, we need to examine the organizational structure of some typical CFEs. Fig. 2 shows one way that stumpage and roundwood communities can organize themselves to interface with the market.

As mentioned, the community Assembly is the maximum authority that can set specific policies, such as wage levels and profit distributions. The day-to-day operations of the extraction process are controlled by the *Comisariado*, thus functioning as enterprise manager, assisted by the President of the Oversight Council, and advised by the FTS provider.

The field operations are directed by the Logging Foreman, a key position that allows for community control of the extraction process, although in 11 of 13 cases in the stumpage communities the logging contractor pays the Logging Foreman’s salary directly.

The Council of Elders was the maximum authority in communities before the creation of the Assembly by agrarian law, but it now serves as a kind of “community Senate” to help resolve particularly contentious problems (Francisco Chapela, personal communication). However, only two of the 42 communities in the sample report that the Council of Elders participates in forestry decisions. Nonetheless, this feature of governance seems to have inspired some CFEs in other states to form forest governing councils from respected people in the community (Bray et al., 2003).

In Fig. 3, we see the emergence of a formal enterprise structure within the community and a more formal role of the Council, in a model of communities that have achieved the sawmill level of vertical integration and have added other forest or non-forest-based community enterprises.

Mexican CFEs frequently struggle with this transition from an enterprise directly controlled by commu-

nity governance structures into a structure that incorporates enterprise forms of organization that create a clearer division between community and enterprise governance. Many communities distrust the increased power deposited in full-time managers. This issue finds an illuminating parallel in Fukuyama’s (1996) analysis of the role of trust and social capital in Chinese family businesses. Most contemporary businesses start as family businesses and then evolve into more impersonal corporations. Chinese entrepreneurial vigor in founding small family businesses is a globally evident phenomenon. However, if a family business grows, there arrives a time when there are not enough competent family members to manage the business. “At this point family businesses face a critical choice: try to retain control of their enterprises within the family, which is often tantamount to opting for continuing small size, or give up control and become, in effect, passive shareholders” (Fukuyama, 1996). Fukuyama, following Max Weber in *The Religion of China*, notes that “the strong Chinese family created...‘sib fetters’”, constraining the development of universal values and the impersonal social ties necessary for modern business organization” (Fukuyama, 1996). Further,

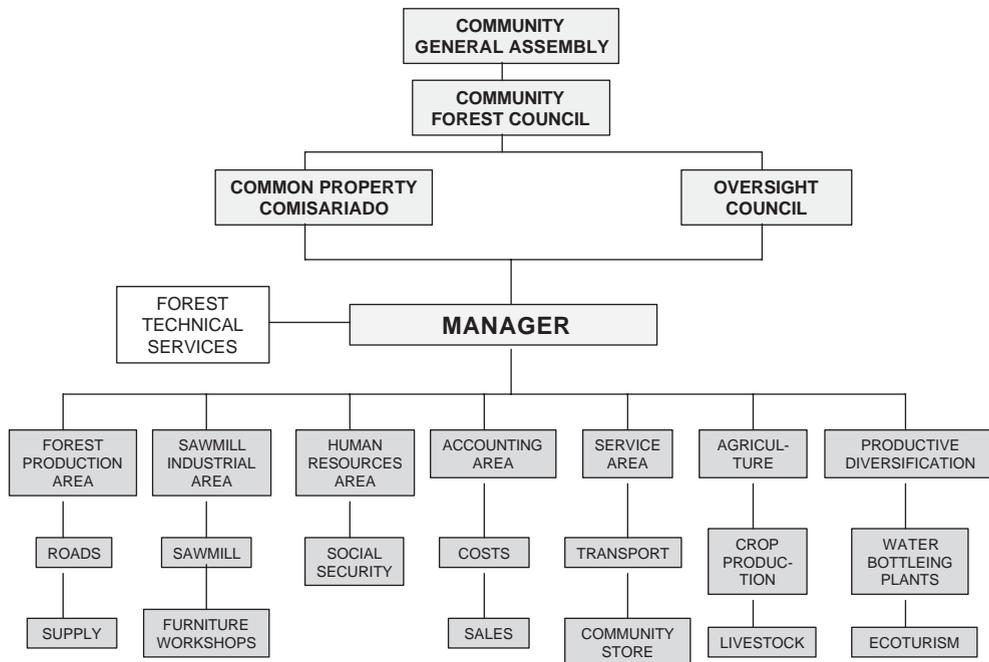


Fig. 3. Sawmill/Diversified CFE organization.

“The Chinese family provides the social capital with which to start up new businesses, but it also constitutes a major structural constraint on these enterprises that in many cases prevents them from evolving into durable, large-scale institutions” (Fukuyama, 1996).

In the same sense, it may be said that some indigenous forest communities suffer from “communal fetters”, overly restrictive traditional practices and a lack of trust that impede the development of a CFE which would be more competitive and efficient in the marketplace, and deliver more benefits to the community. Communities provide the institutional capital with which to start up communal enterprises, but can also constitute a structural constraint that may prevent them from becoming more successful and generating more assets for the community. Some communities have been able to overcome this by training their own professional managers from within the community. Ejidos such as El Brillante and La Victoria, both in Durango, represent cases where a *comunidad* has overcome structural constraints associated with traditional practices, with professionally trained community members in most management positions. As well, stable community traditions are not essential in the construction of successful CFEs. The community of El Balcón in Guerrero was able to construct a successful CFE beginning from a highly disorganized and violence-wracked social base only twenty years earlier (Bray and Merino Pérez, 2002; Bray et al., 2003; Torres-Rojo et al., 2005). Likewise, most of the CFEs in Durango are mestizos, not indigenous peoples. In these cases the practices and structure of the government-created ejido system have provided an important social capital base.

Thus, these communities have taken an important step towards resolving the “communal fetters” problem by institutionalizing the Manager position. In Fig. 3 the organizational level of the Council of Elders has been adapted but in a less culturally traditional form as the Community Council, as in the case of San Juan Nuevo, or as the Council of Principals, as in El Balcon. The spread of this innovation also represents a case of “social learning”. As Wexler (1995) has noted, “Leaders from El Balcon traveled to the ejido San Juan Nuevo, where they learned that San Juan had separated the management of the timber business from the politics of the ejido by creating a timber advisory council to oversee issues of production and

commercialization”. Fig. 3 also shows the multiple forest-based activities that a diversified CFE may undertake.

The first two models presented above are all modifications of the “one unified CFE” model but this model has frequently been plagued with corruption, and in the 1990s an alternative organizational structure that addressed the corruption problem emerged, commonly called “Work Groups (*grupos de trabajo*)”. Work Groups are an authentic grassroots-driven effort at enterprise reorganization as a response to corruption within the CFE and represent the clearest impact of the 1992 Agrarian Law on community enterprise organization. The work groups represent “an organizational innovation in community timber production” (Taylor, 2000). In Work Group CFEs the community enterprise as such is dissolved and reorganized into self-organized groups of community members, who divide up the annual authorized volume on a proportional basis (Bray et al., 2003; Antinori and Bray, 2005), although other arrangements have been reported. Each one then operates as an independent subcommunal private group, logging its assigned volume. It is not known exactly how many “work group” communities there are, but the practice appears to be widespread in Chihuahua, Durango, and Quintana Roo. Fig. 4 shows an organizational chart based on the “work group” community of Petcacab in Quintana Roo, which has the 11 work groups represented, although these are also further subdivided into a total of 18 “sections” (Wilshusen, 2005).

Although the agrarian reform opened the way, the emergence of the work group as “subcoalitions” within the ejido was also driven by but frustration with problems of common property management and corruption in the CFEs. Work groups do seem to have achieved a better distribution of income and ended centralized corruption in some CFEs. In the case of Petcacab, income per ejidatario took a dramatic jump upward after the implementation of work groups, although less money now may be going into community projects and capital reinvestment (Wilshusen, 2003). While work groups may be regarded as a failure in community cooperation, it can also be regarded as finding a solution to the vexing corruption problem. This strategy of “subcoalitions” has been noted by (Muñoz-Piña et al., 2003) for other Mexican ejidos, “With inability to regulate, some ejidos responded by

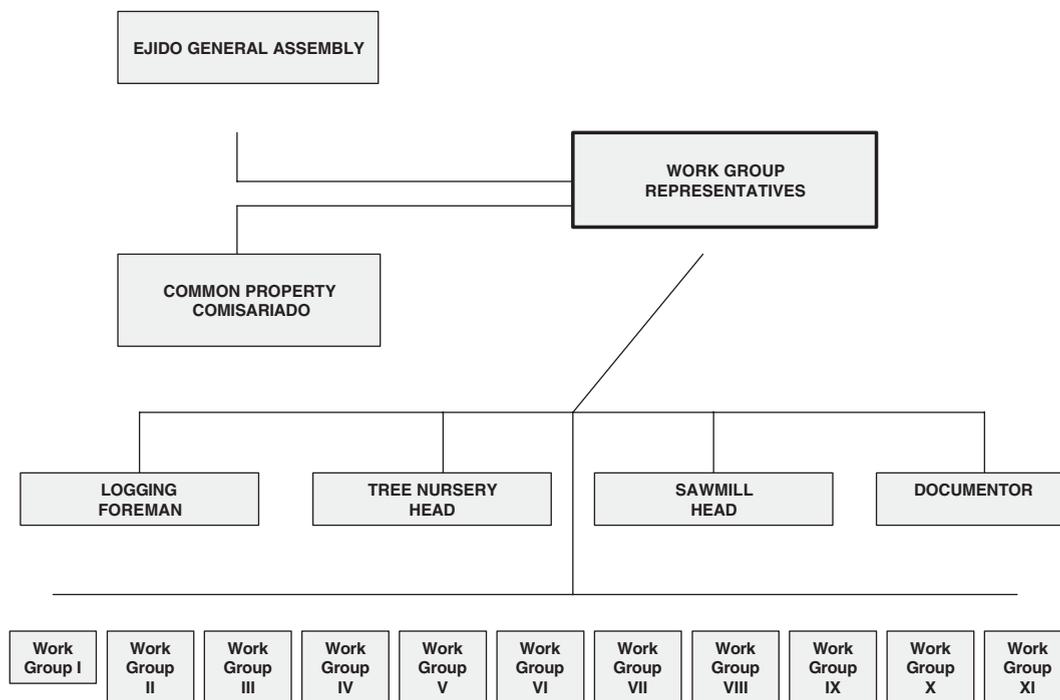


Fig. 4. “Work Group” CFE. Source: Adapted from Wilshusen, 2003.

changing the size and composition of the decision group, effectively dividing the commons among sub-coalitions of members. . . .the objective of the assembly was to create a situation more conducive to cooperation”. This conduciveness to cooperation in the case of CFEs also brings costs and can be regarded as a disinvestment in ejido social capital, community infrastructure, and the community enterprise (Wilshusen, 2003).

## 5. Conclusions

In Mexico, the “democratization of natural assets” (Boyce and Shelly, 2003) through an agrarian reform process laid the territorial and governance foundation for the establishment of a large community forest sector. It is argued in this paper that agrarian reform laws have been more crucial in creating a large CFE than specific forest legislation. Agrarian reform distributed forest lands to communities and provided a template for community governance that could later serve as an institutional platform for the development of CFEs, thus making major contributions to both

social and natural capital. Mexican agrarian laws and policies have been relatively stable with the policy cycles focused on oscillations in land redistribution rather than the more stable policy regime of agrarian law. As was noted in Fig. 1, specific patterns of land redistribution varied throughout the 20th century, but with a major burst of distribution occurring in the 1958–1976 period, during which much forest natural capital was delivered to local communities. The first major change in the agrarian policy regime did not occur until the 1992 reforms to the Mexican constitution, and these had the effect of strengthening the autonomy of community governance and common property ownership, although forest and environmental laws increasingly heavily regulated forest extraction.

Forest laws and programs, on the other hand, have been highly unstable, passing through multiple policy cycles and policy regimes, with strong actors setting contrasting forest agendas. Some of the changes from one forest law to the next have been sufficiently dramatic to call into question Hoberg’s (2001) assertion that “most new policies are revisions of previous ones.” For example, the 1986 law was highly favor-

able to community forestry, while the 1992 law almost completely ignored the sector and focused on timber plantations. Although not a determining factor in providing the foundations that created the CFE sector, forest laws and programs have been important in different places and periods in developing this potential, by providing subsidies, training, and markets for incipient CFEs. Forest legislation also served to empower communities to take more responsibility for managing their own forests. More recently, major new funds have been directed at subsidizing some aspects of community forest management.

We have presented evidence in this paper that the agrarian governance platform has shown flexibility in being able to develop and adapt more entrepreneurial organizational forms. A wide range of forms have evolved, with only a few being represented here, while other organizational forms and means of dividing up the forest stocks and flows are discussed in [Antinori and Bray \(2005\)](#). The entrepreneurial forms presented here include models where 1) The CFE is directly administered by the existing community governance positions, with some modifications made for more traditional governance practices, 2) the community has created a clear division between community governance and enterprise governance through Community Councils and Managers, and 3) the dissolution of the single CFE model into subcommunal or “subcoalition” enterprises. None of the forms resolve all the organizational and distributional problems, and each has attendant problems. The varieties of CFE experiences suggest that there is “no one right way to manage a common property forest resource, assuming the observed governance choices represent a local social optimum. Each variant emerges as a creative response to local problems” ([Antinori and Bray, 2005](#)). The transition from state-led to community-led agrarian governance in Mexico, stemming from the 1992 constitutional reforms, has only strengthened autonomy to devise locally optimal governance solutions.

It has been suggested elsewhere that this “Mexican Model of Community Forest Management” is indeed a template for community-managed forests elsewhere in the world ([Bray and Merino-Pérez, 2004a,b](#)). However, it has also been argued that the particulars of the Mexican case, particularly the role of a major agrarian revolution and the subsequent reforms which played

out through most of the 20th century, suggest that it may not be a very replicable model. But there is emerging evidence that legislative changes in access to land can produce very rapid results in community forest organization. It does not take an agrarian revolution but it does take significant reforms in agrarian and forest law, and recent new legislation in various countries show that it is possible. For example, in the Guatemalan Petén reforms that allowed for “community concessions” on public lands, along with major external funding, produced the rapid emergence of apparently viable CFEs ([Cortave, 2003](#)). In Bolivia, the Law of Popular Participation of 1994, the Law of Administrative Decentralization of 1995, and the 1996 Forestry Law “resulted in substantial portions of lowland Bolivia becoming legally titled to...communities” ([Putz et al., 2004](#)). These legislative reforms have also driven a very significant emergence of CFEs in Amazonian Bolivia, although the sector is still very poorly documented ([McDaniel, 2003](#)). In each of these two cases, different means were found to provide secure access or ownership of forest natural assets, short of an agrarian revolution. Both cases, and cases such as El Balcón in Mexico ([Bray et al., 2003](#)) suggest that social capital can be invested and accumulated in very short periods of time, as [Krishna \(2000\)](#) also demonstrated in the Indian case mentioned earlier. And in both the Guatemalan and Bolivian cases, these local reforms were accomplished in situations of considerable political turmoil at the national level.

The Mexican model of community forest management continues to pass through the many travails of enterprise management in any economically competitive sector. But we suggest that the experience shows that communities, with appropriate legislative and programmatic support, and with appropriate endowments of social and natural capital, can deliver significant social, economic and ecological benefits locally, nationally and globally ([Bray et al., 2005](#)).

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