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EVALUATING THE RESULTS OF OUR WORK

Towards Integrated Community Forest Enterprise

A Case Study of Ejido El Largo y Anexos, (Chihuahua, Mexico)

Community Forestry Case Studies
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Contents

The Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank (IDB) Group, is the largest provider of technical assistance for private-sector development in Latin America and the Caribbean. Its core beneficiaries include micro and small businesses, small farms, and poor and vulnerable households. It designs and finances pilot projects to test pioneering approaches to building economic opportunity and decreasing poverty.
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Acronyms

AAC	Annual Allowable Cut
CFE	Community Forest Enterprise
CONAFOR	National Forestry Commission
FSC®	Forest Stewardship Council®
FIRA	Trust Funds for Rural Development (Mexican National Development Fund)
FND	National Fund for Agricultural, Forestry and Fisheries Development
GEF	Global Environment Facility
MIF	Multilateral Investment Fund (member of Inter-American Development Bank Group)
PROCYMAF	Community Forestry Development Program (funded by World Bank)
PROFEPA	Federal Prosecutor for Environmental Protection
UNDP	United Nations Development Programme

PREFACE

Over the last two decades, countries across the tropics have devolved increasing authority over natural forests to local actors. The ability of those actors to manage forests sustainably and make forestry a competitive land-use choice has therefore taken on a growing importance. In response to this changing landscape, a range of efforts around the globe are supporting community-based forest management by working to improve the capacity of local people to manage their natural resources and develop local enterprise. In spite of the abundance of manuals, methodologies and other tools to guide technical assistance, there is a relative paucity of systematic analyses of the results of such efforts: experiences, lessons learned and recommendations for improving assistance to local forestry development.

This case study is one of 10 produced under "Forest Conservation through Certification, Markets and Strengthening of Small and Medium-sized Forest Enterprise," a five-year project supported by the Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank (IDB) Group. Led by the Rainforest Alliance, the project involves approximately 100 community operations and small and medium-sized enterprises (SMEs) in Guatemala, Honduras, Mexico, Nicaragua and Peru. The project's central aim is to improve local livelihoods through sustainable forestry and enterprise development. Although the support needs, contexts and development levels of partner communities vary tremendously, the project's unifying strategy is to improve business capacities, market access and financial support for enterprise development in order to secure sustainable forest management and livelihood development.

The case studies in this series were carefully selected to cover all five countries where the project is active, and to reflect the full range of participants—from highly incipient community operations, to second-tier business alliances among multiple well-developed, certified enterprises. Special attention was also paid to ensuring representativeness with respect to forest ecosystems (temperate and tropical), tenure arrangement (permanent and concession) and production focus (timber and non-timber). In all of the studies, the impact of Rainforest Alliance technical assistance on enterprise development was analyzed, including a critical assessment of priorities for future assistance. Beyond enterprise-specific examples, two studies take a more thematic approach, analyzing experiences with markets for lesser-known species and financial mechanisms.

Taken together, the 10 studies support the growing body of research demonstrating that community-based production forestry can be an effective approach to conserving forest resources while also generating significant social and economic benefits for marginalized communities. At the same time, however, these studies tell a more nuanced story. The diversity of contexts and enterprises represented sheds light on the development of community forestry in its many forms—towards multiple and sometimes contested goals—while chronicling both successes and failures. As such, each case stands on its own to inform similar cases around the world, while also forming a part of the broader story this series tells about the variable trajectories of community forestry development.

Although a guiding goal of many projects—including the present one—is to achieve financial sustainability for community forest enterprise, the importance of external technical assistance in building local capacities is also clearly fundamental. However, the effectiveness of such assistance is not always optimal, which is why each case includes an assessment of the results of the Rainforest Alliance technical assistance that was received. In several cases, insufficient data and/or a lack of indicator consistency—not to mention confounding external factors (storms, market fluctuations, political upheaval and social conflict) and the absence of truly scientific controls—make it impossible with full confidence to attribute change solely to Rainforest Alliance support, especially given the active presence of other actors at all project sites. This caveat notwithstanding, it is clear that, in each case, project interventions produced concrete results. The studies aim to extract lessons from these results and recommend ways forward.

Finally, while the bulk of these studies have been prepared and published by staff of the Rainforest Alliance, they would not have been possible without the collaboration and dedicated efforts of many others including a host of government agencies, civil society partners, academic institutions and private sector actors. Above all, the communities themselves must be recognized and congratulated for the time that they invested in assisting with the compilation and review of these studies. All contributors are specifically acknowledged in each separate case study. Although the contributions of all of these actors are fundamental, the content of these studies is the sole responsibility of the Rainforest Alliance, except where other institutions have taken a co-publishing role.

The table on the following page presents a breakdown of the 10 case studies that were produced as part of this project.

Community forestry case studies

No.	Case Study	Location	Key Themes
1	Awas Tingni community	North Atlantic Autonomous Region, Nicaragua	• Indigenous community forestry • Incipient forest enterprise development • Social and institutional foundations for community forestry
2	Moskibatana non-timber forest product (NTFP) enterprise	Muskitia, Honduras	• Indigenous community forestry • NTFP management and Forest Stewardship Council® (FSC®) market development • Development of a new forest enterprise
3	Ejido El Largo	Chihuahua, Mexico	• Integrated forestry development planning • Community forest enterprise competitiveness
4	CAIFUL agroforestry cooperative	Río Plátano Biosphere Reserve, Honduras	• Local forest enterprise development • Benefits of forest enterprise at the community scale
5	Analysis of forest management in community concessions	Maya Biosphere Reserve, Guatemala	• Impacts of certified community forestry silvicultural and management systems • Investments by community enterprises in conservation and monitoring
6	Brazil nut production and enterprise	Madre de Dios, Peru	• NTFP enterprise development • Financial and administrative capacity building
7	TIP Muebles	Oaxaca, Mexico	• Commercial cooperation among community forest enterprises • Furniture value chain development
8	Tres Islas native community	Madre de Dios, Peru	• Indigenous community forestry • Landscape approach • Incipient forest enterprise development
9	Building markets for lesser-known species	Maya Biosphere Reserve, Guatemala	• Development of new markets for lesser-utilized commercial timber species • Diversification of a second-tier community forestry business model
10	Financial mechanisms for community forest enterprises	Regional	• Design, operation and impacts of mechanisms to increase forestry producer access to credit

Towards Integrated Community Forest Enterprise

Approximately 94 percent of Ejido El Largo y Anexos' land is forested

Photo by Eugenio Fernández Vázquez

Mexico has what is probably the most advanced community forestry sector on earth. More than 60 percent of the nation's forestland is owned by rural communities. This is largely the legacy of agrarian reform born out of the Mexican Revolution and implemented in successive waves during the 20th century. Although many groups have held *de jure* ownership of their forests for 60 or 70 years, it is only over the past three decades that forest communities have come to exercise full control over their forests. They have transitioned from concession arrangements with large timber firms – where both decision making power and benefits were limited – and have worked to develop their own community forest enterprises (CFE).

About 3,000 communities in the country currently have a forest management plan in place, and around 35 percent of those communities take some active role in forest planning, harvesting or operations. A smaller number, perhaps 500, have some capacity to log, mill, and/or market their own forest products. A rather small group of between 60-100 CFEs have achieved vertically-integrated operations, and control all aspects of forestry planning, operations, processing and marketing of a diversity of products, including value-added finished products.

This case study profiles Mexico's largest community forestry operation, the Ejido El Largo y Anexos. Located in the northwestern part of the state of Chihuahua, the *ejido* covers 261,460 hectares, more than 250,000 ha of which is forested. The scale of its operation is far larger than any other in Mexico, and dwarfs the vast majority of community forests globally. El Largo has an annual allowable cut (AAC) of over 315,000 m^3, which represents about 28 percent of total timber production in the state of Chihuahua and 4.6 percent of Mexico's national production. To process the harvest, the *ejido* operates 10 sawmills. In an average year it employs more than 2,600 people. By many measures it is probably the world's largest CFE.

Yet El Largo faces challenges that would be familiar to any small community-run forestry operation. Discontinuity with leadership, outdated machinery and infrastructure that creates inefficiencies, weak administrative capacity, lack of access to finance, and poor penetration of preferred markets have all stood in the way of the El Largo CFE achieving even greater benefits for its community members. This case study describes El Largo's CFE operations and challenges, tracing the process of articulating a long-range enterprise vision for integrated forestry development, and documenting some preliminary outcomes of the implementation of a new forestry development plan.

The core finding of this study is that even very large

and complicated CFEs can organize to articulate an enterprise vision that can attract finance, which in turn can yield tangible improvements over the near term. However, it is also clear that, operating within the governance structure of CFEs, transformative change takes time and is an iterative process, requiring the kind of long-term support that transcends local leadership and larger political changes, as well as the project cycle.

In addition to this core finding, the following results and lessons can be advanced:

- During the period of analysis, a visionary CFE leadership invited support from the Mexican government, Rainforest Alliance and a range of other technical assistance providers to identify challenges and articulate a comprehensive plan for improving El Largo's competitiveness in forest enterprise.
- In spite of leadership changes that delayed implementation of this plan, the advancement of this vision, plus the support of outside agencies, helped convince a national credit agency to make financing available to El Largo.
- Access to finance allowed for the purchase of a modern sawmill, which has already shown to improve production within the *ejido*.
- Installation of a panel plant to process small diameter logs has resulted in value added to timber that would otherwise be sold as roundwood.
- Between 2000-2013, volume production increased by some 11,000 m^3, while staying well within sustainability parameters for harvesting.
- While increased efficiency is a goal of CFE operations, given the overwhelming importance of forestry in the local economy, El Largo remains committed to expanding employment opportunities for locals, including women.
- Over the period of analysis, an additional 286 jobs were created, a 12 percent increase over the 2010 baseline.
- Employment posts for women increased by 62 percent.
- FSC certification has allowed El Largo to attain a 10 percent price premium for about 20 percent of its volume production, as well as consistent sales to a major buyer, an important element in attracting new finance.
- As an output of technical assistance, the *ejido* has approved the creation of a CFE administrative council that consists of a group of professionals whose leadership rotation is timed to transcend leadership changes at the *ejido* level, allowing for continuity in enterprise operations.

Based on the lines of action presented in El Largo's own master plan for integrated forestry development, the following recommendations are advanced:

- As implementation of the integrated master plan continues, it will be fundamental to include a diversity of CFE, *ejido* and community representatives in planning and decision making; among other things, broad participation ensures greater representativeness in business decision making, and makes it more likely that these processes will continue beyond the term of the authorities in charge when they are launched.
- The CFE should carefully undertake the process of management plan revision, to ensure that the intensified silvicultural regime being planned does not undermine the sustainability of harvesting or biodiversity values.
- In the field, technical training and equipment upgrades should be deployed to increase both the efficiency and quality of forest harvesting and primary processing.
- Considerable technical assistance and training will be needed to build sufficient capacities in enterprise administration, finance and marketing.
- The recently installed Administrative Council should be empowered to carry over decisions made concerning CFE finance and investment across *comisariado* leadership changes, in order to secure continuity.
- At the same time, checks and balances should be put in place and regularly monitored through reporting to the *asamblea*, in order to ensure the new council does not compete with or supplant traditional CFE governance authority.
- As the CFE moves to a more professional management system, it will be essential to promote greater inclusion and work opportunities for youth, who to date have played a limited role in CFE governance and business administration.
- Given the increased competition from cheap imports, El Largo should invest more in the modernization and diversification of its sizeable forest industry, in order to reduce production costs and waste, improve product quality, and expand value-added production.
- As value-added capacity expands, El Largo should take advantage of its FSC certificate and diversify its customer base by more actively seeking to place its forest products in preferred markets.

The *ejido* holds FSC forest certification for 251,867 ha of forestland

Photo by Oscar Estrada Murrieta

Introduction

Mexico has what is probably the world's most developed community forestry sector. In contrast to most other developing countries, Mexican forest policy has historically facilitated, rather than suppressed, the emergence of community-managed forests and enterprise (Bray et al. 2006). Over 60 percent of Mexico's forest estate – which covers more than a third of the country's total land area – is under the legal jurisdiction of communities (Madrid et al. 2010). Reforms launched with the Mexican Revolution in 1917 and implemented in successive waves over the next six decades redistributed land to rural communities under two forms of tenure: *ejidos*, which are land grants to groups of individuals, and 'agrarian communities,' rural (mostly indigenous) communities holding land grants issued by the Spanish Crown (Klooster 2003).

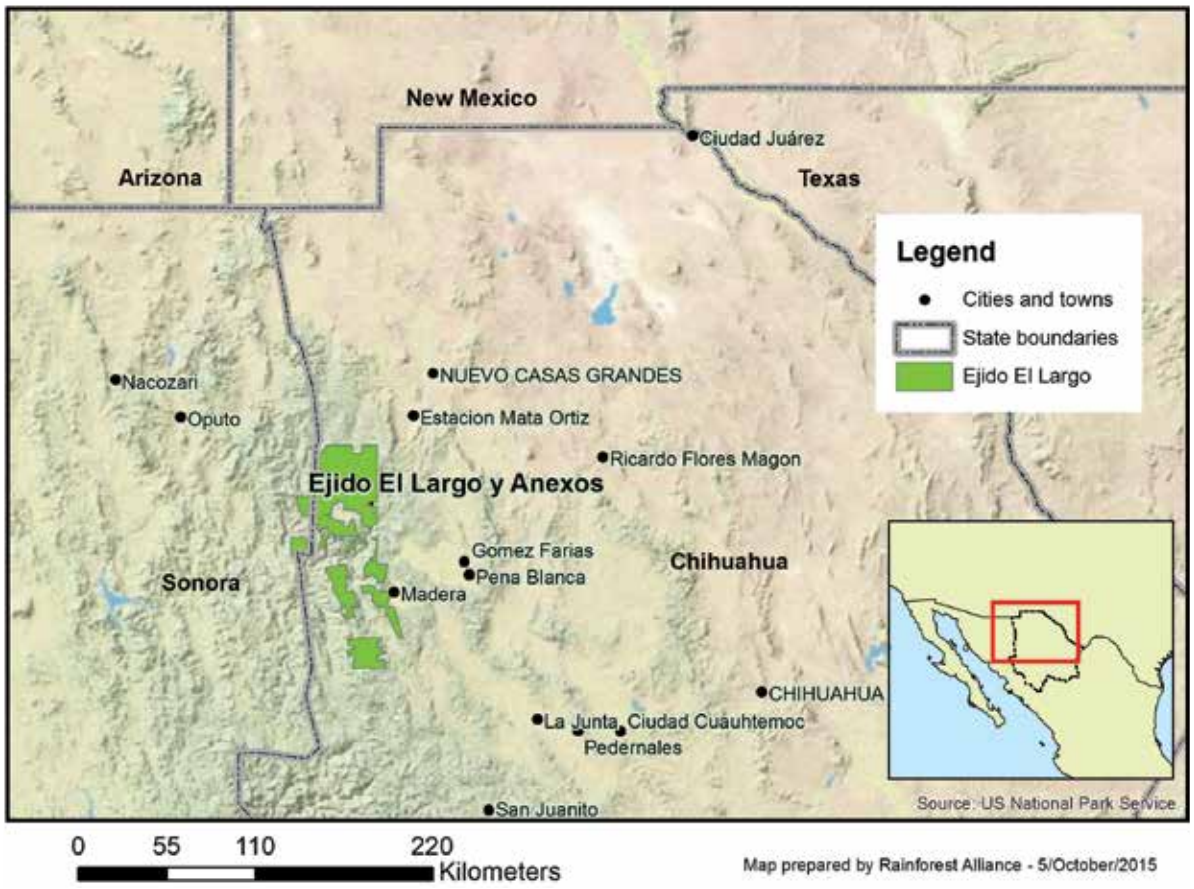
Estimates vary, but there are believed to be nearly 9,000 communities in Mexico with some amount of forest on their lands. Of this number, perhaps two-thirds have forest cover with an extent and quality to actively engage management and build local enterprises. Currently, about 3,000 communities have government-approved management plans for the harvest of timber and other forest products. This number encompasses a wide diversity of community enterprises – from associations of smallholders managing planted stands of pine, to *ejidos* managing tropical forest, to indigenous communities managing large communal forests with multiple aims (Hodgdon et al. 2013).

This case study profiles Mexico's largest community forest, El Largo y Anexos, in the northern state of Chihuahua. Although the size of its operation is much larger than any other Mexico – to say nothing of the vast majority community forests globally – the trajectory it has traveled and the challenges it faces will be familiar to many CFEs across the global south. The need to balance local governance norms with that of achieving enterprise competitiveness, the fundamental importance of finance and external assistance in improving operational efficiency, and the centrality of market diversification for better business performance have all been critical issues that El Largo is working to tackle. The Rainforest Alliance – along with a host of partners, including Mexican government agencies – has provided support to processes that are helping to transform El Largo's CFE, although this case study makes clear that such a transition will take time to come to full fruition.

The Origins and Development of Ejido El Largo y Anexos

The Ejido El Largo y Anexos is Mexico's largest forestry *ejido*, covering 261,460 hectares. El Largo was created by a Presidential Decree on May 20, 1955, when 9,500 hectares were awarded to 110 individuals that had organized to apply for a land grant. The *ejido* was dramatically expanded by another Presidential Decree issued in 1971, when it reached its current area, and grew to an *ejido* membership of 1,723 people. Both grants were the result of local organizers seeking to apply agrarian reform laws born out of the Mexican Revolution. These efforts successfully wrested control of large tracts of forest from Bosques de Chihuahua, a subsidiary of the Chihuahua Group, which was Mexico's largest industrial forestry consortium at that time.

Map
Location of Ejido El Largo y Anexos' forestland. Note: some of the edjido's land is in the state of Sonora because the border between Sonora and Chihuahua was redrawn in the 20th century



Commercial timber extraction in the area began in 1906, by the U.S. Sierra Madre Land and Lumber Company. Three years later, in 1909, the Mexico Northwestern Railway Company, which was formed with British capital but incorporated in Canada, acquired the land and continued exploiting its forests, most of which had never been logged commercially. The company – which ultimately acquired about 1.3 million hectares in the region – installed a large sawmilling industry that eventually produced one million board feet (over 2,350 m^3) per day. In spite of the Mexican Revolution, the company retained a total of 615,000 ha. This area was subsequently acquired by Bosques de Chihuahua in 1952. Over time, Bosques de Chihuahua sold the lands that had been logged off to small ranchers. By 1971, when El Largo was granted the land, the company was logging an area of about 252,000 ha.

During its years of operation, Bosques de Chihuahua produced and sold dimensional lumber, railroad ties and wooden packing boxes, while supplying raw materials for pulp and paper as well as plywood production. With the issuance of the land grant, the company reached an agreement with the *ejido* to market solid wood as a joint venture, and source raw material for sale directly into the pulp and paper production wing of Bosques de Chihuahua.

The scheme that allowed for such a "corporate-community partnership" was a concession agreement signed by the company to operate on *ejido* lands. This approach was actively encouraged by the Mexican government with the enactment of the Forestry Law in 1942, whose primary aim was to promote the development of forest industry. The goal was to ensure the supply of raw material for investment in forest industries with high production capacity, even as the forest itself was increasingly being handed over to local communities. In practice, such "partnerships" were commercial in nature above all, with little decision-making authority over forest operations in the hands of *ejidatarios*, especially in the first years of operation. Over time, however, as communities pressed for more authority and benefits, the presence of concessionaires led to the creation of local capacities for forest management and business that would be fundamental to developing their own CFEs.

In 1976, community leadership negotiated a contract that gave the *ejido* control of a small portion of the timber harvest, which it could mill and market itself, either to the company or other buyers. The *ejido* began with 5 percent of the annual allowable cut (AAC) in 1976, which stood at 397,000 m^3 – thus the *ejido* gained control of 19,850 m^3, no small amount for a new community enterprise. By 1979, El Largo negotiated 20 percent of AAC. This enabled the *ejido* to operate its own sawmill, starting with a circular saw that had been installed during its early years, and which was used to produce railroad ties. Between 1976

and 1981, the *ejido* installed three new band saws. In 1982, in a watershed breakthrough, the *ejido's* leadership renegotiated its contract to allow the *ejido* to sell timber products to the company at market prices. This further capitalized the community's operation, allowing El Largo to invest in new sawmills and diversify its customer base.

The next major milestone was achieved in 1996, when the *ejido* purchased the timber yards, industrial facilities, workshops, warehouses and other structures that Bosques de Chihuahua had built at its industrial center in La Mesa del Huracán. This sale marked Bosques de Chihuahua's departure from the region and a new phase in the *ejido's* development. It was now the sole owner of both the forest and the infrastructure that powered its CFE.

Forest Management in El Largo

All but about 9,500 ha (3.6 percent) of El Largo's lands are forested. However, less than half of this area is destined for commercial production. Most of the 128,000 ha dedicated for conservation is dominated by oak and/or pine-oak associations unsuitable for commercial harvesting. These areas are both important as habitat for a range of flora and fauna species, as well as providing wood fuel for local use. The *ejido* invests significantly in fire control in these areas, as in the production forest.

Just under half of El Largo's land is dedicated to production. Even so, the *ejido's* timber volume production is by far the largest in all of Mexico. The AAC for the present logging cycle (2008-2017) stands at just over 316,500 m^3. To give some perspective, the next largest volume produced by an *ejido* in Mexico is Pueblo Nuevo, in Durango, which stands at less than half El Largo's AAC. Put another way, El Largo's forest production is beyond that of any community forestry operation globally. What it harvests annually is even on par with that of total sustainable volume harvest at a national scale in some tropical countries, e.g. Laos.

Of the 316,500 m^3 AAC, nearly 291,000 m^3 is pine, including *Pinus arizonica*, *P.durangensis*, *P. engelmannii*, *P. leiophylla*. The remaining volume harvest is in oak (*Quercus* spp.). The silvicultural system is the Mexican Silvicultural Development Method (*Método de Desarrollo Silvícola*), which is in essence an application of the seed-tree method, with enrichment planting where necessary. The rotation age is 70 years with a cut-cycle of 10 years for intermediate treatments. This system applies across 86 percent of the forest management unit. Over the remaining 14 percent, where regenerative capacity is more limited, the *ejido* applies a system of variable retention (*Método de Control*) with a cut cycle of 15 years.

Pine reforestation on El Largo's lands.
Photo by Eugenio Fernández Vázquez

After years of operating with Bosques de Chihuahua-drafted management plans, El Largo prepared its first forest management plan in 1987. This took more area out of production and introduced measures to improve regeneration, timber stand growth, and secure conservation of important biodiversity.

The *ejido* obtained FSC forest certification in 2001. The certificate – which covers 251,867 ha – remains the largest in Mesoamerica, and is one of the largest in the world for a community forest (outside Brazil). In compliance with FSC standards, and applying its own approaches to ensure good forest management, the *ejido* has made important efforts to conserve and restore its forest resources and biodiversity over time. These include:

- Construction of eight forest-fire observation towers.
- Maintenance of five permanent fire-fighting brigades.
- Two tree nurseries with 800,000-plant production capacity.
- Two seedbed areas.

Forest Production	Forest Conservation	Ranching and Agriculture	Total
123,810	128,057	9,593	261,460

Table 1
Land use classification in Ejido El Largo y Anexos (hectares)

One of an array of forest plots that the *ejido* maintains for monitoring purposes

Photo by Oscar Estrada Murrieta

- One seed orchard.
- A 632-ha protected area for the conservation of the thick-billed parrot (*Rhynchopsitta pachyrhyncha*) where timber extraction is prohibited and the *ejido* carries out protection activities such as soil conservation and firebreaks.

The *ejido* also monitors the development of its forests in a series of plots:

- 5 permanent sample plots established in 1964.
- 10 forestry experimentation plots established in 1970.
- 5 demonstration plots established in 1978.
- 1,266 continuous forest inventory plots established 1982-1986.
- 1,400 silvicultural monitoring plots established 1990-1991.

Measurements are taken every five years in the first three groups of plots, and every 10 years in the last two groups.

Enterprise Administration and Governance

El Largo's CFE is directed by the president of the *comisariado* with support from other *comisariado* members. The *comisariado* is the ultimate responsible party for CFE management, through it answers to the wider community *asamblea*, which is made up of the 1,723 *ejidatarios*. The *comisariado* is responsible for approving all CFE management, operations, marketing, sales and investments made by the CFE. It is also responsible for reporting to the *asamblea* three times per year.

As in other Mexican CFEs – and as is common throughout Latin America – these positions are rotated every 3 years, sometimes more if there is political change, a lack of will, or performance issues. Since the *comisariado* is ultimately the body responsible for management of all CFE operations, as well as the crucial task of financial management and reporting back to the wider

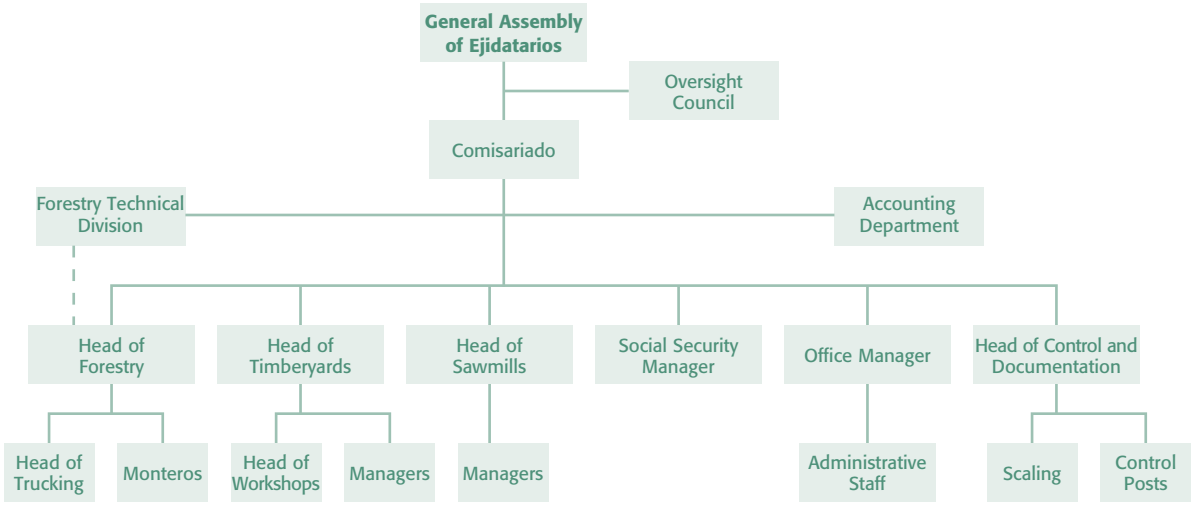


Figure 1
Organization of Ejido el Largo y Anexos' CFE

community, inconsistency with leadership has been a challenge in El Largo. More on this is considered below.

Harvest Operations

The scale of forest harvesting is enormous, involving some 800 logging teams in an average year. Harvesting and processing an average of 315,000 m^3 annually is a major undertaking that requires solid organization, as well as extensive infrastructure and machinery for harvesting, extraction, transport and maintenance. The *ejido* has 2 bulldozers, 3 graders, 3 front-end loaders and 6 dump trucks – all of which it inherited from Bosques de Chihuahua – used to maintain its extensive network of logging roads.

Given the size of its operation, El Largo has developed a multi-tiered organizational structure governing the management of different stages of production. A technical forestry division oversees overall planning of annual operations. This group handles the organization of the timber harvest at the beginning of each year, when forestry technicians and *monteros* (forest foremen) review harvest coupes to be logged, determine the layout of the harvest, and plan the location and number of logging teams that the *monteros* will coordinate. *Monteros* coordinate tree marking in harvest coupes as part of annual planning, and then supervise the harvest operation.

Each *montero* coordinates an average of 100 teams, each of which consists of three people: a chainsaw operator (felling), a bucker and a skidding technician, who transports logs using horses. Each team is assigned a control number and a first landing with 100 m^3 of marked trees. When a team finishes harvesting work, a member of the *ejido's* forestry department checks their coupe. If the team has done its work properly, it is given a 'coupe receipt', which entitles it to request another coupe to log. However, if the work wasn't done in accordance with internal regulations, the team won't be assigned a new coupe. Moreover, in the event that non-compliances are detected, such as felling an unmarked tree, the team is punished with a work suspension for a period commensurate with the offense, which may be several months. This internal monitoring system has allowed the *ejido* to keep such a tremendous operation free of poaching for years, without having to involve the national environmental authority PROFEPA.

Once the wood is skidded to the first landing, a separate team of *ejidatarios* is responsible for transportation. This is typically done by *ejido* members with their own trucks who the *ejido* pays based on established rates for distances transported. They deliver logs to a timber yard, where another team of workers is responsible for grading and scaling. This work separates timber for the sawmills from what is more appropriate for other products that the *ejido* markets, such as logs or wood chips. This process is also constantly monitored to ensure compliance with norms and to maximize efficiencies.

Once timber is delivered to a sawmill, each mill has a foreman and manager who coordinate

Logs are skidded out of harvest coupes using horses

Photo by Eugenio Fernández Vázquez

the sawing and shipment of finished lumber. Log yards at mills also have storage areas and machine repair shops. Yards are monitored for correct inventory controls and in-flow/out-flow procedures, and machine maintenance and repair is undertaken regularly.

As with its forest harvesting operation, the scale of El Largo's capacity for wood processing dwarfs that of most CFEs in Mexico and around the world. Its industrial capacity includes:

- 4 log yards for collecting and holding raw materials
- 4 sawmills for large diameter logs
- 6 sawmills for small diameter logs
- 2 debarking units
- 3 wood chipper units
- 1 lumber pressure treating unit
- 1 drying oven/lumber kiln

Nearly all of El Largo's infrastructure is outdated, inefficient and costly to maintain. This raises production costs, hampers productivity, increases risks to workers and decreases overall efficiency and quality. The need to upgrade infrastructure, particularly sawmills, has long been recognized. This forms a central pillar of the *ejido's* enterprise development mission. Some progress was made on this front during the period of analysis, discussed below.

CFE Value Chain and Markets

About 35 percent El Largo's volume harvest is sold as sawnwood, but it is sold mill run, or ungraded, into undifferentiated markets. More than 25 percent is sold as roundwood, either at logyards or mills. Around 15 percent of low-grade, small-diameter wood is used to produce pallets for the local market. A similar amount goes to chips for pulp and paper markets. Less than 5 percent goes to the production of posts for mining and agricultural use, and about 2 percent for tool handles and wooden packing boxes.

All roundwood and sawnwood sales are into local markets in Chihuahua. Due to problems with quality, above all, it has not been possible for sawnwood markets to diversify beyond rather low-end local markets. Two of El Largo's forest products make it into wider national markets: posts, pallets and tool handles. This reflects the generally more robust performance of value-added products that El Largo wants to build upon. Presently, none of El Largo's forest products are sold into international markets.

Despite the large volume and variety of products that the CFE sells, so far only one permanent customer requires that the *ejido* have FSC certification – a company called MASISA that manufactures chipboard in the city of Chihuahua. MASISA usually buys all of the *ejido's* production of smaller logs, chips and sawdust, purchasing a large portion of overall production, up to 20 percent. On average, MASISA pays a 10 percent higher price than the other company that purchases the same products. This is thus a direct economic benefit that the *ejido* has received from the sale of its certified products.

Access to finance allowed for the purchase of a modern sawmill

Photo by Oscar Estrada Murrieta

Number of Workers	Total		Gender			
			Female		Male	
	Full Time	Part-Time or Temporary	Full Time	Part-Time or Temporary	Full Time	Part-Time or Temporary
Total	695	1,949	68	-	627	1,949
Technical professionals	12		1	-	11	
Administrative professionals	8		6	-	2	
Skilled labor	675	1,949	61	-	614	1,949

Table 2
Summary of employment data for El Largo's CFE in 2013

A few major issues stand out in an analysis of the value chain and penetration of markets. First is that El Largo substantially increases incomes by selling sawnwood into differentiated markets. This will only be possible with upgrades to mill infrastructure that allow for improved quality, and some progress is being made on this front with the acquisition of a new mill. Second is that value-added products, in general, can penetrate better markets. Given the tremendous production potential and alternative markets to develop, this is an area of significant focus for the CFE in the future, where some progress has already been made. Finally, the *ejido's* experience with MASISA has been generally positive due to its consistency and the payment of a premium. Both are a result of FSC certification. As outlined in the CFE's vision for development, it will be critical for El Largo to more actively market its FSC status as it seeks to diversify its buyer base.

The Importance of Forestry in El Largo

Given the scale of the CFE's operations, it is no surprise that forestry is the most important driver of economic opportunity in El Largo. Of the *ejido's* total population of 6,458 people, the vast majority derives at least some of their livelihood from forestry activities. As part of research undertaken for this case study, a full 85 percent of total income reported in the *ejido* comes from forestry. The other major activities are cattle ranching, agriculture and local commercial business and professional services. The CFE employs a large number of people, both with temporary work as well as in full-time positions (Table 2).

The lion's share of the sizeable job creation produced by the CFE goes to men, above all in the mainly part-time or temporary work of forest planning, harvesting, transport and processing. Of the full-time positions, 10 percent are held by women; and six of the eight full-time administrative posts are held by women. This is an area the *ejido* has worked to develop over time, and it is highlighted in its CFE development vision. Such employment generates significant economic benefit to the community (Table 3).

The salaries paid to specialist posts are notably high for rural Mexico. While Mexico's GDP per capita stands at US $9,600, rural forested areas in general have a much lower average annual income, even in northern states. Salaries paid to over 2,600 people in the *ejido* include a majority of the *ejido's* 1,839 households, including the relatively small number of indigenous Pima families that inhabit El Largo. Furthermore, the CFE pays out dividends to the *ejido's* 1,723 members. The dividend varies, but averages around US $800 per member per year. Collectively dividend payments are a major "expense," amounting to around US $1.4 million per year. Balancing the demand for near-term benefits among its large *ejido* membership with that of enterprise reinvestment remains a critical issue for El Largo.

As the latter observation makes plain, in spite

Number of Workers by Type of Employment	Total	
	Number	Avg Salary (USD)* per Worker
Total	2,644	
Technical professionals	12	$11,700
Administrative professionals	8	$11,090
Skilled labor	2,624	$3,410

** based on MXN-USD exchange rate of .077 (30 June 2013); averaged across job group*

Table 3
Summary of income earned by El Largo CFE workers in 2013

El Largo's new, modern sawmill for small-diameter logs

Photo by Oscar Estrada Murrieta

of its size, high level of organization, economic power and extensive operation, what is notable is that El Largo faces many of the challenges that are common to CFEs throughout the tropics. These challenges include social organization and governance issues, inefficiencies in the production process, a lack of access to finance and weak penetration of value-added, preferred markets. The remainder of this case study focuses on these issues, technical assistance from a range of partners including Rainforest Alliance, and progress made over the past four years.

Technical Assistance to Improve CFE Performance

The Rainforest Alliance has been active in El Largo since 2001, the date of its first FSC certification. Since 2004, the Rainforest Alliance has provided technical assistance to El Largo, mainly around enterprise organization and in specific management areas related to certification compliance. In December 2010, the leadership of El Largo began work on a major project to improve the CFE's efficiency, profitability and social benefits. With support from MIF, the Rainforest Alliance joined efforts backed by the Mexican National Forestry Commission (CONAFOR) to support the CFE's aims. To this end, Rainforest Alliance staff completed a baseline assessment of the *ejido's* CFE in December 2010. This was used in the design of a Project for Integrated Forestry Development for El Largo's CFE.

Work to develop this plan began with the creation of a group of 40 *ejiditarios* from different areas of CFE operations – technicians, administrators, laborers and day workers. Five groups were formed with 6-7 *ejidatarios* experienced in each area, plus consultants, who participated in workshops to identify the main problems in each area and propose solutions. These workshops were open to other interested *ejidatarios*; ultimately a total of about 60-70 people participated, and were asked to the share the information discussed with their coworkers and fellow *ejidatarios*.

An inter-institutional working group was formed for project oversight, assessment and the development of proposals for improvement. From December 2010 until late 2011, *ejido* representatives – with support from the Rainforest Alliance, CONAFOR, UNDP/GEF, FIRA and Reforestamos Mexico – prepared and revised a master plan with a long-term vision and an annual operations plan for project implementation. Once completed, the project and resulting forestry development plan were approved by the General Assembly of *Ejidatarios*, in November 2011.

The project's master plan focuses on making improvements in five key areas:

- **Forest management** – update the forest management plan to increase productivity while improving biodiversity conservation measures.
- **Forest operations** – improve technical efficien-

Table 4
Key areas of progress implementing the integrated forestry development master plan

Thematic Area	Key Steps
Forest management	Technical studies for the elaboration of a new management plan, focused on intensified harvesting of small-diameter pine in intermediate thinnings, and expansion of harvesting activities to oak forest.
Forest operations	Training program for field forest teams in directional felling, bucking, skidding and monitoring methods proposed.
Industrial development	New sawmill and paneling plant installed; considerable build out of CFE industrial plant proposed.
Business administration	Creation of a new administrative council to ensure management continuity.
Market development	Study commissioned to diversify customer based and penetrate value-added markets

cies and monitoring of harvesting and primary processing at the logging site.

- **Industrial development –** modernize and upgrade processing infrastructure to reduce waste and improve quality.

- **Business administration –** build capacities in bookkeeping, financial controls, organizational manuals and human resources management.

- **Market development –** diversify buyer base and penetrate FSC-preferred markets for value-added products; create a commercial department within the CFE.

Assessing Progress to Date

Soon after the master plan was approved by the *asamblea*, a new group of *ejido* authorities began their term in 2012. This created a pause in momentum, since initially the new leadership needed to "on-board" the plan and prioritize its implementation among all the tasks of the *comisariado*. This resulted in a lapse in activity until 2013, when yet another group of *ejido* authorities entered office and signaled interest in implementing the plan. At this point, technical assistance was resumed and the *ejido* began implementing the plan. Table 4 summarizes progress in the five key areas of the master plan.

One thematic area that has seen progress is industrial development. A new, modern sawmill for small-diameter logs, which uses more efficient processes compared to El Largo's older equipment, has been installed and is now operating. A project for the installation of a modern sawmill for large-diameter logs was approved for installation in 2015. The *ejido* also invested in the installation of a panel plant that adds value to off-cuts from small diameters. The installation of these new mills constitutes the first step in a larger project to build what CFE leadership envisions as a modern forestry industrial park.

Enabling such industrial development is a formal line of credit that was negotiated with the National Fund for Agricultural, Forestry and Fisheries Development (FND). This provides critical access to low-interest finance for investments identified in the master plan. The mechanism allows for up to $600,000 of credit, maturing at six months, with a horizon of 5 years. The CFE has already used this credit to finance the installation of the new sawmill for small-diameter logs noted above. Technical training in loan management and performance is an important 'real-world' component of work undertaken to improve enterprise administration.

A critical achievement is the establishment of a new administrative council. The council is made up of 12 individuals, 9 of who are *ejidatarios*, and 3 of whom are external advisors. This body has been formed specifically to manage the line of credit being extended by FND, but the plan over time is for it to become a permanent feature of CFE governance and management, providing consistency and continuity through the changes inherent in the *comisariado* system. While the 9-person membership will also rotate periodically, this rotation will be timed differently with that of the *comisariado*, ensuring that decisions and processes can be carried forward through leadership changes.

Changes in Key Indicators

Since most of the investments in technical assistance focused on processes, and due to the pause caused by *comisariado* leadership change during 2012-2013, only limited changes were observed as

The *ejido's* CFE maintains an extensive network of logging roads

Photo by Oscar Estrada Murrieta

El Largo's CFE employs 2,644 people.

Photo by Eugenio Fernández Vázquez

Table 5
Increase in volume harvested during the study period

Authorized Annual Cut Versus Actual Harvest

YEAR	VOLUME		
	Authorized	m³	%
2010	290,000	246,500	85
2013	296,097	257,604	87

Table 6
The CFE's timber processing capacity increased during the study period

Growth in Installed Processing Capacity

YEAR	INSTALLED CAPACITY (Board Foot)	PRODUCTION CAPACITY	
		BF	%
2010	80,000	46,116	58
2013	95,000	56,535	60

Table 7
The 12 percent growth in CFE jobs between 2010 and 2013 benefited women significantly, with the number of female employees increasing by 62 percent

Employment Indicators (2010 and 2013)

Job Description	2010			2013		
	Total	Gender		Total	Gender	
		Male	Female		Male	Female
Skilled labor	2,290	2,261	29	2,624	2,563	61
Professional posts	68	55	13	20	13	7
Total	**2,358**	**2,316**	**42**	**2,644**	**2,576**	**68**

part of an analysis undertaken for this case study. However, important progress was seen in a few areas, including productivity, installed capacity and employment.

As for productivity, El Largo lodged a 2 percent increase in volume harvest against AAC between 2010 and 2013. As a percent gain, this may not seem like a major achievement, but in terms of volume, this increase amounted to more than 11,000 m³ of wood, or around 4.7 million board feet. This change was achieved through better organization of harvest teams and greater efficiency in forest operations, including felling, skidding and transport.

87 percent of the AAC recovered as roundwood represents essentially maximum harvest. Following El Largo's management plan, as well as best practice guidelines per FSC standards, about 13 percent of the AAC should stay in the forest as slash, for protection of forest soils and to provide habitat, while taking care not to increase the risk of catastrophic fire. Installed capacity for sawmilling was also increased during the study period, raising the percentage of production, as is summarized in the table below. As with overall productivity, an increment of 2 percent may seem modest, but in real terms, the increase of nearly 10,000 bf in installed capacity positions the CFE to significantly improve competitiveness. The final area where positive progress can be observed is with respect to employment.

An additional 286 jobs were created between 2010 and 2013, representing a 12 percent increase. Many of those jobs were taken by women, which resulted in the number of the CFE's female employees rising from 42 to 68, a 62 percent increase. While the number of women working in specialized professional posts decreased – due to the change in *comisariado* administration – 26 new jobs were gained by women, manly in the new panel plant, which require specialized skills that have garnered training opportunities for women.

Conclusions and Recommendations

On the surface, the experience of the world's largest CFE – with volume harvest on par with a small tropical nation, running 10 sawmills and employing thousands of people – might seem to hold little of relevance to the majority of community

El Largo's CFE maintains a network of permanent plots for monitoring forest growth

Photo by Eugenio Fernández Vázquez

forests in the global south. However, this case study shows that the issues faced by El Largo would be quite familiar to most small community enterprises. Difficulties in ensuring leadership continuity, weak administrative capacity, outdated technology and infrastructure, lack of access to finance and poor market penetration are common concerns of CFEs the world over.

The first step towards unlocking solutions to these problems – this case study argues – is the articulation of a comprehensive, integrated and representative vision for enterprise transformation and growth. But drafting and implementing such a vision takes time, and is best undertaken with the support of a diversity of partners. Still, it is clear that such documents need not be destined to collect dust in the office, but rather can be used to leverage even more support, as El Largo has managed to do with FND. Landing finance in particular can garner short-term results, and provide "real-world" motivation for improvements to technical and administrative performance.

Following El Largo's vision for its CFE's future, much remains to be done. The following recommendations are advanced:

- As implementation of the integrated master plan continues, it will be fundamental to include a diversity of CFE, *ejido* and community representatives in planning and decision making; among other things, broad participation ensures greater representativeness in business decision making, and makes it more likely that these processes will continue beyond the term of the authorities in charge when they are launched.
- The CFE should carefully undertake the process of management plan revision, to ensure that the intensified silvicultural regime being planned does not undermine the sustainability of harvesting or biodiversity values.
- In the field, technical training and equipment upgrades should be deployed to increase both the efficiency and quality of forest harvesting and primary processing.
- Considerable technical assistance and training will be needed to build sufficient capacities in enterprise administration, finance and marketing.
- The recently installed Administrative Council

Making El Largo's CFE more efficient will benefit the 1,839 families that own it

Photo by Eugenio Fernández Vázquez

should be empowered to carry over decisions made concerning CFE finance and investment across comisariado leadership changes, in order to secure continuity.

- At the same time, checks and balances should be put in place and regularly monitored through reporting to the asamblea, in order to ensure the new council does not compete with or supplant traditional CFE governance authority.

- As the CFE moves to a more professional management system, it will be essential to promote greater inclusion and work opportunities for youth, who to date have played a limited role in CFE governance and business administration.

- Given the increased competition from cheap imports, El Largo should invest more in the modernization and diversification of its sizeable forest industry, in order to reduce production costs and waste, improve product quality, and expand value-added production.

- As value-added capacity expands, El Largo should take advantage of its FSC certificate and diversify its customer base by more actively seeking to place its forest products in preferred markets.

ANNEX I

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ANNEX II

Key Informants

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