

Sustainable Forest Management and Stewardship in Mexico: Gains, Challenges and Lessons



Mexico, one of the world's 10 mega-diverse countries, has 56.5 million hectares of forest of high global value. Biodiversity occurs in a wide variety of forest ecosystems: humid and dry tropical forests and various types of temperate forests. Together with richness in terms of number of species, Mexican forests also host very high genetic diversity, as it appears to be one of the centers of origin of *pinus* and *quercus*. High biological productivity is another key feature of these forest areas, as pine forests in Central Mexico enjoy growth rates of 15 square meters of timber per hectare per year, three to five times higher than those found in natural forests in the United States and Canada.

SOURCES:

David, B., L. Merino and D. Barry. 2006. *The Community Forests of Mexico*. Managing for Sustainable Landscapes. University of Texas Press, Austin.

David, B. and L. Merino. 2004. *La Experiencia de Las Comunidades Forestales de México*. Instituto Nacional de Ecología, México. (<http://www.ine.gob.mx>).

For centuries, Mexico's forests have been inhabited, managed, and used. As many as 14 million people, many from indigenous groups, live today in 8,500 forest communities. Despite this biological and cultural richness, 50 percent of the inhabitants of these forest communities are extremely poor.

Community Forestry in Mexico: Potentials and Achievements

As a result of an extensive land tenure reform (1930-1980), 70 percent of the country's forest land is owned by local communities. This land tenure pattern has created opportunities as well as challenges for sustainability. In many forest communities, collective property, together with undesired impacts of different public policies, have contributed to repeated "tragedies of unmanaged commons." In a meaningful number of cases, however, property rights have enabled forest dwellers to take a long-term perspective on forest use, while collective property has created incentives and restrictions that favor social capital and collective action around the use and protection of forest commons.

The Tragedy of the Commons

In 1968, Garret Hardin published "The Tragedy of the Commons", a brief paper that quickly had enormous policy impacts. Hardin argued that collectively-owned lands, which he defined as "open access," were inevitably subject to uncontrolled overuse. In a much later work, published in 1994, Hardin himself acknowledged that the "tragedy" was limited to unmanaged collective goods. Unfortunately, however, his original paper continues to influence thinking on the performance of common property resources.

Mexico has the largest share of forests under community management in the world; 18 percent are directly managed by local communities. This is an outcome of different community forestry programs and forest laws that have, at different times since the early 1980s, sought to provide responses to the vast deforestation experienced mainly during the 1970s and 1980s. Community forestry became an alternative to either closing forests or giving concessions to outsiders, two strategies that had been previously applied with poor social and ecological outcomes.

Community forest programs have provided economic incentives for local communities to engage in forest protection, mainly through the development of community commercial logging operations. Over time, these programs also became engaged in the development of local technical and administrative capacities, conservation and management of forest biodiversity, diversification of forest use — including the harvest of non-timber forest products and marketing of environmental services — and fostering communities' collective action and forest governance. NGOs have been actively involved in community forestry and have been key facilitators for the success and sustainability of these efforts.



Community forestry has worked as an important local development driver. As in other developing countries, in Mexico forests provide households with fuel, food, fodder and traditional medicines. In addition, where commercial community forestry has developed forest assets, these are the base of community enterprises that provide local employment and income.

In 2006, 80 percent of the country's timber production was provided by forest communities. Non-timber forest products make a similar contribution to local economies. Tourism and marketing of environmental services have appeared in an increasing number of cases. The profits of communities' enterprises are frequently invested in the development of communities' infrastructure and services, schools, clinics, and roads. Even libraries and internet facilities have been funded with the profits of communities' forest business. These investments are particularly important in remote regions where government investment tends to be scarce.

Through community forestry, local societies have achieved other less tangible, though no less important, gains. In most cases, sustainable management of common forests is largely based on previous social capital, defined as relations of trust and cooperation within communities. Where community forestry has been successful, social capital has grown and expanded and local institutions developed and strengthened. In this sense, community forestry also contributes to a key public good: the possibility of local governance, an especially important "good" in the context of increasing violence that Mexico is currently facing. Finally, collective management of common forests also requires and promotes human capital.

Community forestry has made important contributions to biodiversity conservation: the largest and best preserved area of cloud forest, the most endangered type of forest in the country, is located in various community-protected areas in the southern state of Oaxaca. Nearly half of the communities in the five main forest states of Mexico have created areas devoted solely to conservation. A million hectares of community-managed forests have been certified as well managed by the Forest Stewardship Council (FSC).

Mexico's pioneering experience is being successfully adapted and adopted in other Latin American countries like Guatemala and Bolivia.

Old and New Challenges to Sustainable Forest Management

In spite of these achievements, it has to be acknowledged that these areas still face important economic, political and environmental challenges. Mexican forest areas are going through a process of change: traditional challenges remain while new threats for sustainability have emerged.

Community Forest Conservation: A Success Story

In the *Ejido El Balcón* on Mexico's Pacific coast, the local community has sustainably managed its 15,000 hectare temperate forest for more than 20 years. In the late 1980s, it acquired forest industry facilities and in the mid-1990s, *El Balcón* became certified. Since then it has been exporting timber products to the United States. In 2009, it started selling furniture to the European Union. This collective business provides employment to all *ejido* members, their children, and to some members of neighboring communities. Young people who want to study in the local university can be funded by the *ejido*, in exchange for two years of community work when they finish studying.

The 300 hectare forest of *Ejido El Paso* is the best preserved area in the buffer zone of the Biosphere of the Monarch Butterfly in the mountains of Central Mexico. *Ejido* members have sustainably logged and protected their forest for more than 60 years, providing important contributions to local livelihoods. Achievements of *El Paso* sharply contrast with the conditions of most of the 104 communities of the Reserve, where poverty and deforestation are widespread.

Traditional Challenges

- Successful cases are largely constrained to temperate forests with a higher density of tree species with commercial value; regional markets for most tropical timber species are non-existent.
- Forest production is over-regulated (by central government), which results in additional costs.
- Illegal logging is widespread and, there are no market instruments that enable consumers to identify legally produced timber, and the capacity of the government to monitor and sanction is extremely low.
- Over-grazing occurs in forest areas with few resources of commercial value, largely promoted by long-time subsidies.
- There is a lack of public understanding of both current contributions and future potential of community forestry.

Collective and Participatory Management

Members of forest communities meet regularly to discuss collective forest management and forest business. With the support of NGOs, many of them have developed participatory land-use planning that often includes the segregation of areas devoted to forest and water source protection, and even for biodiversity conservation. Community assemblies have also developed local by-laws regarding forest management, where community members' rights and responsibilities are defined and agreed upon.

Emerging Challenges

- Community businesses have to compete in global markets without access to proper funding and adequate macro-economic policies, while market prices do not always pay for all the costs involved in sustainable timber production.
- Out-migration is an increasing phenomenon, the impacts of which on forest management and local governance are not yet fully understood. Due to out-migration of the young, community rights holders are aging, often without generational replacement. Population loss may reach a point at which social capital and local institutions weaken and forest resources lose social value.

The main social and ecological challenges are faced by communities without management schemes in the majority of the forests of the country. The most endangered forest types are cloud forests and dry forests, rich in biodiversity, but poor in resources with market value. In these regions, the contributions of forests to local employment and income are very low or non-existent.

Experience shows that there is a strong relation between successful collective forest management, high levels of social capital, and strong local institutions. The opposite is also true — as a general trend, deforestation, uncontrolled forest fires, and illegal cutting occur mostly in contexts of poor social capital and scarce opportunities of economically-viable legal forest use.



Conclusions and Lessons Learned

More than 20 years of experience of community forestry in Mexico has produced important social learning:

- Local communities can be viable local stewards of resources and ecosystems of high public value.
- The development of economic incentives, the empowerment of collectives and local rule are imperatives for forest sustainability in the context of inhabited forest regions. Forest conservation requires the development of local capacities for forest management, forest economy, and local governance.
- Ecological knowledge — local and academic — has an important role to play. As commercial extractive uses develop, and management evolves towards sustainable harvest and landscapes, it provides fundamental inputs for rule making and decision-taking processes.
- The sustainability of community forestry in Mexico requires the support of both well-crafted policies and markets able to recognize and value its environmental and social costs.
- The creation of new types of markets requires a coordinated intervention of the state and the civil society.

Suggested Readings

Garrett, H. 1994. *The Tragedy of the Unmanaged Commons*. Trends in Ecology and Evolution, Volume 9, Issue 5, Page 199.

Rudel, T.K., O. T. Coomes, E. Morán, F. Achard, A. Angelsen, J. Xu and E. Lambin. 2005. *Forests Transitions: Towards a Global Understanding of Land Use Change*. Global Environmental Change, pp 23-31.

White, A. and A. Martín. 2002. *Who Owns the World's Forests? Forest Tenure and Public Forests in Transition*. Forest Trends. Washington, D.C.