CHAPTER 4
Lessons learned from community forestry initiatives, payment for environmental services and other incentives

Most countries in the Mesoamerican region have initiatives that have tested economic instruments and organizational systems that contribute to the conservation and good management of forests through community enterprises or PES systems. These have been promoted by indigenous and peasant communities and have received funding from international cooperation and national governments. Such initiatives began around 20 years ago, and represent a rich source of learning that is useful for the future implementation of REDD+.

Schemes were originally focused on subsidizing forest conservation through the creation of protected areas, but have moved towards the strengthening of community forestry initiatives (in communal forests or concessions), agroforestry and PES. Some such initiatives, which were piloted with international cooperation funding, gradually became national programmes – particularly in Costa Rica, Guatemala and Mexico. In other countries in the region, national governments had more specific involvement, either in developing or regulating the initiatives. One of the most important contributions of such specific participation is the increasing involvement of municipalities (particularly in PES initiatives).

Table 12. Initiatives for forest management and conservation in the Mesoamerican region

	Programme	Type of initiative	Sphere	Financial resources
Mexico	Pro-Árbol (Pro-tree)	PES for water, carbon, biodiversity and agroforestry system	National	National resources from dam administration, other contributions from municipal and private sources, international cooperation, loans from the World Bank
	Pro-Árbol/PROCYMAF	Support for community forestry	National	National resources and World Bank loans
Guatemala	PINFOR and PINPEP	Forestry incentive programmes for small forest landowners (conservation, management, agroforestry systems)	National	National resources and international cooperation (IDB, support from the Netherlands and Spain and so forth)
	PES in the Maya Biosphere	Carbon capture	Maya Biosphere Reserve	IDB/Multilateral Investment Fund (MIF)
Honduras	Specific initiatives	Over 20 initiatives involving water-based PES	Micro-basins	Local resources from enterprises and hydroelectricity plants
Salvador	Local water-based PES	Water services at the level of municipalities and municipal associations	At local level and micro-basins	Municipalities, water boards and user boards
Nicaragua	Specific initiatives	Water services and carbon capture	At sub-basin level	Enterprises, municipalities and users
		Support for community forestry	RAAN region	International cooperation (WWF, World Bank and so on)
Costa Rica	National Forestry Financing Fund (FONAFIFO)	PES for water services, carbon capture, scenic beauty and reforestation	National	National hydrocarbon tax, hydroelectricity plants, companies, users and international cooperation
Panama	Project initiatives	Water services for the Panama Canal and other basins	Basins and sub-basins	

Sources: *Sistematización de Experiencias de PSA en América Central EPYPSA* 2010.

4.1 Community forestry and forest concessions

As stated in Chapter 2, UN-REDD and FCPF see Mesoamerica as an important area, partly because of the significance of its existing sustainable forms of community forest management, which provide extremely useful experience for REDD+ in the region's countries and other countries with similar conditions. The most important characteristic of such schemes is that they are based on communal ways of managing natural resources. In Mesoamerica, these experiences take place on land designated by the States as forest concessions, as in the exploitation activities in the Maya Biosphere Reserve in Guatemala, the Atlantic region of Honduras or the land belonging to indigenous populations whose ownership rights have been legally recognized (such as the forest communities in Oaxaca, Mexico, RAAN in Nicaragua or the Altiplano in Guatemala).

Community forestry in Mexico

In terms of community forestry, the oldest and most ambitious experiences are probably those in the south-east of Mexico. They arose in the 1980s as a result of a first wave of social struggles as communities protested against the system of concessions awarded to State and parastatal enterprises set up by the Federal Government. At the end of the 1990s, the Mexican Government, through the Secretariat for the Environment and Natural Resources (SEMARNAT) and then through CONAFOR, set up PROCYMAF with their own resources and resources from GEF and the World Bank. The pilot programme began in the state of Oaxaca, and helped to strengthen community forestry initiatives, which were mainly made up of indigenous populations that had set up their own enterprises at the end of the 1980s. Between 1998 and 2010, SEMARNAT and CONAFOR used PROCYMAF to support over 1 000 agricultural units in 14 states, by channelling support for land planning, updating management plans, training local managers and service providers, plus equipment and marketing for wood and non-wood products.

One of the most successful experiences concerns the forest communities in the Sierra Juárez in the north of Oaxaca State, particularly communities who are part of the Zapoteco-Chinanteca Community Union (UZACHI). UZACHI is made up of four communities of the Zapoteco ethnic group (3) and the Chinantecao ethnic group (1). Together, they own an area of 23 125 hectares of forest out of the total 28 978 hectares of territory that belongs to them. The members of the UZACHI communities have considerable experience of mutual cooperation. This is due to the fact that in the 1980s they began a joint struggle for recognition of their rights over the territory and forest resources, which until then had been the subject of a concession to a parastatal paper production company. With the slowdown in this company's activity and the approval of the 1985 Forestry Law, which favours autonomous forest management by agricultural units, the communities in northern Oaxaca organized themselves into a union and not only took over the facilities left by the company but also used their production knowledge to organize their own community enterprises that combine cutting, transport, sawing and, in some cases, drying and carpentry. In the early stages, some NGOs and universities provided technical assistance for the formulation and development of forest management plans and work plans for the enterprises in each UZACHI member community. Those plans were designed in accordance with existing traditional forestry management practices. Their aim is to increase the decimated natural capital left behind by the parastatal company. Land use planning is carried out in the light of the community's needs and family subsistence. This is why, in addition to wood production areas, there are also areas to grow subsistence crops, pasture lands and some areas left wild. Areas given over to productive activities are for wood and non-wood production (e.g. firewood, edible mushrooms, construction materials), water capture areas, protected areas for wildlife and ecotourism zones. Organization and decision making concerning the management of the forest and the enterprises fall to the general assemblies in each community, which make the basic decisions relating to forest management and production. The internal organization includes a commission (six members), a supervisory council and a technical and administrative management team in each enterprise. The ongoing presence of the state and federal government throughout the development of the enterprises has been very important for their success, particularly in terms of training and support for administrative management. Through UZACHI, each community has had access to technical assistance and research services, international cooperation resources and certification of good forest management. Each community now has its own technical forestry service. The small forest community of Santiago Xiacui, with a total of 1 767 hectares of forest in a total surface area of 2 229 hectares, is currently producing 2 000 cubic metres of wood and sales of around 1.2 million pesos a year (which is reinvested into the enterprise and into social services for the community).

The NGO ERA and other civil society actors that have accompanied the creation of UZACHI from the outset have also enabled other communities in the region to capitalize on this experience. UZACHI, along with other forest communities in the state of Oaxaca, are now part of efforts to enhance environmental services, and carbon capture in particular.[49]

The Mexican experience is illustrative because it shows many important factors that contributed to the success of peasant community forest enterprises in communities that are members of UZACHI. Having solid forms of governance within communities and inclusive democratic processes in decision making were crucial for the development of enterprises. Other key elements in the success were the constant support of NGOs, international cooperation resources and government programmes such as PROCYMAF in strategic areas such as land planning, development of their own technical forestry services, efficient and transparent administration of shared resources and the formation of partnerships for applied research, technical assistance and marketing. An integrated approach to land use planning, that included production aspects to create employment as well as self-supply production, enabled the enterprises to respond to crises (as daily subsistence needs were covered). Having basic physical and human capital (facilities from the paper factory and community members familiar with forestry work) meant that communities were not starting off in the wood business from scratch. All of these factors have been fundamental to the success of community forest enterprises in the north of Oaxaca. Having said that, the UZACHI enterprises will soon be facing major challenges in their future development, including the competitiveness of wood from natural forest management compared with products from forest plantations; the administration of forest enterprises; and the considerable migration of the communities' young people whose need for income reduces the job creation capacity of forest enterprises.

Community forest concessions in Guatemala

In terms of forest communities working on concession lands, the experience of El Petén in Guatemala is probably one of the most successful in the Mesoamerican region, as it successfully combines conservation objectives for the Maya Biosphere region (particularly its multiple use zones) with the recognition of the rights of peasant and indigenous groups to make a living from forestry activities. As mentioned in Chapter 2, community concessions are 25-year contracts between the Government of Guatemala and a community organization that guarantee use, management, extraction and exclusion of wood and non-wood resources in the multiple use zones of the Maya Biosphere region. The concessions range from 3 500 to over 50 000 hectares and involve municipalities for administrative support and conflict resolution.

For concessions to be granted, the groups must form legally recognized organizations before the signing of the concession contract. These organizations are governed by management boards and are made up of mestizo or indigenous population (Mayas-itzaes or people from the Q'eqchí ethnic group), most originally came from other parts of the country before settling in El Petén over the last 40 years. The concessions come under the communal use regime, so that organization members manage the wood and non-wood resources through systems of rules that are informally or formally established within the groups. Concession land use is established on the basis of a management plan and land planning that considers the aims of conservation, production, subsistence activities of communities and agricultural/livestock activities. Logging activities and their scope are regulated by the contracts. Given the enormous land pressure in the area and illegal incursions, some organizations invest up to USD 15 000 every six months to maintain constant security teams to protect concession land and resources in the forest (CIFOR-FLACSO, 2009).

In terms of strengthening community organization in the context of concessions, second-level organizations have played a very important role. These include the Association of Forest Communities of El Petén (ACOFOP) and the Coordinating Association of Indigenous and Community Agroforestry (ACICAFOC), which brings together organizations from different countries in the region. Both associations have been extremely important in strengthening community organization and the representation of concessions groups as a union, which enables them to participate in political decision-making spheres that go beyond the concessions.

The Guatemalan experience is very different from the Mexican model. It combines the conservation aims that the Government and the international community have assigned to the Maya Biosphere Reserve with the need to integrate the population living in the multiple use zones by involving them in the conservation and forest renewal aims through the sustainable management of the forest in which they live. Unlike Mexican forest communities, concessional tenure systems

[49] The UZACHI and other communities in the state of Oaxaca have formed the NGO Environmental Services of Oaxaca, SAO, AC.

limit ownership rights, types of use, forms of management and the scope of exploitation. The Mexican model provides autonomy with the limits defined by the management plan and sustainability objectives of the activity and the resource. In the Mexican case, organization is strongly based on the traditional governance structures of the indigenous peoples who manage the enterprises and own the land. This gives them a shared vision for resource management and decision making, as well as robust internal management structures. In the Guatemalan model, organizations are formed for the concession contract and are made up of various parties that may or may not have affinities, but that are definitely not based on shared ethnic factors in most cases. In both countries, support from second-level organizations has been fundamental in strengthening organization (and particularly for organizing production and marketing products in Mexico).

4.2 Experiences in Payment for Environmental Services

The following analysis is based on national experiences of PES and other forestry incentives developed by Costa Rica, Guatemala and Mexico. Lessons learned are disseminated in the recent studies carried out in the region by EPYPSA, USAID, FAO, REDD-Net and GEF/UNDP (FAO, 2011a; EPYPSA, 2010; USAID, 2011; Kosoy, *et al.*, 2007; Carvajal, 2010; REDD.net, 2011). These various experiences highlight important issues such as institutional arrangements, local governance systems and land tenure.

PES in Costa Rica

Costa Rica is the only country with a national PES programme based on a tax on fuel consumption supplemented by resources from water use.[50] Money is paid to forest owners by FONAFIFO in recognition of carbon capture, scenic beauty, biodiversity and protection of water resources. Private and parastatal enterprises, involved as environmental service clients, make a financial contribution to supplement the resources that the Government obtains through the tax system. In the period 1997 - 2010, this mechanism financed about 700 000 hectares at around USD 64 per hectare[51] on five-year renewable contracts. Although the initial focus was reforestation, the programme now funds 90 percent of protection practices in the form of fences, firebreaks and area titling. The current beneficiaries are 8 400 landowners, including the ADII.

Owing to the wide acceptance of the programme and the legal status of ADIIs, which recognizes the land ownership of indigenous communities, 20 of the country's 24 indigenous territories are taking part in the PES programme (FCPF-RPP, 2010 Costa Rica). In the four other territories, the lack of forest area and problems relating to legal aspects of the ADIIs have been an obstacle. Out of the 20 territories participating in the PES programme, 11 are in the Bri-Bri-Cabecar territories in the buffer zones of national parks and the Amistad Biosphere Reserve, where the most commonly used arrangement is the PES-Protection. Between 1997 and 2009, this arrangement has been used to transfer approximately USD 15 million to ADIIs (PPD/GEF-UNDP 2010), covering 62 436 hectares (FCPF-RPP, 2010, Costa Rica). However, the resources available for the programme are insufficient to meet the demand.

When the Government began concluding PES contracts with the ADIIs, the former attempted to apply the same rules that were originally established for PES in private properties, namely a maximum quota of 300 hectares per contract. However, the forest areas and number of inhabitants were such that this restriction was considered insufficient, and the quota was initially increased to 600 hectares and subsequently to 1 000 hectares. It was also impossible to carry out the land delimitation needed to register private properties in the national inventory of PES forest areas in the same way in the ADII because of the tenure regime established in the 1977 Indigenous Law. In indigenous communities, the programme has been implemented under two different arrangements, depending on the ways of organizing the territory and forest resources. Under the first arrangement, the programme benefits the community as a whole, because the protected basin or forest area is managed collectively. Under the second arrangement, the benefits are distributed to member families for conserving specific areas managed by them. FONAFIFO has maintained an effective policy by recognizing the specific characteristics of forms of forest management and tenure in indigenous territories and adapting the programme's operational rules to the situation of ADIIs (Carvajal, 2010).

[50] The cost of the mechanism represents 7 percent of the FONAFIFO annual budget, which is funded by fuel taxes and 25 percent tax on users, donations and loans.
[51] The calculation is based on the opportunity costs of potential areas for PES.

PES in Mexico

In Mexico, since 2003, CONAFOR has been implementing a PES programme similar to Costa Rica's called Pro-Árbol (Pro-tree),[52] which offers various compensation arrangements for forest owners who conserve their forests. From 2003 to 2010, Pro-Árbol covered almost 2.5 million hectares and benefited 4 000 estates (including *ejidos*, communities and small landowners) in 27 subnational entities. The programme includes technical assistance services that help in the formulation of management plans and the monitoring thereof. In each state where the programme is implemented, CONAFOR hires promoters to consult with the communities to establish assembly agreements on participation in the programme. According to information from CONAFOR,[53] between 2009 and 2010, 136 agricultural units benefited from PES, covering a surface of 134 122 hectares of forest, managed mainly by indigenous populations. The programme's operating rules include specific arrangements for implementing PES in agricultural units, including the fact that decision making and land ownership should be managed collectively, as well as the recent incorporation of the concept of social safeguards when PES is implemented in indigenous communities.

Although there are have not yet been any assessments of the socio-economic and environmental impact of these PES programmes in the indigenous territories of Costa Rica and Mexico, various authors have systematized these experiences and identified the following findings:

- In Costa Rica and Mexico, the forest areas of indigenous communities and territories have usually been managed and conserved in accordance with the management plans set up through PES support.

- In most cases, PES resources have been used to strengthen community works (e.g. schools, roads and bridge repairs) and in some cases to purchase land from non-indigenous estate owners in the Costa Rican ADII territories (REDD-net, 2011; World Bank, 2009).

- The medium-term assessment of Pro-Árbol PES in Mexico,[54] carried out using households from five ethnic groups and a control group, showed that when PES resources reached families, 45 percent was used to buy food and for health spending, 14 percent was used to improve housing, 14 percent to buy farming equipment and 4 percent for savings and contingency funds. In Costa Rica, the assessment study of Small Donations Programme-GEF projects in 2010 mentioned that the income received by indigenous communities has boosted local economies, thereby enabling families to improve their diet and invest in agricultural production or build up emergency reserves to use in the event of crop losses. However, other authors point out the danger of monetarizing these economies, where the symbolic value of natural resources has been an important cultural element in forest protection practices.

- PES support, as with other community forest schemes, has been conducive to the establishment of second-level indigenous and peasant organizations, such as the ADII Caribbean Network in Costa Rica or the UZACHI in Mexico, or has encouraged groups to join such organizations, as with the ACOFOP and ACICAFOC in Guatemala. For indigenous communities, this has been an opportunity to strengthen capacities and organization, and has provided access to new national and international support.

- Nevertheless, few resources appear to have been invested in strengthening local governance schemes through communication, information and training systems. This is the case despite the problems and conflicts recorded that are linked to inhabitants' lack of knowledge about the programme and the limited decision making on the part of leaders (REDD-Net 2011).

Forestry incentives in Guatemala

Another relevant case study is the experience of the forestry incentive programmes of the National Forestry Institute (INAB) in Guatemala: PINFOR and PINEP. PINFOR was set up in 1998 for forest owners (individuals or social groups with

[52] Contracts also last five years and there is PES for water, carbon capture, biodiversity and agroforestry systems.
[53] Database on Pro-Árbol beneficiaries on the CONAFOR website: www.conafor.gob.mx.
[54] Medium-Term Evaluation for social matters carried out in 2009 by consultants hired by CONAFOR, in the framework of the World Bank loan for PES. The sample of households interviewed was 333.

legal personality) whose plots were recorded in the National Property Registers. PINPEP was piloted in 2007[55] for small landowners (without property titles). The supported initiatives relate to reforestation and maintenance of land suitable for forestry, as well as management of natural forests. By 2010, PINFOR had supported more than 712 000 beneficiaries in conserving around 188 500 hectares and reforesting over 102 000 hectares (INAB, 2012).[56] By 2010, PINPEP had supported 5 156 initiatives, including 32 000 hectares earmarked for protection or productive management of natural forests, and 7 000 hectares for plantations and agroforestry systems.[57]

On their own initiative and with the support of resources from both programmes, Guatemala's indigenous and peasant forest communities have been creating second-level organizations in the country's various forest regions. In 2009, these then formed a third-level body known as the National Alliance of Community Forest Organizations. This organization aims to support the strengthening of forest incentive programmes and contribute to preparations for implementing REDD+ in the country.

Although PINPEP generated considerable expectations among indigenous and peasant communities whose land tenure was not fully regularized, the development of PINPEP has been hampered by legal problems in terms of its implementation and financial restrictions. While the PINPEP Law did define owners whose estates were not registered under their name in the Property Register as possible beneficiaries, the Law's regulations state that the incentive will only apply to estates with no entry in the Register. This confusion between the subject (owner) and the object (estate) makes it impossible to apply the programme in almost all communal lands, as very few areas are in estates with no entry in the country's General Property Register (most are in lands registered to municipalities). In addition, the only way the INAB can identify with certainty those plots or communities in unregistered lands would be by working closely with the Land Registry, which is currently carrying out land surveys of estates in 41 municipalities. However, coordination between forest promotion agencies and land administration bodies is still in its infancy.

This experience shows the fundamental importance of institutional coordination and of the ongoing review of the legal frameworks that govern such programmes in the light of the experience of implementation. This review should also consider the close links between the legal frameworks that govern PES programmes and other forestry incentives, and those that regulate tenure of land and natural resources.

In 2009, FAO assessed compensation mechanisms relating to forests and water in 27 cases from Central American and Caribbean countries. According to the analysis, the emergence and staying power of initiatives using such mechanisms depend on many factors, including:

- effective local participation in the design and operation of the mechanism, and an ongoing willingness to pay;
- monitoring and organizational structures that facilitate effective coordination of the interests of beneficiaries and potential providers of environmental services;
- appropriate external support in terms of finance and assistance was fundamental, especially in the initial phases of development of compensation mechanisms;
- secure land tenure, especially for initiatives with vast territories, has been a determining factor in ensuring the continuity over time of forest and water compensation initiatives;

  and

- legal frameworks, conducive public policies and political will are essential in promoting the success of this type of initiatives (FAO, 2009d).

[55] The PINPEP Law and its regulations were approved until 2010.
[56] INAB website: http://200.30.150.38/Paginas%20web/Pinfor.aspx.
[57] Unlike PINFOR, PINPEP offers incentives for the establishment of agro-forestry systems.

4.3 Governance in indigenous territories

In May 2012, by a large majority, member countries of FAO adopted the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. By adopting them, the international community was confirming the importance of good governance in the tenure of resources as the basis for sustainable management thereof. For FAO, natural resource governance means the rules, processes and structures used to take decisions on access and use of resources, the way in which those decisions are implemented and strengthened and the ways in which divergent interests are managed (FAO. 2009b). At the basis of good governance are legitimacy, confidence and transparency. As shown in the analysis of PES and community forestry experiences, good governance in the indigenous groups living in forest territories is a fundamental factor in achieving conservation and sustainable management of forests.

The situation in terms of internal governance of Mesoamerican indigenous groups is currently uneven, regarding the analysis of their legitimacy, confidence and transparency. Some communities are suffering from the effects of migration; conflicts over access to natural resources and territory; illegal felling; drug trafficking; or the lack of transparency in decisions taken by local authorities or the leaders of internal economic organizations. Some groups in the RAAN region in Nicaragua, which have developed interesting community forestry experiences, suffer from situations where a few leaders taking over the decision-making power, which leads to extreme inequalities in the access, use and management of community resources. An assessment of those experiences reported that power was concentrated among a few local authorities. This leads to centralized and non-transparent management of financial resources and natural resources, thereby limiting community participation in decision making and in the allocation of the benefits of activities (Nitlapán, 2007). The same assessment also reported irregularities in the allocations carried out by some local government authorities, who extended wood extraction permits and the sale of lands to migrant peasants within indigenous territories in a non-transparent way (Nitlapán, 2007).

The Mexican experiences described earlier are examples of good governance in indigenous communities, but there are other relevant examples in larger forest territories, such as the Kunas and Emberá communities in Panama. In the case of the Kuna groups mentioned in Chapter 2, governance structures are run by a cluster of families led by a *Sahila* (chief). The representatives from clusters of family communities form Local Congresses, these form General Congresses and their representatives take part in the National Congress. The democratic elections of representatives and the rotating participation of community members in commissions responsible for territorial management and administration mean that members are participants in the governance processes, and create legitimacy and confidence in the governing bodies. This is demonstrated in the robust institutions, and results in efficient management and autonomous administration of their territories. One example of this can be seen in the Kuna-Yala territory in southern Panama.

Another interesting illustration is the experience of the Emberá-Wounaan groups living in the *comarca* set up in 1983 in the Darién region of Panama. With a governance structure similar to the Kuna, in 2009 the groups of the Emberá-Wounaan *comarca* set up an enterprise to promote and enhance their territory by selling various types of local products and ecotourism services. This *comarca*, which considers its territory as a natural and cultural heritage to be conserved and valued, therefore works on the sustainable management of forest resources by processing and selling wood. One of the enterprise's key values is the way in which profits are reinvested for the benefit of the community. Dividends are used to fund operational expenses and administration costs of the *comarca* and the enterprise, to promote community development and to strengthen the sustainability and economic autonomy of the territory. Resources are also used to develop vocational training programmes for community members, and lastly are reinvested in the enterprise's activities to generate jobs for community members. As with the Kuna, the development experience of the Emberá-Wounaan enterprise is based on robust institutions and forms of internal governance.

4.4 Lessons

According to the analysis of these initiatives, and the work of other authors (Merino, 2004), any consideration of the work that REDD+ could carry out in the Mesoamerican region should include various factors that affect how forests are used, preserved or deteriorate:

- Sustainable use and conservation of common forest resources has significantly reduced poverty. Forestry income has a positive effect on the living conditions of families, and in some cases has enabled the development of community services. Economic incentives for forestry activities and the services they generate encourage the commitment of these communities to the regulation and sustainable use of their forests.

- Determining factors for poverty include the lack of investment and/or permanent funding mechanisms, production options and income sources, as well as a lack of viable infrastructure and training programmes. By limiting the possibilities for investment in sustainable management, poverty in turn often leads to a deterioration in natural resources.

- Agrarian conditions are a fundamental factor in community institutions. The social nature of land tenure gives communities the right to design many of the operational rules for the use of their jointly owned resources. However, the coordination task tends to be arduous and conflictual in cases where territories are made up of several different areas. The presence of diverse population centres with their own decision-making mechanisms in a single territory is often a recipe for differences and inequalities in access to common resources and the capacity to make decision on their use and the allocation of benefits.

- Among the factors of community institutions, the delimitation of resource system boundaries is a crucial factor in institutional performance. When boundaries are undefined or insufficiently defined (as in communities in protected areas), the other conditions that characterize good institutional performance tend to be weakened or absent.

- Ethnic belonging can be conducive to the conditions that encourage development of and agreement on rules to manage common resources. These conditions may include a shared vision of resources and relations of trust and reciprocity, which are an important part of social capital when it comes to resource conservation. However, these factors are not exclusive to indigenous communities and do not apply to all of them, as communities that have lived and struggled together for many years (as in the Mexican community forestry experience) often have a shared vision and a trust despite the absence of ethnic bonds.

- Forestry closed seasons imposed on communities, persistent illegal incursions and different perceptions and interests among inhabitants have been more significant factors in the lack of regulation than the values of confidence and reciprocity maintained among some sectors of the community.

- Regular monitoring and incremental sanctions for rule breakers are vital for compliance and for the conservation of common resources. Similarly, having incremental sanctions defined by the assemblies themselves is a crucial factor in ensuring compliance with the rules.