



Indigenous and community conserved areas in Oaxaca, Mexico

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Abstract

Purpose – The purpose of this paper is to analyze the community conservation movement in Oaxaca, a bioculturally diverse state in southern Mexico, with a particular focus on indigenous and community conserved areas (ICCAs) as an emergent designation over the last decade.

Design/methodology/approach – A survey of indigenous and *mestizo* community conserved areas in Oaxaca was conducted in 2009 as part of a broader inventory of the ICCAs of Belize, Guatemala and Mexico.

Findings – The survey revealed 126 sites of community conservation in Oaxaca covering 375,457 ha, 14.5 percent more than the 327,977 ha included in nationally decreed Protected Natural Areas in the state. A total of 43 sites are certified community reserves comprising 103,102 ha, or 68.7 percent of the 150,053 ha included in the 137 certified sites recognized nationally. The diversity of Oaxaca's ICCAs, which have emerged creatively in variable cultural, ecological and historical contexts throughout the state, provide an opportunity to assess the effectiveness of community conservation efforts.

Originality/value – Mexico is one of the few countries that have an extensive inventory of ICCAs that could be incorporated into an international registry being formulated by the World Conservation Monitoring Centre.

Keywords Conservation, Ethnic groups, Forestry, Governance, Mexico

Paper type Research paper



The ICCA inventory was based on publications, reports and other sources of information provided by representatives of government agencies and programs involved in the community conservation movement, including CONAFOR, CONANP, COINBIO and MIE, as well as civil society institutions that are engaged with communities such as ERA AC and GeoConservación AC. The inventory was funded by the United Nations Development Programme Global Environment Facility Small Grants Programme as part of a grant for recognition and support to ICCAs in northern Mesoamerica. A fellowship at the Rachel Carson Center, a joint initiative of Ludwig Maximilians University Munich and the Deutsches Museum, allowed G. Martin to complete the manuscript.

I. Introduction

The state of Oaxaca holds a privileged place within the vibrant community conservation movement in Mexico (Figure 1). It has gained particular recognition because it is a leader in declaring indigenous and *mestizo* certified community reserves (Bray *et al.*, 2008), which are one type of voluntary conserved area (VCA) legally recognized in Mexico's general environmental law (*Ley General del Equilibrio Ecológico y la Protección al Ambiente (LGEEPA)*).

These locally declared, but nationally recognized protected areas are only one manifestation of the community conservation movement in the state. An impressive diversity of local designations from eight different ethno-linguistic groups and *mestizos* (Spanish speakers of mixed European and Indigenous ancestry) have been tentatively grouped in five categories, including protected communal areas, forestry management protected areas, sacred natural sites (SNSs) and wildlife management areas, in addition to the certified community reserves.

Official recognition of the ancient phenomenon of community conservation began in 1996, when *LGEEPA* article 59 was reformulated, allowing communities to legally set aside land for conservation. In 2003, the National Commission of Natural Protected Areas (CONANP) started a program of certifying communal and *ejidal* reserves, beginning with a conservation zone in the community of Santa María Guienagati, followed by another 42 areas certified by CONANP over six years.

Some communities – such as those comprising the Regional Committee for Chinantla Alta Natural Resources (Comité Regional de Recursos Naturales de la Chinantla (CORENCHI)) – have set aside contiguous conserved areas that form a biological corridor in which jaguars (*Panthera onca*) and other endangered animals are protected (Figure 2). The six Chinantec communities in CORENCHI have set aside more than 27 500 ha of conserved forest since 2004, of which more than 25,000 ha have been certified by CONANP (Martin *et al.*, in press).



Figure 1.
The location of the state of
Oaxaca within the
Republic of Mexico



Figure 2.
The landscapes of San Antonio Analco, a Chinantec community of Oaxaca, include communal forests that are protected as voluntary conserved areas

Notes: San Antonio Analco is one of six Chinantec communities that created the Regional Committee for Chinantla Alta Natural Resources (CORENCHI, *Comité Regional de Recursos Naturales de la Chinantla*) and declared their own Voluntary Conserved Areas (VCAs). With the exception of Analco, all the CORENCHI communities have obtained CONANP certification for their VCAs. Photographer: Carlos del Campo

The early predominance of Oaxaca in establishing community conserved areas, a model increasingly followed by neighboring states of southern Mexico, is explained by an interrelated set of ecological, political and social driving forces.

Oaxaca is the most biologically and culturally diverse state in the Mexican Republic, and has extensive forests that cover 64 percent of the state's 9.5 million hectares. Oaxaca's indigenous and *mestizo* communities are characterized by an impressive level of internal organization, relative political autonomy, collective institutions and tenurial systems that contribute to resilient resource management and ability to respond to outside conservation and development efforts. The community-based property rights system is supported by the national government, which effectively devolves a degree of political power to culturally diverse communities capable of implementing their own conservation programs.

It is estimated that more 70 percent of the state is covered by communal forests and agricultural lands. Of the 6.1 million hectares of forests that cover the state, including over 3.3 million ha of temperate forest and 2.6 million ha of humid or dry tropical forest, nearly 82 percent are owned by indigenous and *mestizo* communities (SEMARNAT, 2010; Anta and Merino, 2003). In addition, over 70 percent of cultivated agricultural lands are communal property. Popular resistance to incorporating communal lands in government protected areas explains in part why there are

relatively few parks and reserves officially decreed in Oaxaca under the national system of natural protected areas (NPAs), a program that began in 1936.

The combination of rich biodiversity in need of protection, proactive local communities seeking sustainable livelihoods and limited number of nationally designated parks creates an alluring crucible in which community conservation is emerging.

II. Community conservation in Mexico

The initiative to recognize indigenous and community conserved areas (ICCAs) is a recent global phenomenon driven by local communities, NGOs, international organizations and a few governments (Berkes, 2009). The IUCN defines ICCAs as “natural and/or modified ecosystems including significant biodiversity values, ecological benefits and cultural values voluntarily conserved by indigenous and local communities, both sedentary and mobile, through customary laws or other effective means” (Borrini-Feyerabend *et al.*, 2004, IUCN/CEESP, 2008). They are characterized by several defining features:

- a people or community who possess a close and profound relation with a well defined site (territory, area, or species' habitat);
- the people or community are the major players in decision-making regarding the site and have the *de facto* and/or *de jure* capacity to enforce regulations; and
- the people's or community's decisions and efforts lead to the conservation of biodiversity, ecological functions and benefits, and associated cultural values, regardless of original or primary motivations (IUCN/CEESP, 2010).

Because of its achievements and experiences in community conservation, including the official recognition of common property rights and VCAs, Mexico is an important center of ICCA development. Within Mexico, indigenous and *mestizo* communities of Oaxaca are particularly active in establishing ICCAs. By 2009, 126 Oaxacan communities had designated 375,457 ha for community conservation, an area 14.5 percent larger than the total land surface protected in decreed NPAs. Of the 137 certified community reserves in Mexico, the 43 sites identified in Oaxaca cover 103,102 ha, or 68.7 percent of the 150,053 ha recognized nationally. These groundbreaking experiences of self-mobilized *in situ* conservation and sustainable use of biodiversity do not currently require communities to relinquish their ownership and traditional management of landscapes and natural resources.

A. Biological and cultural diversity of Oaxaca

Mexico is one of the world's megadiversity countries – a group of 17 nations that harbor the majority of known biological species. It ranks fourth in the world in overall species richness, with particularly significant levels of mammals, reptiles and endemic vascular plant species. The evolution of this highly diverse fauna and flora is directly related to the variety of ecosystems in Mexico as well as its complex physical geography and climatic and geological history. With 11 linguistic families and an estimated 291 surviving languages, Mexico is one of the most linguistically diverse countries in the world, which is just one measure of its cultural diversity.

The patterns of correlation between linguistic and biological diversity in Mexico, documented by De Ávila Blomberg (2008), support the growing recognition of the

overlap of biological, cultural and linguistic diversity worldwide (Maffi, 2005). De Ávila notes that Oaxaca, Chiapas, Veracruz and Guerrero, the four most ecologically varied states in Mexico, are also among the most linguistically diverse in the country. He suggests the high levels of linguistic diversity in Mexico are not only related to its biological megadiversity, geological history and unique biogeographical location, but also reflect the cultural dynamics and natural history that developed during the prehispanic and colonial periods.

The Oaxaca cultural region, delimited to include adjacent zones of southern Veracruz, southern Puebla and eastern Guerrero, has a density of languages and language families that ranks amongst the highest in the world (De Ávila Blomberg, 2008). Although De Ávila Blomberg recognizes the factors behind this diversification have not been fully elucidated, he postulates that parallel processes in the early history of these areas, in particular the domestication of plants and reduced mobility, played an important role. He notes the significance of archeological evidence from the Oaxaca Valley and Tehuacán area for the earliest known human selection of cultivated plant resources (Flannery, 1986; Smith, 1997).

These observations provide insights into the origin and diversity of community conservation experiences in Mexico, which are found predominately in the same bioculturally diverse states De Ávila Blomberg cites.

B. Political autonomy, self-organization and community tenure systems

Alcorn and Toledo (1998, p. 221) note that Mexico, in contrast to most countries, legitimizes community-based tenure systems that give members the responsibility to allocate and enforce resource rights within the legally established boundaries of their community. Although the state maintains ultimate rights over resources and regulates rights to sell, lease or rent community properties, the national government defends community resource rights against outsiders.

Attributes of land tenure organization from indigenous pre-colonial settlements were maintained in colonial rural communities and are evident today in Mexico's transnational small-scale societies, despite differences and discontinuities between these various historical periods (Sarukhan and Larson, 2001). Respecting the ability of community members to manage landscapes and conserve natural resources dates to pre-Hispanic forms of political organization such as the Aztec *altepetl* and *calpolli* that included human settlements surrounded by lands allocated and managed in the best interest of the community and considered as part of its patrimony (Sarukhan and Larson, 2001). Spanish colonial administrators embraced this approach, which resonated with similar European traditions of corporate land use (Alcorn and Toledo, 1998, p. 222). Although they demanded tribute payments, there was no attempt to alter traditional management systems.

The practice was disrupted periodically, most notably in the second half of the nineteenth century. With the liberal reform that began in 1856, the new constitution abolished all corporate property ownership, affecting not only Church estates but also indigenous community lands. During the Porfirian period (1876-1910), 96 percent of the population was rendered landless while 1 percent of the population became owners of 97 percent of the land (Diaz-Cisneros, 1983, cited in Luers *et al.*, 2006). After the ensuing Mexican Revolution of 1910, community ownership of land was re-established under

article 27 of the 1917 constitution, which broadly supported land reform, including redistribution to agrarian communities of an area equivalent to half of the country.

Mexican law has since recognized two types of community-based collective land and resource ownership, *comunidades* and *ejidos*. The *comunidad* is a pre-existing corporate entity in which community members can demonstrate long-standing communal use of land and resources. In 1992, Article 27 was modified, more explicitly defining *comunidad* as a population nucleus formed by land, forest and inland waters recognized or restituted to a community that has owned and managed them from ancient times guided by communal customs and practices. The *ejidos*, often referred to as land grant communities, were created after the Mexican revolution as collectives of peasant landholders who are granted access to land and resources for which they have no prior legal claim.

Both *ejidos* and *comunidades*, which together cover approximately half of the Mexican national territory (Bray *et al.*, 2003), have functioned as longstanding communities with prior rights to land and resources (Alcorn and Toledo, 1998, p. 221). The internal political organization of these communities – which includes institutions of village-level democracy such as traditional authorities (*autoridades*) selected by community members, general assemblies of villagers (*asambleas generales*), communal property offices (*comisariados de bienes comunales*) and supervisory councils (*consejos de vigilancia*) – allows a relative amount of autonomous decision-making. Decisions are guided by community statutes, which build on traditional customs and practices (*usos y costumbres*). This autonomous authority encompasses granting individual usufruct rights to specific parcels of land, but not the ability – at least until a reform of Article 27 of the constitution in 1992 – to fragment, lease or sell common property.

The substantial degree of social capital in these rural forms of organization (Fox, 1996) has led not only to hundreds of experiences of community forest enterprises (Bray *et al.*, 2003) but also other approaches to the communal management of land and resources including emergent forms of self-declared protected areas.

C. NPAs in Oaxaca

Mexico's first NPAs (known as *Áreas Naturales Protegidas* in Spanish) – were decreed in 1936. Over the course of 73 years, 173 NPAs have been established, covering 24,406,886 ha that are officially decreed as Biosphere Reserves, Flora and Fauna Protection Areas, Natural Monuments, National Parks or Sanctuaries. This is equivalent to over 12 percent of the total surface area of the country, and provides some level of protection for over 10 percent of the national territory that is still forested Anta (2007).

The difficulty of expanding government-protected areas nationwide in Mexico is evidenced by the slow rate of establishing NPAs in recent years. From 2001-2006 CONANP was able to decree 28 NPAs covering only 1.7 million ha, a decline from the 4 million ha in 27 NPAs decreed in the previous five-year period from 1995 to 2000 (SEMARNAT, 2006). Of the 252 applications to establish NPAs from 2001 and 2006, only eight had been decreed by the end of this period (De la Maza, 2006).

Because of the predominance of community-owned forests and lands in Oaxaca there are relatively few NPAs in the state (Table I). Three national parks – Huatulco, Benito Juárez and Lagunas de Chacahua – cover only 28,815 ha. The solitary Tehuacán-Cuicatlán Biosphere Reserve includes 294,112 ha in Oaxaca, with an

additional 196,075-ha across the border in Puebla (UNEP-WCMC, 2010). The other decreed protected areas in Oaxaca, encompassing a Natural Monument, a Flora and Fauna Protection Area (CONANP, 2010) and two Sanctuaries, add another 5,050 bringing the total to 327,977 ha (UNEP-WCMC, 2010). These NPAs, created through presidential decree, are strictly protected under Mexican environmental law, which does not allow community use of resources or official recognition of ICCAs within their boundaries. Oaxaca's NPAs are distributed along limited areas of the Pacific Coast, on the border with Puebla and near the city of Oaxaca in the center of the state (Figure 3).

III. A crucible of community conservation

The heterogeneity noted by Alix-Garcia *et al.* (2005) in forest management schemes of different Mexican communities is also apparent in approaches to community-conserved areas in Oaxaca. The diversity of ICCAs is testimony to the degree of innovation and self-mobilization that has led communities, often in association with government and NGO partners, to designate *sui generis* protected areas that fit a particular agronomic, cultural, ecological and social context. It is a

Table I.
Name, category, year of establishment and area of nationally decreed natural protected areas within Oaxaca

Name	NPA category	Established	Area (ha)
Benito Juárez	National park	1937	2,737
Lagunas de Chacahua	National park	1937	14,187
Huatulco	National park	1998	11,891
Tehuacán-Cuicatlán	Biosphere reserve	1998	294,112
Yagul	Natural monument	1999	1,076
Playa de Escobilla	Sanctuary	2002	30
Playa de la Bahía de Chacahua	Sanctuary	2002	32
Boquerón de Tonalá	Flora and fauna protection area	2008	3,912
Total			327,977

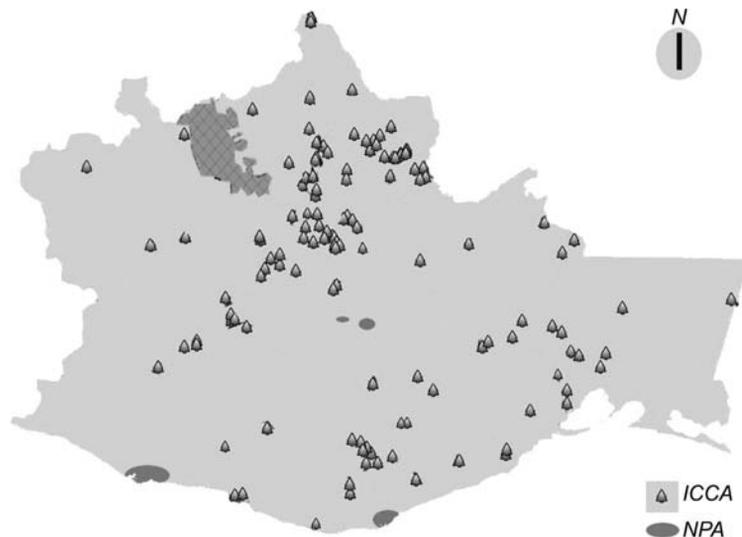


Figure 3.
The distribution of natural protected areas and indigenous and community conserved areas in Oaxaca state

further manifestation of their ability to actively resist or creatively accommodate conservation initiatives and other outside interventions (Wilshusen, 2010). Their motivations are diverse, and match closely those noted by Berkes (2009, p. 21) for community-conserved areas worldwide:

[...] access to livelihood resources, security of land and resource tenure, security from outside threats, financial benefit from resources or ecosystem functions, rehabilitation of degraded resources, participation in management, empowerment, capacity building, and cultural identity and cohesiveness.

The rich diversity of local denominations can be categorized into five types that have varying degrees of recognition at local and national levels (Table II). There are three major categories – protected communal areas, certified community reserves and forestry management protected areas – that correspond to 120 (95.2 percent) of the sites covering 351,944 ha (93.4 percent) of the overall land surface protected in the ICCAs. Two minor categories – SNSs and wildlife management areas – comprise the remaining six sites (4.8 percent of the total) that cover 23,513 ha (6.6 percent of the total land surface). The ICCAs are widely distributed in many regions of the state (Figure 3).

A. *Types of community conservation in Oaxaca*

In many cases the *asamblea*, or general assembly of community members, sets aside a protected area on communal lands without seeking recognition under national law. Found in both *comunidades* and *ejidos*, these protected communal areas are often publicly declared and some are in a transitional phase to gaining recognition by government certification or decree. This is the largest category in the ICCA survey, corresponding to 53 sites covering 191,531 ha.

The decision to protect communal areas often follows some form of participatory appraisal of community lands, often in the form of participatory land use planning, which is called *Ordenamiento Territorial Comunitario* in Spanish (Pérez *et al.*, 2006). Some communities have agreements to form their own biological corridors by linking protected communal areas with those of neighboring communities.

Some of these protected areas incorporate agroforestry and agroecology systems within the conserved areas. From *milpas* (maize polyculture systems) to shade coffee plantations, the farming systems maintained by community members are important reservoirs of agrobiodiversity, similar to those recognized internationally under schemes such as FAO's Globally Important Agricultural Heritage Systems (GIAHS).

ICCA categories	Spanish term	Number	Area (ha)
Protected communal areas	<i>Áreas Comunes Protegidas</i>	53	191,531
Certified community reserves	<i>Reservas Comunitarias Certificadas</i>	43	103,102
Forestry management protected areas	<i>Áreas de Conservación por Manejo Forestal</i>	24	57,311
Sacred natural sites	<i>Sitios Naturales Sagrados</i>	3	21,200
Wildlife management areas	<i>Unidades para la Conservación, Manejo y Aprovechamiento Sustentable de la Vida Silvestre</i>	3	2,313
Total		126	375,457

Table II.
The number and total area of five major categories of ICCAs in Oaxaca

Coffee plantations, including areas of certified organic production in the Chinantla and elsewhere, are particularly relevant for conservation as they maintain a highly biodiverse canopy of native tropical forest trees (Anta, 1999; Bandeira *et al.*, 2005).

Other protected communal areas integrate ecological restoration initiatives. The creation of cellular forestry reserves is a nascent but innovative approach promoted by a community-based organization, Ecosta Yutu Cuii SSS. These reserves comprise small areas of secondary vegetation on *comunidad*, *ejidal* or private lands where the principal aims are to restore and conserve degraded ecological areas and biological corridors. As in the majority of Oaxacan ICCAs, conservation explicitly embraces sustainable productive activities that, in the case of cellular reserves, include enrichment planting with precious hardwoods, cultivation of cacao and vanilla and harvest of deadwood (Anta, 1999; Anta and Pérez, 2004). Another approach to ecological restoration is the establishment of areas of soil and vegetation conservation, often as the result of participatory land use planning.

Certified community reserves, one type of VCA under Mexican environmental law, emerged when government agencies began to respond to local conservation efforts by creating mechanisms for the official recognition of ICCAs in *ejidos* and indigenous communities. Since 2003 CONANP has been certifying community reserves with a steady annual increase, with a current total of 43 sites covering 103,102 ha (Figure 4). Because the state has 570 municipalities and approximately 1,400 communities (Sarukhan and Larson, 2001) – most of them inhabited by indigenous peoples (Robson, 2009) – it is likely that an increase in some form of certification or decree of community reserves will continue in coming years.

Forestry management protected areas are derived from Oaxaca's extensive engagement with community forest enterprises (CFEs), one manifestation of the national Forestry Management Programs (Programas de Manejo Forestal (PMF)). Bray *et al.* (2003) note that some CFEs in Oaxaca have been using logging profits to diversify into more benign forestry enterprises and to engage in conservation of some forested areas. The ICCA inventory identified 24 experiences of community conservation

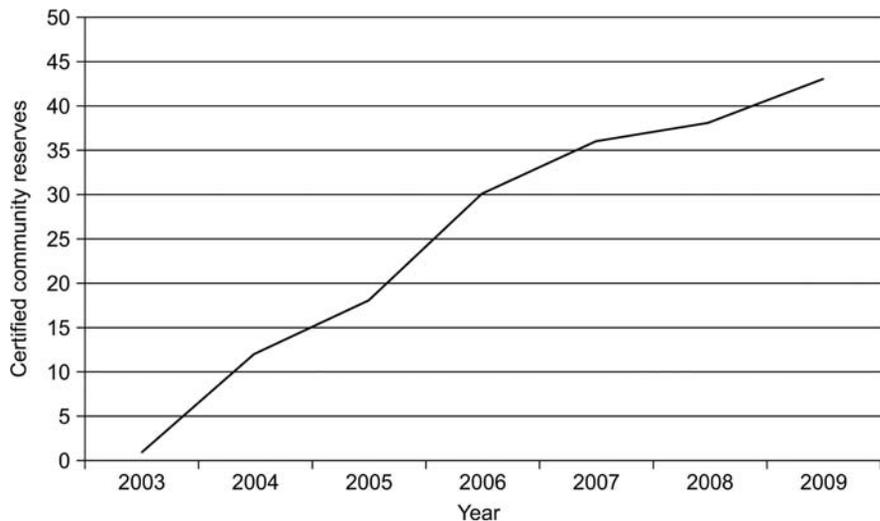


Figure 4.
Cumulative increase in
certified community
reserves in Oaxaca from
2003-2009

related to CFEs, covering 57,311 ha primarily in Chinantec and Zapotec communities. For example, the Zapotec community of San Miguel Mixtepec has set aside a managed forestry area and another Zapotec community, San Juan Juquila Vijanos, has declared an area for the protection of *Pinus chiapensis*, a valuable timber species found in montane cloud forests. The Forestry Stewardship Council (FSC) has certified the forest management practices of 11 of the 24 communities over the last ten years, although not all of these are currently certified.

The establishment of wildlife management areas (*Unidades para la Conservación, Manejo y Aprovechamiento Sustentable de la Vida Silvestre* (UMAs)) started in 1997. The Mexican government officially recognizes UMAs as areas set aside for the sustainable use and protection of fauna and non-timber forest products. As defined in Mexican Wildlife Law (*Ley General de Vida Silvestre*), they are designed to allow communities to diversify the production of goods and services from wildlife, while minimizing impact on ecosystems and biological resources. Nationally, there are 5,331 UMAs that comprise 24.9 million ha, including over 1.9 million ha within NPAs. For cultural, economic and environmental reasons, most of Mexico's wildlife conservation areas are found in northern states such as Sonora, Coahuila and Baja California Sur, which alone account for 51 percent of the total coverage of UMAs in the country (Avila and Anta, 2007). The program has had relatively little impact in Oaxaca as compared to the north of Mexico. The ICCA survey revealed only three UMAs covering 2,313 ha that clearly meet the IUCN criteria of ICCAs, although other examples may be documented in the future.

SNSs, perhaps the most ancient of the ICCAs, are widely acknowledged in communities but their legal status is not clearly established (see for example Robson, 2007). Productive activities are typically restricted in these culturally important areas, resulting in biodiversity and landscape conservation. Cerro Rabón in San José Tenango, Giéngola in Santo Domingo Tehuantepec and Cerro Huatulco in Santa María Huatulco, together covering 21,200 ha, are among the sites in Oaxaca that have attained widest public recognition (Anta, 1999). This category fits within the IUCN concept of SNSs, which are areas of land or water having special spiritual significance to peoples and communities (Wild and McLeod, 2008).

B. Alternative classifications

The classification of ICCAs in Oaxaca is tentative because the categories are not mutually exclusive, documentation of protected sites is incomplete and community conservation is a dynamic process. For example, SNSs could be included in the broader category of protected communal areas, but are distinguished by their locally recognized cultural and spiritual values. Additional wildlife management areas exist in Oaxaca, but further research is required to determine if they qualify as ICCAs, private reserves or collaboratively managed areas. Some protected communal areas are in the process of becoming certified or decreed by the national government, and some communities are considering decertifying their community reserves.

There are alternative proposals for classifying the diversity of community conservation efforts in Mexico. Anta (2007) suggested three categories of VCA: community reserves recognized only by the general assembly of villagers, private reserves and certified forestry conservation areas. Urquiza Haas (2009) proposed an alternative classification of VCAs, consisting of conservation areas for:

- maintaining or recovering control of natural resources;
- obtaining economic benefits from payment for environmental services, forestry operations, agroforestry systems, ecotourism and other sources;
- compliance with external requirements imposed by forestry certification, community territorial planning or government assistance programs; and
- protecting strategic resources such as water, fauna and non-timber forest products.

Both of these classification systems comprise not only certified community reserves but also private reserves, which are excluded in the IUCN definition of ICCAs.

C. Ethnicity and ICCAs

The correlation between the cultural diversity of Oaxaca and its community conservation movement is substantiated by the survey. The 126 Oaxacan ICCAs include community conservation experiences from eight of Oaxaca's 16 ethno-linguistic groups as well as *mestizo* communities (Table III). A precise calculation is made difficult by the presence of some communities that have speakers of more than one language. For example, Santa María Puxmetacán is populated by speakers of both Mixe and Chinantec, and the Ejido Almoloya Anexo Rincón Vaquero has speakers of Mixe and Zapotec among its largely *mestizo* population.

IV. Collective strategies of adaptive environmental management

Indigenous and community conservation is acknowledged internationally as the oldest form of environmental management, but one that has had limited official recognition (Berkes, 2009; Borrini-Feyerabend and Kothari, 2008; Kothari, 2006). There is now growing awareness that communities may have long-term collective strategies of common property management (Ostrom, 1990, 2005) and conservation and sustainable use of landscapes and resources that predispose them to declare ICCAs.

This is the case for Oaxaca, and more generally for Mexico, where indigenous communities are the legal owners and *de facto* managers of extensive lands and forests. Robson (2009, p. 22) notes that Chapela (2005) and Merino Pérez (2004), have demonstrated the governance system of Oaxaca's indigenous communities is in accordance with at least five of the eight design principles that characterize robust and

Table III.
Number of cases and coverage of ICCAs divided by dominant ethno-linguistic identity

Ethnic group	Cases	Area (ha)
Chinantec	31	67,158
Chontal	6	41,426
Cuicatec	2	8,000
Mazatec	3	12,418
<i>Mestizo</i>	11	65,084
Mixe	6	5,593
Mixtec	7	26,610
Zapotec	56	105,386
Zoque	4	43,781
Total	126	375,456

successful common property regimes according to Ostrom (1990, 2005). Appropriators participate in the formulation of rules that regulate resource use and in the monitoring of resource conditions. There is transparency in resource management decision making and spaces exist for discussing and resolving problems. The communities have strong social capital as well as past experience and knowledge. Robson (2009, p. 22) recognizes this governance approach meets many of the criteria considered important for resource conservation: communities elect local officials, self-evaluate their actions, network with each other and have appropriate institutions to manage and regulate natural resource use. Most importantly, community institutions are recognized and authorized by the municipal, regional and national authorities (Chapela, 2005).

Although insufficiently studied, the traditional and current management of community landscapes and natural resources achieves conservation in a diversity of ways (Ellis and Porter-Bolland, 2008). Local ecological beliefs, knowledge and practices, which have ancient roots, have shown great resilience during important historical periods of pre-Hispanic hegemony, colonization, independence and globalization. Many community conserved areas are putatively derived from precursor sites that were already in existence in the pre-Hispanic era, or that developed under colonial or governmental authority sometime over the last five centuries. In addition to indigenous peoples, many *mestizo* communities have historically managed their territory in a way that ensures environmental protection and resource sustainability. These historical perspectives provide insights into why local communities may resist outside conservation initiatives that impose management restrictions seen as illegitimate (Wilshusen *et al.*, 2002).

In both indigenous and *mestizo* communities, a long-standing common practice is to maintain a part of their territory as a forested area with minimal human impact. These sites are considered as reserves for the future, places to find medicinal plants, seeds and other non-timber forest products. There are many examples of traditional territorial division that include protection zones, which often lack official recognition. There are also many ancient sites with ritual importance recognized by community members, although only a few of them are documented. Explicit recognition of these indigenous and *mestizo* modes of conservation is a more recent process that emerged over the last few decades and has grown rapidly since the turn of the twenty-first century.

Collective environmental management is a fundamental precondition of the 126 ICCAs that we analyzed in Oaxaca. This endogenous root of community conservation is the foundation for a diversity of exogenous drivers, including national legislation, forestry initiatives, certification schemes, community territorial planning, government development programs and payment for environmental services (Martin *et al.* 2010).

VI. Oaxacan ICCAs: exception or inspiration?

When the relative stasis of government-protected areas is contrasted with the rapid increase in recognized community reserves in many parts of the world, it is apparent that ICCAs could be an important way forward in the quest to stimulate global conservation efforts (Berkes, 2009). Compared to the general disappointment with integrated development and conservation projects (Wells and McShane, 2004) and polarizing debates about indigenous and local conservation efforts (Redford and Sanderson, 2000; Schwartzman *et al.*, 2000a, b; Terborgh, 2000; Wilshusen *et al.*, 2002), current enthusiasm for ICCAs may reflect greater consensus on the promise of new

partnership models between communities, NGOs and governments (Brechin *et al.*, 2002; Schwartzman and Zimmerman, 2005).

Although community-based approaches should not be seen as a new panacea for what ails conservation (Berkes, 2007), they constitute a vibrant process within a generally conflicted environmental movement. Kothari (2006) expressed optimism that national and international recognition of ICCAs would more than double the known surface area of lands currently protected by governments, private owners or co-management schemes, considerably increasing our ability to conserve biodiversity. The World Conservation Monitoring Centre (UNEP-WCMC) is creating an international registry of ICCAs that will eventually enable a critical assessment of this claim (Corrigan and Granziera, 2010). In the meantime, specific case studies – such as the inventory of experiences in Oaxaca presented here – provide some indication of the extensiveness and exponential growth of recognized community conserved areas compared to the slower expansion of government-protected areas.

It could be argued that Oaxaca is an impressive but localized phenomenon. There are few regions in the world where communities own and control their resources with the constitutional and legal protection offered by the Mexican state. In addition, Mexican indigenous and *mestizo* communities have a long history of active resistance or creative accommodation to outside interventions, including neoliberal policies and conservation initiatives (Wilshusen, 2010). Rarer still, especially outside of Latin America, are places where large areas of forest are the common property of local and indigenous peoples. In recent decades federal decentralization and democratization efforts have strengthened indigenous community self-government in Oaxaca, in contrast to other states in Mexico (Fox, 1995).

The establishment of more government NPAs in Oaxaca is unlikely because indigenous communities and *ejidos* oppose modes of conservation that deprive them of rights and responsibilities to manage their resources. In addition, the extreme marginalization of these communities does not create economic and social conditions favoring commitment to conservation initiatives that exclude development and sustainable resource use. Since much of the area prioritized for conservation falls outside of the current government NPAs, further extension of protected areas is most likely to occur through recognition of community conserved areas. Efforts to convert these into government, private or co-managed areas are likely to be met with resistance.

Despite its unique historical and contemporary context, Oaxaca has lessons to share with other areas of the world that have significant biological and cultural diversity in need of conservation. Across the globe, civil society and communities are demanding a fair assessment and equitable sharing of the costs and benefits of conserving biodiversity and sustainably managing natural resources. In particular, local and indigenous peoples expect to actively participate in the governance of protected areas, supported by diverse international policy instruments such as the Convention on Biological Diversity and the United Nations Declaration on the Rights of Indigenous Peoples. In many areas of the world, the lack of secure tenure, insufficient attention to livelihoods and patchy observance of universal human rights are limiting the achievement of conservation results (Alcorn and Royo, 2007). Greater attention needs to be paid to the inextricable links between biological and cultural diversity (Pretty *et al.*, 2009), and to the conditions that allow communities to be empowered for conservation.

Seen from the perspective of these contemporary issues, Oaxaca is an inspiration for protecting biodiversity and landscapes worldwide. As a place of creative experimentation with diverse community conservation approaches, it provides models for adaptive management, articulation with national institutions and integration of international policy. Case studies of community conservation in Oaxaca reinforce the lesson that common property management, good governance, decentralized political control, improved livelihoods and secure tenure are essential to enabling local people's participation in conservation initiatives.

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