



Local participation in biodiversity conservation initiatives: A comparative analysis of different models in South East Mexico



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ABSTRACT

In Mexico, biodiversity conservation is primarily implemented through three schemes: 1) protected areas, 2) payment-based schemes for environmental services, and 3) community-based conservation, officially recognized in some cases as Indigenous and Community Conserved Areas. In this paper we compare levels of local participation across conservation schemes. Through a survey applied to 670 households across six communities in Southeast Mexico, we document local participation during the creation, design, and implementation of the management plan of different conservation schemes. To analyze the data, we first calculated the frequency of participation at the three different stages mentioned, then created a participation index that characterizes the presence and relative intensity of local participation for each conservation scheme. Results showed that there is a low level of local participation across all the conservation schemes explored in this study. Nonetheless, the payment for environmental services had the highest local participation while the protected areas had the least. Our findings suggest that local participation in biodiversity conservation schemes is not a predictable outcome of a specific (community-based) model, thus implying that other factors might be important in determining local participation. This has implications on future strategies that seek to encourage local involvement in conservation.

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1. Introduction

The loss of biodiversity worldwide has become a major political and social concern (Lele et al., 2010) with *in situ* conservation prevailing as the model adopted to reduce biodiversity loss (Eken et al., 2004). In Mexico, as in most countries in the world, several approaches have been implemented which focus on managing areas of land for biological conservation and economic benefits. Such approaches are: a) the establishment of Protected Areas (PA), a scheme that has been strongly promoted by international conservation groups and enthusiastically adopted by the government

(Simonian, 1995); b) the promotion of payment-based conservation, represented mainly by the federal program of Payment for Environmental Services (PES); and c) the development of community-based conservation initiatives, mainly implemented by indigenous or peasant communities and which are in some case officially recognized as the so-called Indigenous and Community Conserved Areas (ICCA) (Martin et al., 2010).

For several decades, the PAs program in Mexico has been the main instrument for biodiversity conservation and represents the most extensive legislative mechanism in the country's environmental policy (CONANP, 2013). The PAs program aims for the protection, restoration, management and sustainable use of biological diversity, including ecosystems, populations, and species diversity (CONANP, 2007). Historically, PAs in Mexico have been implemented with a top-down approach which excludes local people

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either by displacing them from areas ring-fenced for protection, or by imposing strong prohibitions regarding their land and resource use. Although, in Mexico the concept of biodiversity conservation through the establishment of PAs has extended to include the generation of alternative economic activities such as ecotourism (CONANP, 2013), local communities still have limited scope to participate in the decision-making process for managing natural resources within PAs (Castro and Nielsen, 2001).

The second approach, payment-based conservation, was first adopted in Mexico in 2004 and claims to comprise a win–win strategy whereby people who protect the environment are rewarded financially for doing so. The program, promoted by international organizations such as the Global Environmental Facility (GEF) and endorsed in Mexico by the Federal Government through the National Forestry Commission (CONAFOR), supposedly creates a link between those who benefit from the environmental services (mainly hydrological but also biodiversity conservation, and more recently carbon storage services) and those who provide them (Muñoz-Piña et al., 2008). Overall, PES programs deliver economic incentives to owners of private or communal land to keep their forest standing in areas where commercial forestry cannot compete against agriculture or ranching. The objective of paying locals for forests' environmental services, besides protecting natural capital, is to avoid trade-offs between income generation activities and environmental protection (Muñoz-Piña et al., 2008). These programs are voluntary in nature, in the sense that local communities or private owners define whether or not to join the scheme and define the areas that are to be devoted to conservation. As payment is conditional on keeping the selected area untouched, at least for a certain time, once the area has been delimited, there is a scope for local communities to manage them.

The third approach, community-based conservation, is based on the idea of the coexistence of people and nature. As a concept, community-based conservation seems to have developed in reaction to the panacea of state-managed conservation (Berkes, 2007) and reflects a growing academic consensus about the importance of recognizing the role of local people in managing landscapes and involving local communities into conservation strategies (Rodríguez-Izquierdo et al., 2010; Tole, 2010; Rodríguez-Martínez, 2007; Barrow and Murphree, 2001; Ntiamoa-Baidu et al., 2000). With a view to validate local conservation management of delimited areas of land communally owned, international organizations have created a new conservation category, Indigenous and Community Conserved Areas (ICCA). This new category gives room to include both areas in which collective ancestral practices have led to conservation and areas in which recently organized community-initiatives address the dominant concerns to conserve biological resources while using them in a sustainable way (Camacho et al., 2007). By contrast to the former two conservation schemes described, in ICCAs the community is the major player in decision-making. In recent years, the National Commission of Natural Protected Areas (CONANP) started to certify and promote ICCAs as official conservation mechanisms (DOF, 2008). ICCAs, whether officially recognized or not, are establishing across the country. For instance, in the state of Oaxaca alone, 126 communities have established ICCAs, representing a total surface of 375,457 ha, an equivalent to 15% more than the surface protected by PAs in the same state (Martin et al., 2010). Recently, many communities are taking advantage of PES to establish ICCAs in their communal territories.

It can be anticipated that these three approaches to conservation (PA, PES and ICCA) create distinct opportunities to facilitate different practices of local participation. Local participation is

broadly understood to refer to the organized efforts on the part of local people, groups or movements who have been hitherto excluded from involvement in social and political processes to increase “their control over resources and regulative institutions” (Stiefel and Marshall, 1994; Cornwall and Brock, 2005). A closer look to the different uses of the word in the context of conservation reveals that different actors associate different meanings and practices – and indeed reasons and objectives for promoting or being involved – with the term local participation. The different meanings associated with local participation encompass views that alternatively involve informing, consulting, taking joint decisions, or self-managing natural resources (Schultz et al., 2011; Rodríguez-Martínez, 2007). However, each of those views implies different processes and degrees of control or empowerment on the part of the local communities. For example, in Mexico many conservation and resource management initiatives claim to involve local people by employing them to work in return for food, cash or materials (Peterson, 2011; Pujadas and Castillo, 2007; Sardon and Faust, 2006). Such an arrangement may indeed involve local people but it does so just by using them as a cheap source of labor. While these may generate an impression that local people are supportive of externally driven initiatives (Pretty, 2002), the objectives can be purely instrumental, far from attempting to involve local communities in decision making. Indeed, such types of initiatives may even be detrimental to the extent that they nurture dependencies (Haenn, 1999).

Drawing on the work of Agarwal (2001), Paul (1987), and Vivian (1991), various authors differentiate between levels of participation, from low to high. Indeed, these levels represent qualitative differences and degrees with which the voice, or control, of intended beneficiaries are incorporated. At the lowest and more passive level is information sharing such as when managers or administrators share information with the group to facilitate the action of an individual or group (Khadka and Nepal, 2010) although this may also serve to enhance the understanding of locals of activities taking place around them. This level is also evident during consultation activities, in which outside planners and conservation managers adopt tools described as promoting participation in the design and implementation of management plans although these have been defined *a priori*. Such activities may involve the decreeing, the protection of an area, the presentation of studies supporting the declaration of the area, or the inclusion of some local actors in its administration. Moving up in the spectrum are situations where local people – as those most affected by a proposed intervention – have or exert a “decision-making” role and thereby have a greater degree of control or influence on a conservation project or process (Agarwal, 2001). Finally, at the highest intensity is when people are able to take “initiative” in terms of action or decisions making, manifesting more “proactive” types of participation. These distinctions provide us with a list of observable activities for our research.

In this paper we compare levels of local participation across three different models of biodiversity conservation (PA, PES and ICCA) in Mexico, in a research context where studies on this topic have to date focused analysis on a single conservation scheme and few have made a comparative analysis (Khadka and Nepal, 2010; Pujadas and Castillo, 2007; Haenn, 1999). We want to test whether the common assumption, that bottom-up conservation approaches encourage higher and more active levels of local participation than top-down conservation approaches, holds true. For the empirical analysis, we evaluate differences in the frequency and type of participation during three stages of a conservation initiative: a) its creation, b) the design of its management plan, and c) the implementation of conservation activities.

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