

## Re-Mapping Integrative Conservation: (Dis) Coordinate Participation in a Biosphere Reserve in Mexico

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### Abstract

‘Community participation’ has, over the past decades, become a key component of nature conservation initiatives worldwide. ‘Participation’, a term that signals the involvement of local stakeholders in conservation practices, is central to Integrative Natural Protected Areas (INPAs) in Latin America, where INPAs have become the dominant form of environmental protection policy and biodiversity research. Based on an analysis of the Sierra de Huautla Biosphere Reserve (SDHBR) in Mexico, this paper describes different and frequently conflicting understandings and practices of community integration. Drawing upon Situational Analysis (SA), we examine the forms through which local participation may be coordinated, in advance, by extra-local conservation agencies. We then trace competing forms of participation where local stakeholders devise tactics to challenge imposed policy templates and articulate their own co-emerging interests. By interrogating a neoliberal rhetoric of inclusion, and by re-mapping local participation on the ground, we make visible an approach to socio-natural conservation research that is more critical, more accountable, and more attentive to local agency.

**Keywords:** Actor network theory, situational analysis, local community participation, science in practice, policy, neoliberal conservation

### INTRODUCTION

‘Community participation’ has, over the past decades, become a key component in ecological protection research and conservation initiatives. ‘Participation’, a term that signals the involvement of local actors and collectives in conservation practices, is central to recent Integrative Natural Protected Area initiatives (INPAs). Integrative conservation initiatives are based upon a socially-inclusive approach to

biodiversity protection and are, in part, a response to formerly dominant policies of displacement - policy forms which have been widely criticised for disregarding the land rights, interests, epistemologies, and voices of local stakeholders and indigenous communities (Brooks et al. 2013; Durand and Jiménez 2010; Fraga 2006; Wilshusen et al. 2002).

This shift in conservation policy toward community inclusion is salient in Latin America, particularly in Mexico, where Biosphere Reserves (BRs) have become important sites for biodiversity conservation, ecology research, and site-based community participation practices (Durand and Lazos 2008; Fraga 2006). BRs both reflect and enact wider global trends in conservation policy that seek to transfer responsibility for natural resource management from central governments to diverse constellations of actors, including non-governmental organisations (NGOs), scientists, consultants, and (in principle) local community members (Buscher 2013). This shift to more ‘participatory’ and ‘integrative’ approaches to conservation

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is based upon changing perspectives on the roles of those communities already located in areas of high biological diversity. Instead of identifying these communities as threats to biological diversity because of their use of resources, newer policy approaches reimagine local communities as participatory actors who might contribute to conservation aims and purposes.

Previous research (Buscher 2013; Fano Morrisey 2012) suggests, however, that there are significant discrepancies between the rhetoric and the reality of community participation (Durand and Jiménez 2010; Rodriguez et al. 2007). Critical ecologists have challenged the assumption that local community participation in integrative conservation projects is democratic and necessarily leads to realising aims of community empowerment (Buscher 2013; Forsyth 2008; Kuymulu 2011; Reason 1998). At the same time, conservation agencies and NGOs often leverage a rhetoric of inclusion, deploying terms like *participation*, *inclusion*, and *community involvement*, in order to ratify project designs, attract funding, and publically promote large-scale, multi-agency conservation efforts as being ‘integrative’ and attentive to local interests and community needs (Buscher 2013; Vacanti and Bown 2011).

Drawing upon the methodology of SA (Clarke 2005; Clarke and Star 2007), we present here an analysis of the Sierra de Huautla Biosphere Reserve (SDHBR) in Mexico, a project implemented ‘collaboratively’ among local collectives and extra-local organisations. Based on a three-year study of this conservation initiative (Alonso-Yanez 2013), we describe the lived experiences of the inhabitants of the SDHBR in order to illustrate the often disparate and contradictory experiences and practices of ‘participation’ these local actors reported. Combining participant interviews and field observations with textual analyses of institutional records and policy documents, we examine how forms of inclusion and participation were variously conceived, promoted, and materially enacted at this site.

Here, rather than look to Arnstein’s (1969) influential work on participation, which formulates typologies of participation with distinctions made in terms of *degree* of involvement or non-involvement, we look to SA to identify the *kinds* of participation, the fundamental *forms* through which local participation is invited into conservation initiatives. Using SA, we inquire: how might forms of participation and inclusion be prefigured in advance, and encoded in extra-local conservation policy templates, in ways which may, paradoxically, deprive local actors of authentic positions of agency and meaningful forms of participatory action?

We contend that there is a conspicuous absence of detailed, granular research examining BRs with reference to the fundamental participatory configurations that these initiatives enable or foreclose. It is at this level of analysis, we suggest, that the significance and impact (or lack thereof) of community participation in conservation initiatives may best be investigated and understood. Finer-grained studies of participation (informed by analytic methods such as SA) help redirect our attention to multiple conservation actors, to

differing epistemologies and goals among diverse stakeholders, to competing definitions of ‘community’ and ‘community participation’, and to practical logistical factors involved in the coordination of conservation projects involving multiple stakeholders. Our research seeks to make visible the complex and nuanced sociotechnical processes at work in integrative conservation practices. Further, we seek to identify emergent conservation models in Latin America that might help us rethink what counts as meaningful participation, that is, meaningful involvement in socially-innovative conservation efforts.

### The Rhetoric of Participation in ‘Neoliberal Conservation’

In Latin America, BRs are manifestations of larger trends in conservation that reflect a shift in responsibility for natural resource management away from states and central governments to diverse conservation actors, including non-governmental and private organisations, research institutions and local actors. What critical ecologists have recently termed ‘neoliberal conservation’ refers to conservation initiatives that arise from transnational networks of conservation actors, which generate ‘hybrid environmental governance’ models comprised of multiple actors with multiple interests. In neoliberal conservation forms, non-state actors, state and provincial governments, business and ecotourism ventures, NGOs, scientists, consultants, and local communities are to share, in principle, the responsibility for conservation planning, strategic implementation of templates, and ongoing maintenance of conservation sites and programmes (Vacanti and Bown 2011; Lemos and Agrawal 2006). Whereas the livelihood practices of local actors and indigenous communities were, in the past, perceived as threat to natural resources and biodiversity, neoliberal conservation models have recast local actors as useful collaborators capable of contributing to conservation efforts in high-biodiversity areas. Moreover, proponents of neoliberal conservation models argue that, by involving local communities in projects, local and indigenous actors in impoverished rural areas will be offered economic opportunities and receive infrastructural support (Halfter 2011; Cairns 2011; Bakker 2010.)

Critical ecologists have argued forcefully that these neoliberal policies make nature conservation compatible with capitalist market dynamics, opening up biodiversity-rich sites to land-development concerns and private management schemes (Cairns 2011; Igoe and Brockington 2007; Buscher 2013; Fairhead et al. 2012). A micro-analytical approach enables us to *further* examine where and how neoliberal policies concretely interface with local communities and material landscapes. Such an approach moves us beyond denunciations of neoliberalism in general, to closer analysis and more thorough mapping of the particular, fine-grained social configurations these neoliberal policies structure or enact – precisely when and where ‘integrative conservation initiatives’ are rolled out. It also makes more visible how

multiple planners and policy makers may mobilise, in concert, a rhetoric of local inclusion – freighted with pronouncements of social/economic ‘profit for all’ – even as they simultaneously draw upon, quite contradictorily, extra-local and technocratic discourses of expertise to shape both the forms and the scope of local/indigenous participation.

Fletcher (2010) argues that “the neoliberalization of conservation initiatives can be seen as exercises of power by an array of agencies that can shape the natural world and the people who live in it through the construction and enforcement of codified rules” (Fletcher: 171). In constructing such rules and scripts, decision-making authorities – who are often disconnected from the ground-level particularities, contours, and complexities of situations or places – are conferred the power to implement and/or impose science-driven natural-protection initiatives (Blondet 2010). Despite discourses proclaiming the urgent need to protect ‘nature’ (where ‘nature’ is often defined in opposition to the human), the everyday realities of place or site confound easy categorisations (i.e. simple bifurcations between the human and the natural, the social and ‘nature’). Subsequently, conflicts can arise when conservation goals explicitly involve control of territories and the management of populations (those distant ‘others’ who may, inconveniently, inhabit a site). Here, the fabrication and mobilisation of discursive classification ‘devices’, like characterisations of materially-diverse bio-physical systems as uniform ‘ecosystems’ [e.g. ‘Tropical Dry Forest’ (TDF)], constitute just one such governance mechanism.

In the context of neoliberal trends in conservation practices, BR policies advance particular constructions of ‘nature’, deploying a wide range of ‘mobilising metaphors’ and rhetorical devices (Buscher and Whande 2007; Vacanti and Bown 2011) that function to ratify and legitimate conservation interventions. These mobilising metaphors – embodied in terms like ‘win-win’ situations, ‘mutually-beneficial outcomes’, and ‘inclusive’ or ‘integrative’ designs – help make economic interests and international development aims coincide, and become *co-mappable* with, ecology aims and protection initiatives. As Buscher (2007) characterises them, mobilising metaphors are rhetorical tools employed to effectively mediate *and* affectively ‘capture a broad variety of different interests and goals’ – conservation aims and purposes that can, in principle, ‘be embraced by all’ (Buscher 2007: 5).

On this view, mobilising metaphors perpetuate particular interpretations of nature, and simultaneously impede other modes of understanding socio-natural relations (Ladle and Gilson 2009), while appropriating the connotative, rhetorical force – and the legitimacy – ‘derived from other key symbols like “community”, “democracy”, “public interest” and “the rule of law”, and so on’ (Shore and Wright 1997). It has been further suggested that conservation biologists and social scientists have become eager to realign themselves with the rhetorically-seductive accomplishments presupposed in the discourse of ‘inclusion’ and ‘win-win scenarios’, while *forsaking empirically-grounded analyses* (Buscher 2010; Vacanti and

Bown 2011.) that might call these univocal presumptions of accomplishment and ‘participation’ into question.

A sustained, close-range focus on empirically-grounded conditions offers a more accurate perspective on the contextually-variable socio-natural impact of conservation designs, and on the participatory forms these designs structure, shape, and anticipate. These more finely-grained perspectives offer a richer and more nuanced view of what conservation *looks like in practice*. Far from forming a solid base for the democratic management of natural resources or the facilitation of poverty alleviation, it has been argued that neoliberal conservation projects, so frequently advocated as ‘inclusive’, can lead instead to the exacerbation of existing inequalities and to the further centralisation of power in the hands of extra-local agents and managerial actors (Agarwal 2001; Buscher 2013; Kuymulu 2011; Alonso-Yanez 2013).

## LANDSCAPES: SITUATING THE RESEARCH

### The SDHBR, Mexico

In recent decades, the BR has become the dominant model for the conservation of ecosystems in Latin America (Heinen 2012; Rodriguez et al. 2007; Toledo 2005). Mexico is currently home to the largest number of BRs (41 in total) in the continent. In what follows, we present snapshots of an ethnographic research project in the SDHBR. This section provides a brief overview of how the SDHBR initiative was put together and implemented based on multi-agency efforts to protect a TDF in Mexico. Based on a research project by this paper’s first author (Alonso-Yanez 2013.) spanning three years, we address how externally-generated policy templates are configured, and how abstract conservation designs – including templates for social-inclusion – may come to be imposed over highly particular situations, settings, or networks of actors, with the result that a homogeneous model is projected over irreducibly heterogeneous environments, histories, objects, values, descriptions of situations, and forms of life, both human and nonhuman. Our analysis illustrates the forms of policy abstraction through which integrative conservation projects are shaped and carried out in protected areas, particularly in relation to their stated aims of community participation.

With that particular focus on conservation models that involve ‘participatory arrangements’ with local communities, the study presented here explores the case of the SDHBR – an example of what has been generically termed ‘integrative conservation’ (Jeanrenaud 2002; Esposito 2002). The SDHBR is located in the Mexican state of Morelos, which has been described as one of the richest in terms of species diversity (Toledo 2005; Durand 2010). Morelos has attracted considerable attention from both national and international conservation actors, boasting one of the highest proportions of protected areas in Mexico (Durand 2010).

Since its official decree, the SDHBR has been co-managed by the National Commission of Natural Protected Areas

(CONANP) and a research center that is part of the State of Morelos Autonomous University (UAEM) (Figure 1). This unique arrangement also involved other stakeholders, including 31 communities, local groups, and one NGO, reflecting the participatory and inclusive approach to conservation underlying the integrative BR model (Durand and Vázquez 2011).

### Policies of Abstraction and Participatory Templates

Alonso-Yanez (2013) first examined, in the context of the SDHBR initiative, the construction of a narrative of ecological crisis through which extra-local agencies were able to build consensus around a shared vision: the mandate to protect an 'endangered TDF' site. Mobilising Actor Network Theory (ANT), and adopting ANT's method of 'following the actors' (Latour, 2005), Alonso-Yanez (2013) identified a diverse ensemble of extra-local actors, transnational policy documents, ecology discourses, and environmental classification devices through which the Sierra de Huautla region became classifiable as an 'endangered TDF' and, subsequently, the object of an integrative conservation initiative.

Underpinning the formation of the SDHBR, as early as the mid 1980s, global references to TDFs being 'in crisis', 'under threat' and 'endangered' appeared with increasing frequency, culminating in 2006 with the addition of the Sierra de Huautla region to UNESCO's list of BR in Latin America. The designation of the SDHBR as a 'natural protected site' by no means occurred overnight: global research descriptions and images surrounding the ecological significance of TDFs, and narratives that emphasised their jeopardised status, were increasingly projected as a worldwide agenda, consolidating, over time, support for the SDHBR. This conservation agenda transcended both national boundaries and, in fact, transcended - and conflated - local biophysical realities in a variety of significant ways. For example, the agenda subsumed significant ecological differences in flora and fauna among TDF sites into a simplified and homogenous category. Classification forms

like TDF were then translated into regulatory documents and conservations proposals and ultimately mobilised - through related processes of knowledge translation and 'popularisation' (Latour 2005) - as abstract conservation 'solutions' to be circulated and globally promoted.

These various processes enabled a uniform classification for endangered TDFs to be developed; and this classification, in turn, established a footing for the SDHBR to be regarded, globally, as a prioritised 'in-crisis' region. In this way, research scientists, governmental, and non-governmental actors involved in the SDHBR came to have at their disposal a wide variety of abstract conservation devices (financial, symbolic, rhetorical and regulatory) which empowered them with a legitimate 'voice', and thus the capacity to define and materially stage a specific conservation framework (Alonso-Yanez 2013).

By tracing the SDHBR's genesis, what became visible were the specific devices and rhetorical forms - from the creation of 'languages intermediary between data and theories' to 'the invention of arguments for convincing politicians and inspiring the public' (Stengers 2011) - that enabled conservation actors to shape and stage the SDHBR initiative (Alonso-Yanez 2013). Through the mobilisation of classification devices and narratives of ecological emergency, the 'TDF' conservation initiative became sufficiently stable, and adequately defined, to assume a virtual uniformity that rendered the SDHBR as *conforming* to consensually-prioritised conservation policies, and on that basis, became in turn implementable (Bosco 2006). The SDHBR conservation initiative template conformed, strictly speaking, to an abstract model of the environment, and this policy template was subsequently imposed upon landscapes and local populations, regardless of their specificity, particularity, or empirical differences from that external template.

Building upon Bosco's (2006) and Alonso-Yanez's (2013) research findings on how BR policy was assembled and imposed in the SDBHR, we begin to see how neoliberal policies of abstraction and imposition worked, and continue to work, to prefigure the scope and forms of local inclusion in the SDHBR. At the same time, what counts, or is evaluable, as participation and successful inclusion was determined in policy templates by extra-local actors who positioned local communities as *a priori* 'beneficiaries' of policy interventions, framing both local actors and communities through a language of lack, need, or deficit, with specific reference to 'difficult circumstances', living conditions, and unemployment (OECD 2013). Not unlike the tactical utilisation of the TDF classification as an abstract policy device, local and indigenous communities were similarly framed through a language of 'crisis' or 'need', and then rhetorically repositioned as beneficiaries of inclusive, 'win-win' outcomes. The discourse of crisis, when combined with mobilising metaphors that position and 'include' local communities as unequivocal beneficiaries of abstract conservations templates, as we discuss below, is symptomatic of the kinds of neoliberal conservation policies signalled by critical ecologists (Buscher and Whande 2007; Vacanti and Bown 2011).



**Figure 1**  
Map of Morelos state location followed by SDHBR  
Location within the state of Morelos, adapted from CONANP 2015

Within these policy frameworks, local inhabitants within the SDHBR were ultimately invited to enroll in three significantly-different types of conservation projects in coordination with extra-local organisations: 1) Projects carried out by local inhabitants as part of government conservation programmes, 2) Projects carried out by local inhabitants in coordination with a local NGO and 3) Projects carried out by local inhabitants in coordination with SDHBR research center scientists.

### **SDHBR Projects coordinated by Governmental Agencies**

Local inhabitants in the SDHBR worked - and continue to work - together in projects that are part of two federal programs applied nation-wide in Mexican NPAs: the Program for Conservation for Sustainable Development (PROCOCODES) and the Program for Temporary Employment (PET). The operating rules of the PROCOCODES and PET programs are designed by the federal Ministry of Environment and Natural Resources. Examples of projects, ostensibly co-developed with local communities, include the construction of greenhouses, stone-walls, and roads and facilities for ecotourism, as well as, the re-construction of dams and forest restoration projects.

### **Projects carried out in coordination with the PROSELBA-NGO**

PROSELBA is an NGO that offers consultancy services for local communities within the SDHBR for the development of Wildlife Management Units (UMAs). The organisation is composed of full-time technicians trained in areas such as biology, forestry and engineering. The PROSELBA staff developed UMA plans and invited local community inhabitants to apply as UMA managers.

### **Projects carried out in coordination with scientists**

At the time the study was conducted, the research centre operated two biological research stations located in El Limon and Quilamula. Its scientific staff conduct research in these facilities while in the field. Local inhabitants participate in research projects as guides or local para-taxonomists, work which consists of assisting researchers in identifying plants and animals for classification purposes, and of serving as guides for researchers in the field.

Many of these projects were ostensibly co-organised at the local level; however, policy documents indicate that they were largely developed by external agencies prior to any solicitation of local community input.

## **METHODOLOGY: SITUATIONAL ANALYSIS**

### **Arenas and worlds**

To explore, document and analyse participatory forms and arrangements within the SDHBR, we employed SA, which is a variation of Grounded Theory (GT) (Glaser and Strauss 1967).

GT was originally developed by sociologists Barney Glaser and Anselm Strauss and is one of the most commonly used methods in qualitative research (Creswell 2008). The latest iteration of GT to date is Adele Clarke's SA (Clarke 2005). SA is unique in that it employs three types of research maps that address complex social and material phenomena and situations at different levels of analysis: Situational Maps, Social Worlds/Arenas Maps, and Positional Maps. Each level of mapping and its respective utility for our analysis of the SDHBR is explained below.

*Situational Maps* identify humans, non-humans, technologies, political orders, and all the discursive elements that appear relevant to, or operative in, the site or situation under study. In earlier stages of analysis, situational mapping was used to identify and describe the main players and 'interactants' present in the social, collective realm of situations, focusing on controversies, negotiations, and the organisational activities of individual and collective actors (Clarke 2005). These 'meso-level maps' were used to analyse data from interviews and fieldwork observations, as well as government and academic reports concerned with local participation in SDHBR conservation projects. *Positional Maps* plot positions articulated in the key discourses describing the situation (e.g., interviews, reports, websites, documents, media coverage, etc.) and related issues of contention. Using positional maps, we detailed core debates in the situation to reveal the array of positions taken or not taken in the data. These maps helped us to analyse local communities' perspectives, which themselves were multiple or differing.

To analyse the participation of local inhabitants in conservation projects, we described arenas as 'sites of action' (Clarke 2005) where local inhabitants in the SDHBR were engaged or enrolled in working arrangements with non-local actors. Exploring arenas as sites of action/participation enlarged the scope of our analysis: we wanted to avoid viewing diverse local communities as homogeneous social groups, as the local communities involved in the study were complex entities in themselves, and assimilating all of them into a singular social category would have rendered their particularities invisible. The arenas analysis allowed us to explore differences (e.g. in gender, scientific training, level of schooling, social position) as factors shaping access to material and discursive resources and decision-making (Schwalbe 2000; Clarke 2005). Attending to difference allowed us to make visible the processes, discourses, and relations that conditioned access to decision-making sites and positions among stakeholders in the SDHBR (Schwalbe et al. 2000; Haenn et al. 2014). We used positional maps to examine actor positions of speech (or conspicuous silences), forms of authority and agency (or lack thereof), and to explore relations and tensions between conservation templates and interview data. We used Clarke's methodological figure of 'implicated actors' to study the ways in which local community inhabitants perceived and understood what 'participation' meant, how the terms of participation were framed, and how 'inclusion' was defined in SDHBR templates. Implicated actors are defined

by Clarke (2005) as ‘those who are physically present but are generally silenced/ignored/invisible by those in power in the social world or the arena’ (Clarke 2005: 47).

### Data Sources and Actors

Three data sources were used to study local community participation in SDHBR: interviews, document analysis and observation. The table below identifies the first data source (interviews), which was analysed for this study (Table 1).

The table below identifies the additional sources of data collection used in the study (Table 2).

Interview-based fieldwork was conducted with individuals participating in projects in the SDHBR (in Quilamula, Ajuchitlan and El Limon) in December 2010 and April 2011. These three communities were selected for this study based on regular references to them as beneficiaries in SDHBR reports: the recruitment process included contacting local community inhabitants who participated in projects with the three external agencies (government, non-government and university). Subsequently, these participants directed us to other interviewees (primarily relatives and neighbours). All local inhabitants interviewed were presented with short descriptive questions around three topics: 1) Involvement in projects 2) Activities and tasks and 3) Planning and implementation. Questions were open-ended, and probes were used to encourage interviewees to elaborate on examples and to express their own personal experiences with planning, training, and SDHBR project work. Observational work in these three communities can be characterised as ‘participant observation’, as we often participated in those project activities (collecting tomatoes in the greenhouses, fixing broken water hoses, clearing areas for planting flora).

## ANALYSIS AND INTERPRETATION OF FINDINGS

### Situational Analysis

We translated and transcribed the interviews and analysed transcripts using the *Nvivo* software, sorting data into three themes: 1) Involvement in projects 2) Activities and

tasks 3) Planning and implementation. Subsequently, we gathered additional documents publicly available through government sites (government and research centre annual reports, agenda-setting policy forms and government data bases reporting on project beneficiaries) to enrich our data on conservation project regulations, templates and frameworks. Excel software was used to organise and graphically present the information on community beneficiaries of the SDHBR as reported by those governmental agencies that carried out conservation programmes between 2006–2011. To supplement and expand upon the information provided by interviews with local inhabitants, we used data from interviews conducted with members of the other three organisations involved: governmental staff members, local NGO staff members and scientists. Information about PET beneficiaries was obtained from the Centre for Information about the Program for Temporary Employment (Gobierno de Mexico 2016) website ([www.cipet.gob.mx](http://www.cipet.gob.mx)), a website maintained by the Mexican government that contains publicly available information exclusively related to PET projects. Interview data was analysed through open coding (Corbin and Strauss 1987) and code aggregation matrices (Miles and Huberman 2008). Analysis also included interpreting qualitative documents. Interview data was separately analysed by two of the authors and was later compared and contrasted at various points during the study.

Following Clarke (2005), we developed a map to lay out ‘the arenas’ of participant actors (Figure 2). Looking at Figure 2, we see three arenas representing the organisations and sites of participation for local inhabitants.

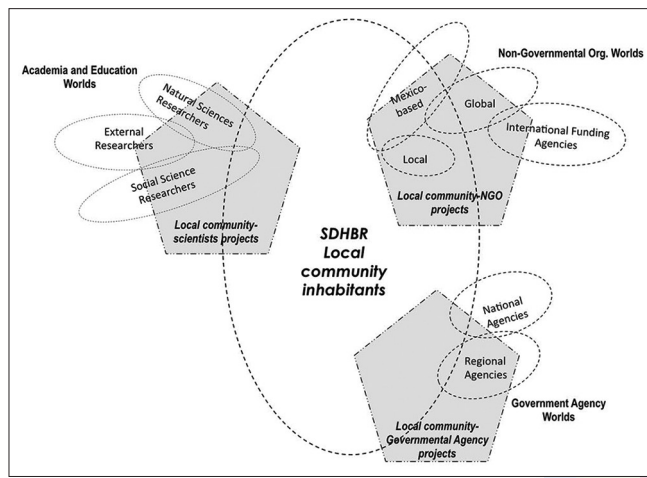
Our analysis led us to identify two styles of collaboration/participation, which we termed ‘coordinate’ and ‘discoordinate’. We use the term ‘coordinate participation’ to signal both the *spatial* sense of identifying coordinates (participant bodies) on a map, and the *administrative* sense of assigning roles and practical actor functions to those bodies. We used the term ‘discoordinate participation’ to refer to those instances where local community members did not simply comply with the given forms of organisation imposed over them by policy templates or extra-local staff injunction, but critically reframed the stakes and terms of given participatory

**Table 1**  
*Primary data sources*

Organization	Description	Activity	No.
CONANP Government Office	Regional Office Director	Responsible for supervising all NPAs in the central region of Mexico	1
	Regional Office staff member	In charge of supervising operation of government projects in SDHBR	1
	Regional Office staff member	In charge of supervising operation of projects and funding resources	1
Local inhabitants from Quilamula, Ajuchitlan and El Limon communities	Community liaisons with extra-local organizations working in conservation of SDHBR	Participating in conservation projects	10
Members of SDHBR research center	Scientists	Conducting research projects in the area and collaborating with local inhabitants	7
PROSELBA NGO	Field technicians	Responsible for field projects and on-site supervision	2

**Table 2**  
*Additional data sources*

Type	Source	No.
Documents	Government Reports (Terms of reference and Normative regulations of the Program for Temporary Employment (PET) of the years 2006-2011)	5
	PROCOCES Beneficiaries datasets	5
	PET Beneficiaries datasets	5
	PROSELBA Academic report about UMAS	1
	Research center annual reports	4
Field Obs.	UMAS Workshop meeting	1
	Visit to UMA	2



**Figure 2**  
*Arena of participation map representing SDHBR social worlds and projects*

templates. Through their own active engagement with extra-local actors, local community members contested the normative templates for project designs and implementation, in turn exerting agency in re-coordinating the terms and scope of participation - and in ways that enabled them to articulate their own interests and definitions of the situation.

### Coordinate Participation in the SDHBR

In developing and implementing the SDHBR, extra-local actors regulated most projects. Governmental agency staff and research scientists mandated the operational rules and frames of reference for conservation projects. As noted above, from the inception of the project, the rationale for establishing the SDHBR responded to non-local motives (e.g. northern views of environmental crises and related conservation strategies as translated by the key advocate of the SDHBR, who earned his doctoral degree in USA while working on global conservation policy). We analysed publically-available agenda-setting documents and found a rhetoric of inclusion – a set of ‘mobilising metaphors’ like participation, integration, and inclusion – as key instruments of policy promotion and enactment. For example, agenda-setting documents are rich in unqualified affirmations of ‘effective participation’ and ‘equal

opportunities’ for those local communities falling within the boundaries of the INPA with the word ‘participation’ appearing in the Management Plan 33 times in 207 pages.

The rhetorical - and paradoxical - qualities of mobilising terms like ‘participation’ and ‘equal opportunity’ become discernible when such figures, in the policy documents, are seen to refer to instances of ‘participation’ that essentially presuppose local actors’ compliance with policy templates: for instance, ‘participation’ is understood in these documents as local consent to the construction of field stations at particular sites, or acceptance of predetermined zones of protection (as outlined in the externally-authored planning documents).

Reflecting the disparity between the abstract rhetoric of inclusion and the material situation on the ground, we discovered that information provided by PET’s Centre for Information about the Program for Temporary Employment on the number of ‘participants’ and ‘beneficiaries’ in the El Limon community was erroneous. Names of local inhabitants were duplicated and the number of individual participants reported as beneficiaries on the PET website (345) was more than twice as much as the total number of total inhabitants for that community as reported by the population census. In addition, many so-called ‘beneficiaries’ identified in documents were in fact deceased.

Using the SA mapping system devised by Clarke (2005), we were able to discern the tensions, aporias, and inconsistencies between conservation templates and the reported experiences of local actors, over time. Arenas maps enabled us to discern the multiple positions of both human and non-human actors (e.g., policy forms, discourses, conservation templates, geographical ‘zones’) in the configuration of participatory relations, as well as, the organisation of communicative and educative processes within the SDHBR. For example, during implementation of policy templates, so-called ‘integrative’ conservation projects in SDHBR remained mostly limited to external agencies establishing ‘partnerships’ with local actors, enrolling them in externally-designed projects and delivering trainings, and then supervising local performance in projects like controlling forest encroachment, reporting on illegal clearings, or manual labor for SDHBR infrastructure. Every year, meetings were held by government staff in order to re-explicate the objectives of the program to local inhabitants. These recurrent educative events – according to local inhabitants’ interviews - positioned them in an ongoing, passive relation to both ‘knowledge’ and decision-making activities. This passive relation to project planning and implementation is signaled by the following quote from a local community member, which suggests an estrangement from project purposes and conservation aims.

“[I worked] temporary jobs in order to increase our family income, and I participated in the stonewall project. It was hard because I did not know exactly what the project was about. I just worked there, moving stones from one side to another.”

Fieldwork interviews conducted from December 2010 to April 2011 indicated no change in the methods or tenor of actor enrolment in SDHBR projects, nor did local actors report any

solicitation of input from PROCODES or PET with regard to modifications of project agendas or conservation templates. Drawing upon our 'positional maps' (SA), what became increasingly evident was a continuous 'implication' (Clarke 2005) of local actors in forms of 'coordinate participation.'

At the same time, a very common view expressed by scientific researchers working in the SDHBR regarding their work with local inhabitants was the need to teach *them* about the natural resources in the area. As the aim of the project's educational efforts was community involvement in building conservation agendas, the educative trajectory was monological. The following quote from a researcher working with local guides serve as an example, "we need to teach them about the resources and show them why these resources are so important. I mean, it is a Biosphere Reserve precisely because it is important for the entire world."

As 'teachers', the researchers and policy-makers needed to overcome perceived differences based in education, social position and class status, because the local actors were from rural, poor communities and the policy-makers and researchers were from urban environments with greater access to formal educational and other cultural and symbolic resources. The numerous references we found in interview transcripts to local inhabitants as being different (non-educated, rural, and 'rustic') suggested the scientist's perception of local inhabitants as being incapable of full participation in conservation projects, and this probably served to rationalise (and maintain) unequal access to planning arenas and participatory spaces. For instance, the perception of local inhabitants as being uneducated justified scientists' attempts to educate them, and to teach local actors about their own specialised professional area of expertise (taxonomy, ecology). The decision to educate locals in this monological fashion appeared to be based on an assumption of difference based on differential access to normative educational frameworks, as well as dominant scientific speech genres. Conservation scholars have recently called for highlighting important variables like internal power dynamics, gender roles, class difference, social status and symbolic power in order to explore how these factors shape or prefigure community access to participatory sites - deliberative sites where local actors might articulate their own views on conservation and who may benefit, in what kinds of ways (Bonilla-Moheno and Garcia-Frapolli, et al. 2009; Durand and Vazquez 2011; Haenn et al. 2014). The following quotes from interviews with collaborating scientists capture some of these differences. "We, as researchers [scientists], have our own language, and when we are here, in the research center, we speak to everyone in the same language. But when we go [to the communities] and we talk to them, we need to make our language easier to understand." "You need to be humble when you are working with local communities and that helps to maintain a better relationship with them. That makes them feel that there is no difference between us and them."

Onsite research scientists described local knowledge as being rudimentary and therefore as needing to be 'tested' through the lens of systematic scientific models. Thus, researchers' ideas about conservation, guided exclusively by

scientific discourses and narratives (including perceptions of themselves as accredited experts), potentially interfered with the possibility of collaborative *give-and-take* participation with local stakeholders, for example, in engaging research challenges that might be mutually-informed by both local epistemologies and 'scientific' ways of knowing. Of course, the attempt to mask perceived differences among different actors by the researchers (e.g., 'being humble'; addressing local actors differently) only highlights presumed differences (in knowledge, education, class, status, authority, and/or speech genre) and enacts hierarchal attitudes and asymmetrical relations, further perpetuating inequality and power imbalances (Schwalbe 2000; Haenn et al. 2014).

Implicit educative, class-based, and communicative hierarchies of this kind shaped other forms of agency and participation. For instance, local inhabitants explained that their agency in conservation projects organised by PET and PROCODES was limited, from the very first stages of planning and implementation, to handing out documents, providing personal information, and filling out forms. Roles and functions were largely prefigured for local actors, and the following statement by a local participant illustrates a view shared by most interviewees regarding their participation in PROCODES and PET projects. "The government offers projects like building stone walls or cleaning the dam or the forest. They come at the beginning of the year and they offer those projects to us. We do not plan the activities. They explain everything in meetings or sometimes they just make announcements through the speakers that are located in the community building."

Local inhabitants also shared their concerns regarding the conditions of SDHBR project work, such as inattention to health and safety considerations, and being subject to uncertain payment schedules over which they reported having little control. "I carry stones up the hill and it is dangerous because there are scorpions and other bugs that can put you in the hospital. The working conditions in projects are poor and often, we are not provided with safety equipment. Sometimes the money for payments comes late and that is not good for us, mainly because we participate to get extra income."

Moreover, the administration of funds and the monitoring of projects were carried out by governmental staff members whose work was mostly performed from an office located in a city located just outside the Sierra de Huautla Region. Most of the decisions regarding government-led conservation projects were based on annual reports and data saved on a remotely-located computer - where policy-makers made conservation operations conform to virtual models built from extra-local perceptions and definitions of 'the environment'. In the SDHBR, the planning process for government-led projects was both abstract and abstracting, in the sense that—as government staff members explained—little actual knowledge of the place itself was required to keep conservation initiatives 'working'. Using 'positional maps' and 'arenas maps', we were able to discern that that planning process was, at nearly every stage, separated from SDHBR communities, and these abstract policy paradigms in turn exerted material effects upon and within the SDHBR.



Illustrating what we have termed coordinate participation, in the SDHBR annual report we found several succinct descriptions of the performative contradiction of ‘community integration’. “We need to implement a series of comprehensive projects that addresses the needs of SDHBR residents and allows them to be full participants in conservation projects. Among these projects [developed by researchers from the research center, and whose development required external funding] we can mention a few: the training of local community inhabitants to participate as environmental promoters; training in garbage management projects; and training in the development of a SDHBR Museum (research center’s annual report).”

Such coordinate participation is, in part, an outcome of integrative conservation forms that utilise mobilising metaphors like inclusion, collective dialogue, participation, and community ‘input’ as a central feature of protectionist efforts while, at the same time, determining in advance the ambit of possible (local) agency, for example, by prefiguring ‘what counts’ as sensible discourse or meaningful agency. Coordinate participation thus supports smooth operations while signaling ostensibly mutually-beneficial outcomes for diverse stakeholders (Buscher 2013; Kuymulu 2011): thus should local agency conform to the pre-given templates of actor ‘integration’. These policy constructs and mobilising metaphors, however, belie the complexity, difference, and contradictions of ground-level social-material relations, and render as incoherent (noise) local actors’ own descriptions of things, stakes, interests, and futures. And while local actors may provide coordinated ‘input’, which is translated metonymically as a form of ‘integrative inclusion’, they cannot readily push back, particularly if access to the decision-making arenas, or to the affordances of communication, have been evacuated.

### **Discoordinate Participation: Tactical Interventions**

Local inhabitants were able, nevertheless, to devise ways to advance their interests and articulate their own needs by challenging and contesting the operational regulations of imposed projects, for example, through the re-negotiation of conservation templates with government and NGO employees to include local inhabitants’ ideas, or through the tactical (de Certeau 1990) deployment of scientific languages and tools appropriated by local actors to facilitate communication and negotiations with non-governmental staff members.

We call ‘discoordinate participation’ those efforts and actions taken by local actors to re-map ‘given’ situations and coordinated roles. We liken ‘discoordinate participation’ to instances of *dissensus* (Rancière, 1998). In Rancière’s terms, *dissensus* is not a disagreement over an existing issue or controversy by formal participants who all have a place at the negotiation table. Rather, *dissensus* happens when those actors who are of ‘no account’, or who are assigned no meaningful part in a situation (or place at the negotiating table), unexpectedly take part, forcing their voices into the situation, making their arguments suddenly audible or visible. ‘Dissensual’ acts and gestures thus draw attention to forms of

agency and role-taking ‘that are taken by the dispersed, tactical, and makeshift creativity of groups or individuals who are already caught in the nets of “discipline”’ (de Certeau 2011). *Dissensus* does not necessarily involve active opposition, such as the (rare) case of local actors who oppose conservation projects, but draws our attention to how these local actors—in tactical everyday encounters with extra-local strategic actors—find ways to make those projects conform better to their own (local) interests, or to their own descriptions of the situation. For example, one inhabitant of the SDBHR narrates, “the first time I heard the term conservation was six years ago. I was appointed community authority at the time and so I was in constant interaction with technicians and researchers. These people set up several research sites where they count the various types of trees; I learned a lot by accompanying the researchers to the sites and I recorded that information... later, that helped me to develop new [locally-initiated] proposals for forestry projects with other agencies.”

Other instances of community-led initiatives that exemplify ‘discoordinate participation’ include the reconstruction of water infrastructure in Quilamula and the improvement of dams in Ajuchitlan. These projects, local inhabitants explained, were proposed and decided during *informal* gatherings with the research centre staff and CONANP staff. Community leaders invited government officials or high-ranking research centre staff to community festivities or informal gatherings, transforming a social event into an affordance for negotiation, a possibly unexpected stage from which to ‘push-back’, where local actors could take *critical* positions as agents capable of introducing new terms, descriptions, interests, and activities.

During these gatherings, local community inhabitants integrated their ideas and community needs into the conversational scene. These informal community-led initiatives effectively disrupted regular governmental, academic and regulatory tasks. According to several extra-local decision-makers interviewed, projects that originated in this way were often difficult to implement, precisely because they did not ‘coordinate’ well with the regulations and terms of reference for projects and activities as pre-established through centralised decisions. For example, “the workshops and projects that we organised are advanced beforehand. There is [a] timeline that we need to follow. We do not develop the timeline; the federal government sets the deadlines. For example, fire-prevention projects are carried out in the beginning of December. Then, from January to April, we organise other projects. If we are asked to consider other [community] projects, this would mean double the amount of work because we have to re-organize everything to make the [unsolicited] projects fit.”

Here, policy frameworks and external deadlines imposed constraints on even recognising community-driven input and ideas. Nonetheless, local community inhabitants often contested the normative templates for project designs and their implementation. As one local inhabitant expressed his concerns, “I have participated in different projects and one of those we completed after years of knocking on doors. Fortunately, we organised a large party and we invited all

the staff from the government and the research centre. Then, the authorities talked with us in a more relaxed environment. After that gathering, we were able [to apply for funding for a small project].

“I went to the office in the city because I needed the greenhouse. I went to the governmental offices and personally invited the director to my community. I organized a party; we talked about projects and we showed them our community. That facilitated the process of application for funding.”

Others have critically analysed the forms of participation that occur within externally-generated conservation projects (Gerritsen 2008). Similarly, we found that the enthusiasm for official forms of coordinate participation was not shared by local actors, because in this mode of ‘participation’ there was a persistently disparate access to decision-making arenas. While scientists, government and non-governmental actors produced a variety of abstract, transposable resources (scientific, rhetorical, and regulatory), which gave them the capacity to act, decide and implement an ideal collaborative process for conservation and participation in the SDHBR, local actors were, in practice, systematically denied an agentive role in decision-making, and in the design of those projects that most directly affected them. Under these circumstances, thinking about, assessing, or even talking about ‘genuine participation’, ‘authentic bottom up conservation’ or ‘multidirectional communication’ seemed incongruous, and critically interrogating the performative contradiction at the heart of claims about local participation made more visible the metaphorical forms, and the rhetorical character, energising neoliberal discourses about ‘win-win’ collaboration.

## CONCLUSION

### Re-Mapping Conservation on the Ground

The analysis presented in this article provides a micro-analytical view of how conservation projects can be set in motion, and how they can work out in practice - on the ground. SA makes visible a view of integrative conservation practices as partial, uneven, and unstable, both locally contingent and (frequently) socially contested. Through accounts of participation enabled by that method of analysis, and by using SA’s distinctive mapping tools, spaces of resistance, alterity, and possibility become analytically discernible and politically meaningful (Whatmore 2002). We see, in the case of the SDBHR, how abstract designs informed by neoliberal conservation discourse and its ‘mobilising metaphors’ often arrive ‘bundled with their own ideological impacts’ (de Castell et al. 2014). These ideological impacts have powerful material effects in prefiguring forms of participation, in coordinating actor roles and related on-the-ground functions, and in predetermining who teaches and who is taught.

In this article we have demonstrated that any analysis of community involvement should not simply measure the ‘degree’ of participation, but should attempt to discern the fundamental forms and nuanced relations in which

participation is defined, managed and enacted – a perspective that may produce very different research questions, and open up new sites and arenas of study.

We advanced a notion of ‘coordinate participation’ to refer to where and how community participation was structured by extra-local conservation agencies, then mobilised cases from our fieldwork to develop an alternative characterisation of local agency— ‘discoordinate participation’—referring to active challenges to the sanguine rhetoric of inclusion that animates and legitimates much contemporary conservation discourse.

The construct of ‘discoordinate participation’ draws attention to modes of un-scripted participative intervention - events that disclose the ambiguity, heterogeneity, and complexity of landscapes and local epistemologies – of ‘secret places’ or the ‘clandestine or underground side of social life’ (Lefebvre 1991). If forms of ‘coordinate participation’ prefigure local participation, and continuously administer those functions— whether through educative practices, or by rhetorically shaping various actors’ views about ecological crises and subsequent (necessary) conservation interventions—‘discoordinate participation’ signals alternative spaces and tactics where local actors can have an effect on the politics of governance: through challenging templates, by staging informal social situations as affordances for intervention, and for creating scenes of ‘dissensus’. As Rancière (1998) further explains, ‘dissensus’ is a productive re-shaping of the situation by ‘unaccounted actors’ who—unexpectedly—participate in common, and make themselves of account. As we discovered, local SDBHR participants not only educated and equipped themselves with the semiotic tools and policy strategies of professional conservation actors, but also tactically re-deployed those mechanisms to their own (local) conservation ends. Similar observations are reported by Peluso (2005), describing how, in forest regions in Kalimantan, Indonesia, local and indigenous actors, supported in some cases by small NGOs, used cartographic media in attempts to re-map—and re-appropriate (‘counter-map’)—traditional forest areas and resources subsumed by international organisations and external claimants. While ‘discoordinate participation’ signals tactical forms of local and indigenous agency, it should not be concluded from these (infrequent) cases that ‘integrative conservation’ is ‘working for all’.

And while ‘discoordinate participation’ may thus challenge the ‘smooth operations’ of conservation designs, we argue that these modes of participation may do more to support than to undermine sustainable ecology initiatives. Here, we do not intend to advance yet another ‘win-win’ solution, but to point out the prospect of its opposite, a ‘lose-lose’ situation. As Jepson et al. (2011) have pointed out, abstract external designs, when imposed in local sites, may generate effects that serve neither the ends of local communities, nor the long-term purposes of biodiversity protection.

More recent integrative research on Indigenous and Community-Conserved Areas (ICCAs) in Mexico suggests that small-scale, locally-initiated environmental projects can have important conservation benefits (Berkes 2009; Orozco

and Berkes 2010; Robson 2007). These locally-generated initiatives are not based on neoliberal approaches dependent upon multi-institutional structures and external planning, but instead require strong community (self) organisation, paired with science-based conservation strategies receptive to local epistemologies. In ICCAs in Mexico, where indigenous communities are the legal owners and *de facto* managers of agricultural and forest lands (Robson 2009), local actors design and formulate rules that regulate resource uses, as well as map practices for monitoring resource conditions. In Mexican ICCAs, Robson (2007) reports more transparency in resource management and decision making processes, with multiple spaces, both formal and informal, for communication, argument, and conflict/resolution among community members and stakeholders. Among emergent instances of ICCAs are traditional coffee plantations cultivated principally by small-scale community based growers, most of whom belong to diverse indigenous cultural groups. These locally managed coffee plantations are important repositories of biological richness for trees and epiphytes, mammals, birds, reptiles, amphibians, arthropods (Moguel and Toledo 1999) ---and humans.

Given the potential for biodiversity conservation offered by these alternative initiatives, such innovative approaches are, we argue, valuable models for future conservation efforts in Mexico – models that support more genuine, and less externally coordinated, forms of participatory agency. The success of self-organising, community-based land-use systems for housing biodiversity (Robson 2007; Moguel and Toledo 1999) suggests that these socio-natural systems can play an important future role in (re)modeling conservation practices in Mexico.

Against abstract, and abstracting, ‘win-win scenarios’ proclaimed by neoliberal conservation and land development agencies, we argue the need to rigorously re-focus analysis on the concrete practices of multiple and local conservation actors. As Jepson et al. (2011) state, an ‘actor-network perspective reveals the need to pay careful attention to the specificity of context, including...the design of reciprocal arrangements when [staging] a new conservation intervention’ (Jepson et al: 233). In relation to emergent conservation models like ICCAs, we further argue that SA and actor-network theory provide tools and methods for attending to the specificity of research sites, and for identifying the rich affordances of discoordinate participation, so that we might better see and hear local ecology actors in their own language(s), and through their own interventions. It is at this level of micro-sociological analysis, we argue, that we can best grasp the circulations of social agency in these complex and important social-ecological networks.

While we are not the first to call for revisiting these working assumptions of participation, we are further, and more specifically, calling for ‘grounded’ site-specific methods that can invite small-scale local research to assess the positions of affected communities in ways that do not uncritically ‘implicate’ (Clarke 2005) local actors in designs over which they have no meaningful control.

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