

The Role of Intermediaries in Mexico's Payments for Environmental Services Programs

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Dissertation submitted in partial fulfillment of  
the requirements for the degree of Doctor  
of Philosophy in Environment  
in the Graduate School  
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2017

ABSTRACT

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## Abstract

This dissertation analyzes the role of two types of intermediaries – nongovernmental organizations (NGOs) and state governments – in Mexico’s National Payments for Environmental Services (PES) programs. It consists of three chapters that evaluate: (1) the influence of NGOs on PES program outcomes, (2) the learning process in NGO-community interactions, and (3) the role of NGOs and state governments in building durable PES mechanisms.

I specifically look at the influence of intermediaries using a sample of 44 Mexican communities (common property owners) participating in PES. Half of the observed communities were enrolled in Mexico’s Matching Funds program (*Mecanismos Locales de Pagos por Servicios Ambientales a Través de Fondos Concurrentes* – Local Payments for Environmental Service Mechanisms through Matching Funds), which operates through local intermediaries. The other half were selected from neighboring communities in the National PES program (*Programa Nacional de Pago por Servicios Ambientales* – National Payments for Environmental Services Program), which operates without intermediaries. Using a two-level controlled comparison method, I first compare the influence of five NGOs and three state governments that participate in PES with communities that have different levels of internal governance. Then, I compare the communities participating in Matching Funds to neighboring communities with similar governance levels

participating in National PES. In order to overcome the potential biases and shortcomings of the controlled comparison, this method was supplemented with process tracing within each PES case. My analysis is based on an examination of qualitative data consisting interviews with key stakeholders, participant observation, and document analysis collected during field research in Mexico from February 2016 to July 2016.

The first chapter analyzes the role of intermediary intervention and community level governance in producing the differential outcomes observed in many PES initiatives. I examine the interaction of the types of support provided by intermediary non-governmental organizations (NGOs) on enrolled communities with different levels of internal governance (strong, medium, weak) and the ways in which this interplay results in differential material, governance, and environmental outcomes. I find that in the Matching Funds program where NGO intermediaries are present, communities with a medium governance level experience the most material, governance, and environmental gains. Matching Funds communities with high and low levels of governance experience some gains, but also material and governance losses. These outcomes are different from the benefits experienced by communities in the National PES program in which intermediaries are not present, where it is the communities with a high governance level that enjoy the most material, governance, and environmental benefits. Communities with medium and weak governance levels in National PES experience environmental gains, limited material gains, and no governance gains. These

findings suggest that intermediary involvement in PES is advantageous for communities with a certain levels of internal governance, but not for others.

The second chapter analyzes the processes through which PES projects carried out by intermediary NGOs in communities are adapted or not adapted to local conditions and needs. I describe the mechanisms through which the communities enrolled in PES provide feedback to project managers, and the ways in which managers are able to learn from beneficiaries and subsequently revise their project models. While dominant theories suggest that feedback and subsequent adaptation is possible through institutional learning as well as exit and voice mechanisms, I argue that in practice, inequalities in resources and decision making power prevent PES beneficiaries from voicing the negative feedback necessary for project managers to learn from mistakes.

The third chapter examines the institutional circumstances under which it is possible to transition from government-led PES to local PES mechanisms by partnering with local organizations. Using Mexico's Matching Funds program as a case study, I evaluate how NGOs and state governments perform in relation to both building the institutions necessary for sustainable local PES and capacity building within provider communities. I find that neither type of local partner is able to achieve both goals; instead, they have complementary strengths and weaknesses. On one hand, NGOs are a type of organization that have a strong relationship with local communities but lack the necessary financial structure and authority to establish and enforce durable PES

payments. While the NGOs in this study excelled at assisting communities participating in PES, they were less effective at securing durable funding that would enable PES to persist in the future. On the other hand, state governments are organizations with the power and authority to establish trust funds and local institutions for durable local PES mechanisms, but lack a significant relationship with local communities. The state governments in this study did not attempt to build capacity in local communities but were more successful at institutionalizing PES, making local PES initiatives part of their long-term plans for environmental protection.

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# 1. Introduction

Designing policy approaches to solve environmental problems brings us face to face with the dilemma that conserving natural resources is necessary for long-term wellbeing, but it is not usually economically profitable in the short term. Landowners who choose to conserve their land create positive environmental externalities that are enjoyed by many others, but for which they are not compensated (Jaffe et al., 2005). This conservation dilemma is particularly severe in developing economies with natural resources that provide immediate sources of much-needed income even if they would generate greater and longer-term welfare benefits if used slowly and sustainably (Blaikie & Brookfield, 1987).

Payments for Environmental Services (PES) has emerged in recent years as a response to this conservation dilemma, seeking to reward landowners and environmental managers who undertake activities that conserve instead of degrade the environment. PES aims to make environmental conservation profitable by paying landowners to forego more traditional economic uses of their land (such as agriculture, cattle ranching, logging) and/or undertake environmental improvement activities (Wunder, 2005). Under PES agreements, landowners or environmental managers are required to perform certain environmental protection and management activities, such

as fencing their property, patrolling to prevent illegal intruders, and preventing forest fires, among other activities. These activities serve as a proxy for the production of *environmental services*, which can include cleaner and more plentiful water, biodiversity conservation, carbon sequestration, and scenic beauty (Wunder, 2005). Funders of environmental services payments include water users such as utilities, municipalities, businesses, governments, and international donors, among others. According to the theoretical ideal type of PES, the people who provide environmental services are called *providers*, which can be private (i.e. a household) or communal (i.e. a rural community), and the people or organizations who pay them are the *users* or *buyers* of environmental services (Wunder, 2005).

### **1.1 PES in the Literature**

PES has become a widespread approach to environmental protection that has been adopted in numerous countries around the world (TEEB, 2008). The rapid expansion of PES has prompted scholars to analyze the socioeconomic and environmental impacts of these policies and to examine the conditions for their effectiveness and durability. Important questions that have not yet been fully answered include: Who benefits from PES? How do power relations shape the outcomes of PES projects? What are the conditions for durable PES institutions?

First, scholars have focused on identifying who benefits and who is disadvantaged in PES. In their study of the National PES program in Mexico, J. Alix-Garcia et al. (2014) find that this government-led program had positive environmental and socioeconomic impacts on landowners. The authors compared PES participants to rejected applicants and found that land enrolled in PES was less likely to be deforested and that PES also increased landowners' wealth (Alix-Garcia et al., 2014). Scholars have conducted similar studies for other PES programs, which included the benefits and disadvantages of using PES as a tool for poverty alleviation (Grieg-Gran, Porras, & Wunder, 2005; Pagiola, Arcenas, & Platais, 2005), as well as theoretical framework and syntheses of existing studies that stipulate the conditions under which PES benefits or disadvantages landowners (Börner et al., 2017).

Second, scholars have tackled the benefits and disadvantages of PES from a critical perspective. Since many PES providers in the Global South are marginalized landowners, scholars have questioned their relative power in PES vis-à-vis more powerful stakeholders such as governments and private users (Gebara, 2013; Kosoy & Corbera, 2010; Lansing, 2014). Kosoy and Corbera (2010) argue that landowners participating as PES providers usually have very little decision making power in setting the price of environmental services or in participating in PES to begin with. Since landowners that are impoverished and marginalized likely have limited economic

options, they may not necessarily participate in PES because it brings them substantial economic benefits but rather because they have few other choices (Kosoy and Corbera, 2013). Furthermore, in his study of government-led PES in Costa Rica, Lansing (2014) demonstrates that access to participate in PES, and thereby receive economic benefits, is unequal. He explains that the government only recognizes formal land tenure arrangements as valid for participation in PES, which excludes informal land tenants from participating (Lansing, 2014).

Finally, a third body of literature is concerned with the durability and effectiveness of PES initiatives in the longer term. Scholars in this field have identified sets of conditions under which PES is likely to be locally sustainable (Muñoz Escobar, Hollaender, & Pineda Weffer, 2013; Vatn, 2010; Wunder, 2013). For example, Muñoz Escobar et al. (2013) apply criteria used for assessing the durability of common pool resources to PES arrangements and find that “enabling conditions” (rules, norms, and regulations) need to be present at various scales and levels of organizations. Likewise, Vatn (2010) explains that in order to be effective at producing environmental services and achieving co-objectives such as alleviating poverty, most PES programs require some institutional development and capacity building in at least three dimensions: (1) deciding “which interests and values get protection” and creating “rights and rules [...] to govern the interaction between agents”(Vatn, 2010, p. 1246); (2) deciding whether PES

is best managed by “hierarchies like firms of the state”, or by local communities (Vatn, 2010, p. 1246); and (3) developing the necessary institutions that will produce the desired incentives and “motivations for action” (Vatn, 2010, p. 1246).

## ***1.2 PES and Local Intermediaries***

My dissertation chapters address these three bodies of literature by focusing on an important actor that is often overlooked in PES studies: the local intermediary. In most PES initiatives, intermediary organizations intervene to manage the relationship between users and providers (Huber-Stearns, Goldstein, & Duke, 2013). These intermediaries include nongovernmental organizations (NGOs), cooperatives, as well as local buyers of environmental services such as municipalities, water utilities, businesses, etc. Intermediaries play a crucial role in shaping the benefits, outcomes, and durability of PES policies (Bosselmann & Lund, 2013; Engel, Pagiola, & Wunder, 2008; Muradian, Corbera, Pascual, Kosoy, & May, 2010; Pham, Campbell, Garnett, Aslin, & Hoang, 2010). As the results of my research demonstrate, intermediaries influence PES by adding additional participation requirements for providers, providing additional assistance and resources to landowners, and building the necessary institutions to make PES durable into the future.

I specifically evaluate the role of intermediaries in Mexico’s government-led PES programs, which are renowned for being both extensive and innovative (Sims et al.,

2014). The federal government of Mexico first implemented PES in 2003. There are currently three federal PES programs, all of which are managed by the National Forestry Commission (*Comisión Nacional Forestal, CONAFOR*). The first program is the *Programa Nacional de Pago por Servicios Ambientales* (the National Payment for Environmental Services Program), referred to in this dissertation as the National PES program. This program began in 2003 and is designed as a direct contract between CONAFOR and landowners (PRONAFOR, 2015). In this program, CONAFOR acts as the PES buyer, giving monetary compensation to participating individual and communal landowners. In 2008, CONAFOR first implemented a program called *Mecanismos Locales de Pagos por Servicios Ambientales a través de Fondos Concurrentes* (Local Payments for Environmental Services Mechanisms through Matching Funds), referred to here as the Matching Funds program. This program is designed as a contract between CONAFOR, landowners, and a local intermediary responsible for providing half of the funds to providers. This program represents an attempt to decentralize PES by encouraging environmental service providers to find buyers other than the central government and to build the necessary institutional capacity for the emergence of local PES markets (Interview with Matching Funds director, March 2014). Third, the *Fondo Patrimonial para la Biodiversidad* (Biodiversity Heritage Fund) was established in 2009 as a strategy for long-term biodiversity conservation. The program is similar to National PES in that it consists of

direct contracts between CONAFOR and landowners, but involves stricter environmental targeting and longer contracts (PRONAFOR, 2015).

The programs that are the focus of my research are the National PES program and the Matching Funds program. Operationally, these two programs are very similar, the main difference being that the Matching Funds program was designed to operate through local intermediaries, whereas the National PES program involves a direct contract between the federal government and providers. The Matching Funds program is ideal for studying the influence of intermediaries on the benefits, effectiveness, and durability of PES, whereas the National PES program serves as a point of comparison. Both programs are described below.

### ***1.3 The National PES Program***

The National PES program was first implemented in 2003. In this program, the central government acts as user and gives subsidies to local providers. Contracts are for five years, with the option to reapply, and focus on the conservation of forests (J. Alix-Garcia, de Janvry, & Sadoulet, 2005). Payment rates have varied over time, but currently range from USD \$27 to \$35 per hectare per year, with the rates determined by the “quality” of the land for producing the desired ecosystem services (PRONAFOR, 2015; Sims et al., 2014). The majority of National PES contracts have been focused on production of hydrological services (more and better quality water downstream),

although at various points in its evolution, payments have also been made for biodiversity conservation, carbon sequestration, and the conservation and improvement of agroforestry systems (McAfee & Shapiro, 2010). Eligible providers are private landowners or *núcleos agrarios* consisting of *ejidos* or indigenous communities that own property in common (J. Alix-Garcia et al., 2005). Providers participating in PES are required to implement specific forest conservation activities (e.g. fencing against cattle intrusion, patrolling against illegal logging, posting signs recognizing CONAFOR's funding) that are required in every contract and others that can be selected from a menu of options (e.g. creation of fire breaks, digging of water infiltration ditches, etc.) (PRONAFOR, 2015). Providers in the National PES program are required to use a specified portion of their funds to hire a CONAFOR-certified technical assistant to help them with paperwork and the implementation of PES activities (PRONAFOR, 2015). The technical assistant is a contractor who is supposed to make regular visits to landowners in order to provide training and guidance in completing the required forest management activities and answer their questions about the program.

### **1.4 The Matching Funds Program**

The Matching Funds program was first implemented in 2008 as an innovative PES strategy that leverages the presence and resources of local intermediaries to promote and implement PES mechanisms. In this program, CONAFOR signs a contract

with NGOs, state or municipal governments, water utilities, and/or businesses that become the central government's 'local partners' (*socios locales*) (PRONAFOR, 2015). Local partners are responsible for paying half of the compensation to landowners or finding a buyer willing to do so. State and municipal governments, water utilities, and businesses are likely to provide the funds themselves and therefore play the dual role of "buyer" and local partner. In the case of NGOs, they compensate landowners using their own funds (acting as buyer and local partner) or collect money from other organizations or individuals who are the direct beneficiaries of the ecosystem services produced (acting as local partner only). Payments to landowners are set by the local partner and usually range from \$20 to \$40 USD<sup>1</sup> per hectare per year. As with the National PES program, landowners are required to implement specific forest conservation activities (e.g. fencing against cattle intrusion, patrolling against illegal logging, posting signs recognizing CONAFOR's funding). Additional activities are decided together with the local partner based on what is appropriate in each region. Matching Funds contracts generally last five years, after which intermediaries and their providers are able to re-apply.

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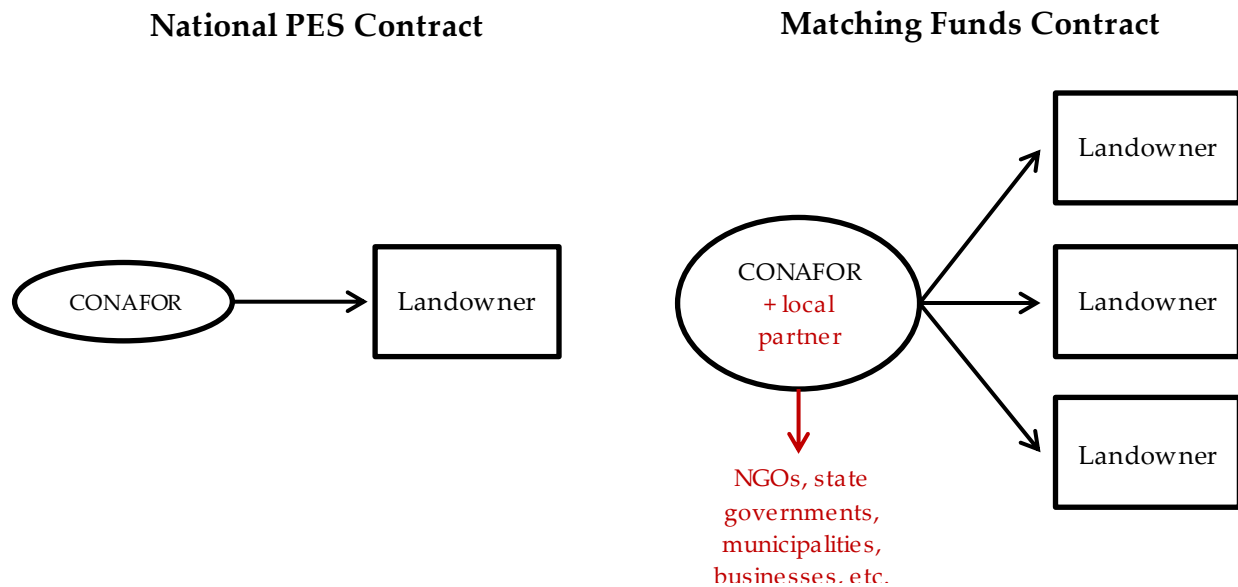
<sup>1</sup> Payments rates were obtained from CONAFOR databases. Payment amounts were converted from Mexican pesos to US dollars using an exchange rate of 1:18, which was the average exchange rate for the time period represented in the analysis.

Local partners often perform key roles in the Matching Funds program, such as helping landowners complete and send the necessary paperwork required to participate in the program, assisting with the implementation of conservation activities specified in the PES contracts, verifying that activities have been implemented, and helping communal landowners manage and distribute PES payments. Providers still have the option of hiring a certified technician while receiving additional assistance from the intermediary, or alternatively the intermediary can agree to take on that responsibility.

### ***1.5 Differences between National PES and Matching Funds***

The key difference between National PES and Matching Funds is in the type of contracts and parties involved in PES. As illustrated in Figure 1 below, the National PES program involves a direct contract between CONAFOR and landowners. In this type of contract, the central government acts as PES buyer and gives a subsidy to participating communities and individual landowners. On the other hand, Matching Funds contracts are between CONAFOR, a local partner, and at least one community or individual landowner. As mentioned previously, this dissertation focuses exclusively on local communities, since they form the majority of PES participants (Sims et al., 2014). The payment amount to landowners is decided by the local partner, and this amount is then

matched by CONAFOR. Payments to landowners usually range between \$20 to \$40 USD<sup>2</sup> per hectare per year.



**Figure 1: Differences between the National PES and Matching Funds PES Programs**

A second difference between Matching Funds and the National PES program is in the quality and quantity of assistance provided. Based on extensive interviews with PES intermediaries, technical assistants, participants, and CONAFOR officials, some intermediaries in the Matching Funds program (particularly NGOs) provide a high level

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<sup>2</sup> Payments to landowners were obtained from CONAFOR databases. Payment amounts were converted from Mexican pesos to US dollars using an exchange rate of 1:18.

of assistance to providers, which surpasses the support they receive from certified technicians.

Another key difference between Matching Funds and National PES is in setting the requirements for participating landowners. In addition to providing technical assistance, intermediaries are also able to impose participation requirements for providers that go beyond what is required by CONAFOR. For example, based on interviews with PES intermediaries and CONAFOR officials, I found that intermediary NGOs are most likely to require that communal landowners reinvest their PES funds into a community business or project. On the other hand, landowners participating in National PES at the time of this study had no specific requirements for how to spend PES funds, beyond those allocated to hire a certified technical assistant, and were free to spend it however they wished.

A fourth difference between the two programs is in landowners' eligibility to apply to the program. In the National PES program, only landowners that are located in designated "eligible zones," selected based on a number of environmental and social criteria, are allowed to participate in the program. In Matching Funds, however, the local partner selects the land area and the landowners able to participate. Based on interviews with local partners, I found that intermediaries usually decided which individuals and communities they wished to compensate based on existing relationships

with certain landowners, prioritization of zones considered environmentally important, or socioeconomic criteria.

## ***1.6 Summary of Previous Research on Mexico's PES Programs***

Previous research on PES in Mexico has mostly been limited to the National PES program, where most studies consist of program evaluations as a handful of critical studies. J. Alix-Garcia et al. (2014) conducted a comprehensive evaluation of the National PES program that took place between 2003 and 2010. The authors compared landowners enrolled in PES as providers with rejected applicants and found that the National PES program has helped conserve forest cover and has also increased levels of wealth, environmental management, and other socioeconomic benefits. In another large-scale study of the National PES program, J. M. Alix-Garcia, Shapiro, and Sims (2012) evaluate the impact of PES on avoided deforestation and slippage. Their findings show that PES had a modest effect on avoided deforestation due to low deforestation rates to begin with, and that some slippage occurred in other places that were not enrolled on the program. In a separate evaluation of the environmental effectiveness and poverty alleviation capacity of the National PES program, J. M. Alix-Garcia, Sims, and Yañez-Pagans (2015) find that environmental and poverty alleviation goals might not necessarily be compatible. Their findings show that while environmental benefits are

higher among landowners with low poverty levels, economic gains are higher among landowners with a lower risk of deforestation (J. M. Alix-Garcia et al., 2015).

Sims et al. (2014) examine the role of adaptive management in achieving more effective environmental and socioeconomic targeting in Mexico's National PES program. The authors define adaptive management according to the following qualities: "experimental program design, systematic monitoring and evaluation of impacts, and continuous redesign of policy in response to evidence and feedback from stakeholders" (Sims et al., 2014, p. 3). They argue that this process allowed decision makers to refine their selection criteria for PES landowners over time, which rendered the program more effective at achieving its environmental and socioeconomic goals.

Other scholars have undertaken more localized evaluations of the impacts of Mexico's National PES program. Scullion, Thomas, Vogt, Perez-Maqueo, and Logsdon (2011) evaluate the environmental impact of both the National PES program and FIDECOAGUA (*Fideicomiso Coatepecano para la Conservación del Bosque y el Agua*), a regional PES program, in the municipality of Coatepec, located in Veracruz, Mexico. They find that while both PES programs reduced deforestation rates within enrolled parcels, they did not reduce the region-wide deforestation rate (Scullion et al., 2011). Caro-Borrero, Corbera, Neitzel, and Almeida-Leñero (2015) evaluate participants' perceptions of the National PES program within two local communities located outside

Mexico City. They find that participants have a limited understanding of program purpose and goals, and that perceived socioeconomic benefits from the program are insufficient for communities to consider halting their deforestation practices (Caro-Borrero et al., 2015).

Adopting a critical perspective, Shapiro-Garza (2013a; 2013b) shows how the neoliberal discourse embedded in the National PES programs was altered by rural movements and associations to include their local priorities. The author provides a rich description of the history and development of government-led PES in Mexico and demonstrates how local values have successfully led to policy changes in the PES rules and guidelines. In a similar study, McAfee and Shapiro (2010) remind us that government-led PES programs are usually sites of contestation between local values and the ones held by decision makers.

My dissertation seeks to contribute to these studies of PES in Mexico by focusing my analysis on the Matching Funds program. This program relies on local intermediaries to design and fulfil their own environmental and socioeconomic objectives in addition to meeting basic criteria established by CONAFOR. While an explicit partnership between the central government and local intermediaries is an innovative PES strategy, there is currently a scarcity of academic studies on the Matching Funds program. By focusing on the influence of intermediaries in achieving

environmental and socioeconomic PES objectives, my study will shed light on the operation of the Matching Funds program and also on the role of PES intermediaries in general.

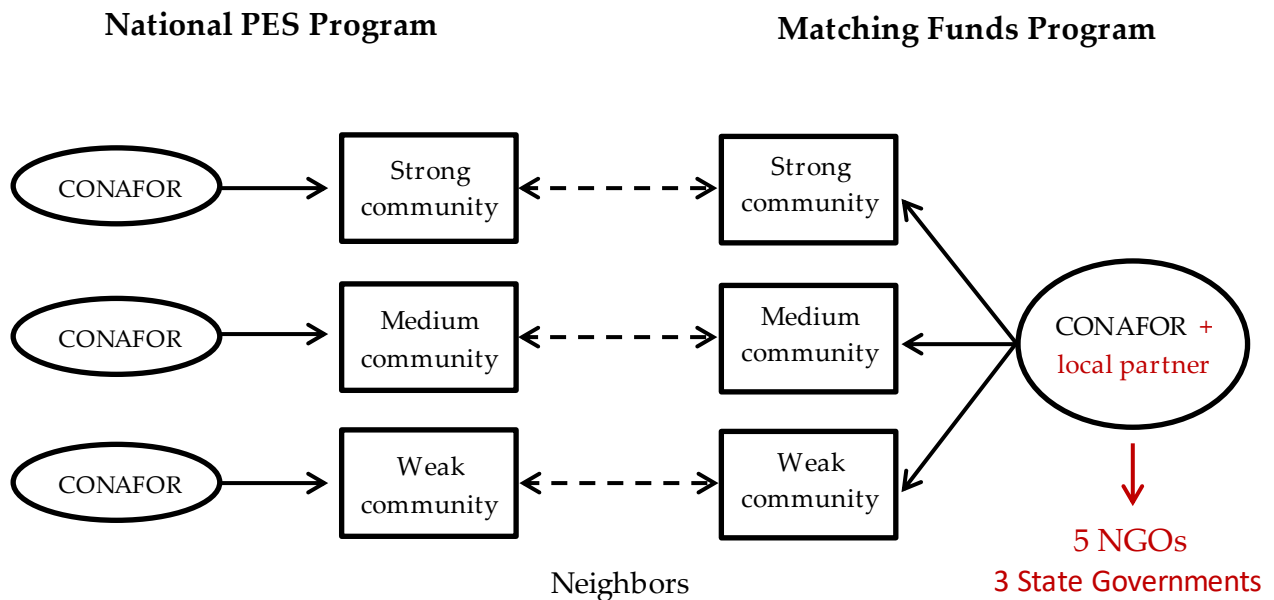
## ***1.6 Sample Selection and Research Methods***

This dissertation analyzes the role of two types of intermediaries – NGOs and state governments – in Mexico’s PES programs. In this study, I selected a total of eight Matching Funds cases consisting of five NGOs and three state governments. These cases were selected and analyzed based on a two-level controlled comparison method. First, I selected NGOs and state governments that participated with more than one community and where the communities had different levels of internal governance, which I classified as strong, medium, and weak. These three categories are explained in more detail in Chapter 2. This format allowed me to compare the influence of the same PES local partner on communities with different governance levels. I then did a second controlled comparison by comparing the material, governance, and environmental PES outcomes<sup>3</sup> for communities participating in Matching Funds to similar neighboring communities that participated in National PES. These neighboring communities acted as “controls,” allowing me to observe what would happen without any intermediary

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<sup>3</sup> Again, these three categories are explained in more detail in Chapter 2.

involvement. For each community that participated in Matching Funds, I selected a neighbor that participated in National PES that had the same level of internal governance (high, medium, or low) and that was similar in terms of exogenous factors. The exogenous factors included population size, education level, market access, ethnic group, land tenure, income source, and out-migration. The case selection and controlled comparison designed are illustrated in Figure 2 below.



**Figure 2: Controlled Comparison Method and Sample Selection**

An important shortcoming of the controlled comparison is that it is not possible to hold all external factors constant while isolating the independent variables. While originally designed as an experimental method, when the controlled comparison used in the field it is impossible to find two communities that are absolutely identical in all aspects except for community strength and level of external assistance. This messiness makes it more difficult to draw conclusions and eliminate alternative explanations. For this reason, within each community, I also conducted process-tracing using participant observation and semi-structured interviews with key actors in order to uncover the chain of events that led to particular outcomes and to eliminate rival explanations (Van Evera, 1997). Supplementing experimental methods with within-case analysis such as process tracing is recommended by scholars (George and Bennett, 2005; Van Evera, 1997) and is considered to be a valid technique for addressing the limitations of the controlled comparison.

A total of 46 communities were selected using a purposive sampling strategy, where communities, local partners, and certified technicians were contacted with the help of CONAFOR staff at the central headquarters in Guadalajara, Jalisco. Only communities that signed PES contracts in 2013 or before were included in this study, in order to make sure that sufficient time has passed before making conclusions about program outcomes. The names of places and their location are confidential in order to

protect the identity of interviewees, since the research findings and policy implications are also shared with CONAFOR officials.

My analysis consists of qualitative data using interviews with key stakeholders, participant observation, and document analysis collected during field research in Mexico from February 2016 to July 2016. I collected qualitative data using three methods: 1) archival research, 2) semi-structured interviews, and 3) participant observation. I first studied documents at CONAFOR's central office in Guadalajara that contained information about the National PES and Matching Funds programs and about the specific cases selected for field work. These documents included: National PES and Matching Funds rulebooks since 2003 and 2008, respectively; copies of the contracts between CONAFOR and provider communities (for National PES); copies of the contracts between CONAFOR, provider communities, and local partners (for Matching Funds); lists of conservation activities undertaken by communities; descriptions of community characteristics such as population size, indigenous background, livelihood sustenance, and level of organization; and databases with the history of participation in CONAFOR programs for each community. For the Matching Funds program, I also studied written information produced by the local partner (if available), such as websites and documents by NGOs and state governments describing their vision, programs, and participation in Matching Funds.

Second, I conducted semi-structured interviews with key actors in each of the five cases involved in the implementation of both the National and Matching Funds PES programs. Interviewees included: community leaders (both current and past); community members actively involved in implementing National PES or Matching Funds activities and/or managing PES funds; CONAFOR-certified technicians; program directors and staff working for the local partner organizations; and program directors and staff working for National PES and Matching Funds at the CONAFOR central office in Guadalajara. Interviewees were selected using snowball sampling, where initial leaders or directors were identified and interviewed, and were then asked to identify other community members of staff that were involved in the programs.

Finally, I collected observational data about program functioning and implementation through participant observation. Where possible, I attended community meetings, accompanied community members when they were implementing their PES activities in the forest, accompanied CONAFOR regional office staff when they verified that activities have been implemented, and was present when local partners and CONAFOR-certified technicians talked to community members or gave presentations. Participation in these activities gave me a better understanding of how the National PES and Matching Funds programs work and allowed me to see observe the dynamics between community members and external actors.

To analyze the data, I transcribed and coded interviews, research notes, and documents using NVivo (version 11), a qualitative data analysis software, in order to identify themes, relationships, and patterns in the data. I started with “open coding” (Breckenridge, 2014), through which a large number of themes are identified until new interview data adds no new topics. I then did “selective coding” (Breckenridge, 2014, p. 3) by integrating existing codes into more general themes, which enabled the formulation of preliminary concepts and the discovery of potential relationships.

The sample selection and methods described above are the holistic research approach taken while gathering data in the field. However, each of the three chapters that follow focus on different research questions and therefore employ a subset of the data and selected communities relevant to answering the respective questions – not the whole sample. For this reason, each of the following chapters also contain their own methods section explaining the relevant sample selection and research that was used to answer each respective question.

Finally, I would like to acknowledge my researcher positionality in this study. It is important to recognize my position as a student researcher from a university in the United States in relation to my research participants, who were rural community members in Mexico. I was in the privileged position of being able to travel to Mexico and interview participants who were kind enough to host me and participate in my

study. My ability to conduct research in rural Mexico comes from my position of privilege, and has influenced my relationship with participants. For this reason, the research findings reflect my own experience and are necessarily partial. While I do not aim to speak for my research participants, in this chapter I share my understanding of their experiences with Mexico's government-led PES projects. While I recognize that the information shared with me by community members is partial and influenced by my position as a foreign student researcher, I believe that my semi-structured interview format and my willingness to listen to issues that went beyond my immediate research goals made participants willing to share sensitive information with me.

## ***1.7 Summary of Content***

My dissertation is structured as a series of three articles. For this reason, there is some repetition in terms of content (e.g. site and project descriptions, sample selection and methods, etc.) amongst the chapters. For this same reason, I do not provide a final discussion and conclusion section.

My first dissertation chapter examines the interaction of the types of support provided by intermediary (NGOs) on enrolled communities with different levels of internal governance (strong, medium, weak) and the ways in which this interplay results in differential material, governance, and environmental outcomes. Using a controlled comparison method, I analyze how five different NGOs interact with

communities that have different levels of internal governance before participating in PES<sup>4</sup> (high, medium, low). I also look at the material, governance, and environmental benefits enjoyed by neighboring communities with similar levels of pre-PES governance in the National PES program in order to compare the influence of intermediary NGOs to a similar PES program with no intermediary involvement.

In the National PES program, I find that all three community types enjoyed material, governance, and environmental benefits that outweighed the costs of participation. However, I found that the strongest communities experienced the greatest level of benefit. I attribute this result to the fact that these communities have high levels of social capital and the capacity for collective action and are therefore most able to take advantage of PES by investing funds that bolster existing community projects and enterprises. I found that the National PES program also benefitted medium and weaker communities insofar as they distributed the money amongst households instead of making investments in community projects.

I found a different distribution of PES-related benefits in the Matching Funds program, where NGO involvement in PES was beneficial to some communities but not to others. In this program, it is the communities with medium-level governance that

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<sup>4</sup> Indicators for communities' internal governance include social capital, organization, and capacity for collective action (Ostrom, 1990).

experienced the greatest PES-related benefits. NGOs usually required that communities reinvest PES funds into a community project, and this requirement was particularly beneficial for medium-governance communities, which have sufficient social capital to work together and solve conflicts, but often lacked experience collaborating on a group project. For these medium-governance communities, NGO involvement was very helpful because it pushed them to face new challenges as a group and to gain valuable experience that can be transferred to future projects. On the other hand, for communities with a high governance level, most NGO requirements stifled local autonomy and decision-making. The majority of strong communities already had experience working on a community business or project and did not benefit from NGO interference. In addition, the type of specialized assistance needed by strong communities most often surpassed the qualifications of NGO staff. Likewise, NGO involvement was not beneficial for communities with a low governance level because the requirements they imposed were too much to ask of communities with little experience working together and limited institutional capacity for conflict resolution. As a result, I found that in weaker communities, NGO intervention increased conflict and resulted in some communities dropping out of the Matching Funds program.

To explain these differences observed in PES benefits, I postulate that most NGOs perform a limited number of functions, the primary being providing communities

the opportunity to work together on a group project. At the same time, NGOs select communities based on previous relationships and environmental criteria, and not based on whether communities are a good match for what their staff is able to offer. These findings suggest that intermediary NGOs should refine their selection criteria and only participate in PES with communities that are likely to benefit from their requirements, or loosen their requirements and take a more flexible and customized approach when assisting provider communities. One of the five NGOs in this study adopted a flexible approach, where project managers hired consultants to assist strong communities that decided to use PES funds to gain specialized skills, had NGO staff encourage medium communities to invest in a group project, and relaxed their requirements with weak communities that did not want to reinvest their PES funds. Not surprisingly, all three types of communities (weak, medium, strong) experienced material, governance, and environmental gains in this case.

While the first chapter takes an exploratory approach to evaluating which communities benefit and which ones are disadvantaged by PES, the second chapter narrows down on a specific issue: Barriers to feedback mechanisms in NGO-led community projects. In cases where the projects proposed by NGOs clash with local needs and preferences, are project managers able to learn from mistakes and revise their projects to make them locally appropriate? The answer is not necessarily. While well-

known theories of learning and feedback would suggest that organizations can learn from mistakes by revising mental models (Ostrom, 2005) and by paying attention to local feedback (Hirschman, 1970), I show that in the case of the Matching Funds program, mechanisms proposed in theory do not work in practice. I argue that the inequalities in resources and decision-making power between project managers and beneficiaries in the program make it difficult for dissatisfied participants to give honest feedback to NGO staff. I refer to this phenomenon as *insulation*, and argue that it stands in the way of project success.

To illustrate my argument, I draw on four examples of NGO-community interactions from the Matching Funds program: (1) a top-down project in which NGO staff decided how beneficiaries would invest PES funds with limited local input but where local participants happened to agree with project goals, (2) a top-down project where local participants disagreed with project goals and used indirect resistance to communicate their preferences, (3) a top-down project where local participants disagreed with project goals and used direct resistance to voice their preferences, and (4) a participatory community project in which beneficiaries were free to decide how to spend PES funds. I found that when beneficiaries found themselves in a position where they disagreed with project managers yet remained in the project due to limited economic options, they did not feel comfortable voicing their true preferences directly

but used more indirect forms of resistance that were not recognized by project staff. As a result, project managers were not able to learn from mistakes and revise their projects to make them locally appropriate. These findings are applicable PES intermediaries, but also to NGOs and development project intermediaries more broadly. The implications of these findings are that even when projects are participatory, managers need to carefully design a safe space where participants can voice their true preferences and opinions without fear of negative consequences.

Finally, Chapter 3 tackles issues surrounding the durability of PES initiatives in the long term. While much of the PES literature has focused on identifying the conditions necessary for PES to emerge locally (Muñoz Escobar et al., 2013; Vatn, 2010), I specifically look at how partnerships between the central government and local organizations can lead to the development of local PES markets in spite of sub-optimal conditions. Using the Matching Funds program as a case study, I look at the differences between the roles of two types of intermediaries – state governments and NGOs – in building the institutional framework and local capacity necessary for local PES agreements to persist beyond the five-year government contracts.

I find that NGOs and state governments have different yet compatible strengths. While NGOs have a close relationship with local communities and help achieve the capacity building goal of the Matching Funds program, they do not have the power and

authority to establish durable PES funding. State governments, on the other hand, are interested, self-identified PES users that have the ability to establish durable funding. However, their involvement in local communities is virtually absent and therefore do not help local communities develop the capacity to participate in PES or continue conserving their environment after government contracts end.

These findings are informative for PES practitioners in general, as they illustrate the pros and cons of creating partnerships between the central government and local organizations for transitioning to local PES markets. A key insight that emerges from this study is that government officials should not over-rely on local intermediaries to fulfill all of their program goals but should instead play an active role in shaping the behavior of local actors.

## **2. The Role of Intermediary NGOs in PES: Community Empowerment or Administrative Burden?**

### ***2.1 Introduction***

Local communities in the Global South and their government do not always have a direct relationship; rather, they often deal with each other through NGOs and other intermediaries that mediate between citizens and state services or programs (Von Lieres and Piper, 2014). Von Lieres and Piper (2014) define mediation as “forms of representation by intermediaries who speak for groups of citizens to the state, and vice versa” (p. 5). The authors remind us that communities do not live in isolation but that almost all have some form of contact to outsiders (Von Lieres and Piper, 2014). Intermediaries play a crucial role in shaping state-society relations as they often control access to government services and influence the outcomes of these services (Nelson Nuñez, 2014).

Intermediary NGOs, in particular, can have a positive influence on vulnerable populations. For example, they can “bring marginalised groups into state decision-making processes” (Von Lieres and Piper, 2014, p. 5) and facilitate their participation in government programs (Nelson Nuñez, 2014). NGOs can also provide technical support and capacity building for local participants (Barsimantov, 2010), thereby increasing their

organizational and governance capacity. Moreover, intermediaries can negotiate on behalf of participants and ensure equitable outcomes of government programs (Pascual, Muradian, Rodríguez, & Duraiappah, 2010). Finally, since NGOs usually have a close relationship with local providers and are familiar with local needs and priorities, they can potentially make PES more locally appropriate by adapting programs to meet local needs and conditions (Geogheghan, 2009).

However, intermediaries can also create “administrative burdens” (Heinrich & Brill, 2015) for program participants by setting conditions to which beneficiaries must comply in order to receive program benefits (Cohen, Grindle, & Walker, 1985). Defined as “the onerous and sometimes problematic rules that are embodied in formal application requirements for accessing a public program” (Heinrich & Brill, 2015), administrative burdens have been identified as an obstacles to successful program adoption in conditional cash transfers (Heinrich & Brill, 2015) and also in development aid more generally (Cohen, Grindle, & Walker, 1985). In both cases, these constraints have also been linked to participant dropout as well as to failed projects in general (Cohen et al., 1985; Heinrich & Brill, 2015). Here, NGOs have a particularly bad reputation since the requirements they place upon local beneficiaries (i.e. attending workshops, participation in community projects, etc.) are in many cases inappropriate and uninteresting to local residents (Salemink, 2006).

My study asks the question: When do intermediaries contribute to positive program outcomes for local beneficiaries and when do they create administrative burdens? While it is clear that intermediaries can have positive and negative effects depending on who they are and the context in which they intervene, there have been few attempts to conduct comparative analyses to test the influence of intermediaries under various conditions. Instead, much of the literature on intermediary involvement in government programs consists of theoretical classifications on the different types of intermediaries and their roles in government programs, state-society relations, and international development, which are usually based on case studies (Huber-Stearns et al., 2013; Kim et al., 2016; Schomers et al., 2015). While valuable to our understanding of the role of intermediaries, these studies have a tendency to make generalizations about intermediaries as a whole when theorizing about their specific functions.

However, program participants are not uniform, as they often have different needs, preferences, and characteristics (Ostrom, 1990). In Mexico, the majority of PES providers are communal landowners (Sims et al., 2014). These local communities are very different from one another, particularly in terms of internal governance capacity (formal and informal rules, social capital, collective action, etc.). As Ostrom (1990) points out, different types of common property owners might need different types of interventions by external actors in a way that complements local capacities and

institutions. As is demonstrated through my research findings, some PES intermediaries have a tendency to impose similar PES requirements for participating communities that have very different characteristics. Therefore, the type of PES requirements that might be an administrative burden for one type of beneficiary may be beneficial for another.

My study aims to further our understanding of the differential influence of PES intermediaries through a comparative analysis that looks at the differential impacts of intermediary NGOs in Mexico's government-led Payments for Environmental Services (PES) programs. Payments for environmental services (PES) have become widespread environmental initiatives that aim to incentivize landowners and environmental managers worldwide to conserve ecosystems (Pagiola et al., 2005). These ecosystem service "providers" receive financial or in-kind benefits from one or more "users", which can be government or private buyers (e.g., federal government, municipality, business, water utility, etc.). In exchange providers must refrain from undertaking environmentally destructive practices, or must implement activities that are thought to produce environmental services, such as increased water quality and quantity, carbon capture, biodiversity conservation, and scenic beauty (Wunder, 2005). In the Global South, many PES providers are marginalized communities<sup>5</sup> and so, in addition to

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<sup>5</sup> By communities, I refer to a group of landowners that have common property rights and make joint decisions regarding their land.

focusing on environmental conservation, PES programs generally have co-objectives such as poverty alleviation and the delivery of various socioeconomic and governance benefits (Goldman-Benner et al., 2012).

In Mexico, the central government manages several PES programs. These include the National PES program (Programa Nacional de Pago por Servicios Ambientales), which involves a direct agreement between local communities and the federal government, and the Matching Funds program (Mecanismos Locales de Pago por Servicios Ambientales a través de Fondos Concurrentes), which operates instead through a local intermediary.

Using a controlled comparison method, I look at the influence of five intermediary NGOs that participate in Matching Funds with communities that have differing levels of internal governance (strong, medium, weak). Communal landowners are of particular interest in this study because they are often the target of intermediary NGOs. In addition, communities can vary greatly in their levels of internal governance, which includes social capital, organization, and capacity for collective action (Ostrom, 1990). For this reason, looking at how the same intermediary NGO affects PES outcomes in different communities is an important way to evaluate the differential impacts of intermediaries.

I evaluate the material, governance, and environmental outcomes of the PES program experienced by communities participating in Matching Funds. These three categories for PES outcomes have been identified by scholars as being areas that are important in PES and that are subject to intermediary influence (Huber-Stearns et al., 2013; Kim et al., 2016; Schomers et al., 2015). I also compare the material, governance, and environmental outcomes experienced by communities in Matching Funds versus neighboring communities enrolled in the National PES program in order to see how similar communities fare without intermediary involvement.

I find that while intermediary involvement leads to environmental, material, and governance gains in communities with a medium internal governance level, the same interventions lead to environmental, material, and governance losses in both communities with high and low levels of internal governance. To explain these results, I argue that NGOs generally perform a limited number of functions, which are usually more appropriate for communities with certain levels of internal governance than for others. The problem, however, is that given these limited functions, NGOs select communities with a wide range of governance levels and therefore different needs. This makes it difficult for the same NGO to assist communities with a wide range of governance strength that participate in PES. In addition, I argue that flawed

assumptions and representations of local communities stand in the way of providing PES assistance that is locally appropriate.

The remainder of this paper is structured as follows. In Section 2, I review studies that help explain the role of intermediaries in PES. In Section 3, I give a brief overview of Mexico's PES programs. Section 4 presents my research methods and section 5 my findings. Section 6 provides a summary and discussion of my findings and Section 7 concludes.

## ***2.2 The Role of Intermediaries in PES***

In PES, intermediaries are the norm rather than the exception. Commonly understood as “those actors who take on roles that connect and facilitate transactions between buyers and sellers” (Huber-Stearns et al., 2013, p. 105), intermediaries often step in to fill in the institutional gaps and facilitate participation in PES at various levels and stages (Carius, 2012). Since the provision of ecosystem services often requires collaboration and coordination between several parties, including users, providers, government agencies, and other actors, most PES initiatives have groups and organizations that connect and/or assist the various PES stakeholders (Bosselmann & Lund, 2013; Engel et al., 2008; Muradian et al., 2010; Pham et al., 2010). NGOs are one of several key intermediary actors, the others being governments, workers' cooperatives,

environmental service buyers, and private contractors, among other actors (Bosselmann & Lund, 2013).

Much of the literature on the role of intermediaries in PES is theoretical and presents typologies for the various types of roles and functions played by these actors (Huber-Stearns et al., 2013; Kim et al., 2016; Schomers et al., 2015). For example, in their summary of the existing literature, Huber-Stearns et al. (2013) identify “four overarching roles that intermediaries perform: information exchange; program design; networking, representation and mediation; and administration and project coordination” (p. 107). While intermediary functions are instrumental in creating and sustaining PES markets for the production of ecosystem services (Huber-Stearns et al., 2013), they also play an important role in delivering socioeconomic benefits to vulnerable communities (Bosselmann and Lund, 2013) and ensuring that environmental services are being provided (Davis, Gwin, Moseley, Gosnell, & Burright, 2014). For example, intermediaries can facilitate the inclusion of poor and marginalized landowners as ecosystem service sellers, thereby giving them the opportunity to receive an income (R. L. Goldman & Tallis, 2009; Huber-Stearns et al., 2013; Pham et al., 2010). Furthermore, intermediaries can reduce the transaction costs of participating in PES as well as transfer information and resources to beneficiaries (Leimona & Lee, 2008; Locatelli, Rojas, & Salinas, 2008). Intermediaries can also reinforce local community institutions (Lee &

Mahanty 2007; Leimona & Lee 2008; Locatelli et al. 2008) and improve community-level governance by providing training and support for forest management (Corbera et al., 2007) and conflict resolution (Pham et al., 2010).

In addition to outlining the positive roles played by intermediaries in PES, scholars identify obstacles to providing such functions (May, Boyd, Veiga, & Chang, 2004) and advise on how intermediary performance could be improved (Corbera et al., 2007, p. 377). For example, May et al. (2004) find that limited beneficiary inclusion in project decision making limits the socioeconomic benefits enjoyed by providers. Corbera et al. (2007) also argue that, in order to be more effective at attaining their environmental and socioeconomic goals, PES initiatives should take into account local property rights and other informal institutions. Furthermore, scholars warn against the vested interests of intermediaries, who are not neutral actors in PES but have the power to shape initiatives in ways that prioritizes certain groups. According to Huber-Stearns et al. (2013), “[intermediary] influence could be used for positive purposes, such as increasing program participation and advocating for underserved populations; alternatively, it could shift program power dimensions in favor of buyers or sellers” (p. 108).

In general, the PES literature focuses on the functions and limitations of intermediaries as a whole, without considering the possibility that the same actor could have different effects for different beneficiaries. The differential effects of intermediaries

is a relevant issue in PES and specifically in Mexico's Matching Funds program because communities are often selected to participate in PES by the intermediary based on environmental factors, convenience, and previous relationship as opposed to socioeconomic criteria determining whether landowners would benefit from intermediary intervention. As such, there is no guarantee that intermediaries will be able to provide adequate assistance in all the different communities that participate in the program. NGOs, in particular, can be constrained by a narrow vision or by strict donor requirements, which might produce administrative burdens for beneficiaries (Cohen et al., 1985) and fail to make their interventions personalized based on individual needs (Hickey & Mohan, 2004). Given these well-known constraints, it is important to learn which types of communities benefit from NGO intervention in PES and which ones do not. My study analyzes the differential impacts of intermediary NGOs on the various communities that participate as environmental service providers in Mexico's Matching Funds program. I describe this program and its evolution in the section below.

### ***2.3 The Evolution of Government-led PES in Mexico***

PES was broadly promoted by World Bank economists as a Coasean approach to internalizing the positive externalities produced by environmental conservation (Engel et al., 2008; Pagiola, Landell-Mills, & Bishop, 2002). Their idea was to enable the creation of private agreements between users (hotels, businesses, municipalities, NGOs, etc.) and

providers (landowners) of environmental services, which allows them to negotiate an appropriate price and eliminates the need for intervention by the state (Engel et al., 2008; Pagiola et al., 2002; Wunder, 2005). However, when PES was introduced in Mexico, it was politically and administratively unfeasible to implement it as private agreements between local users and providers (J. Alix-Garcia et al., 2005). Instead, Mexican officials decided that the central government would administer and implement PES (Elizabeth Shapiro-Garza, 2013). Federal government control of the program led to elements in its design and implementation that make it closer a government subsidy in nature than a Coasean agreement (Elizabeth Shapiro-Garza, 2013).

Currently, there are three government-led PES programs in Mexico: the National PES program implemented in 2003, the Matching Funds program introduced in 2008, and the Biodiversity Heritage Fund adopted in 2009. The majority of contracts for National PES and Matching Funds have been focused on production of hydrological services (more and better quality water downstream), although some specific projects also focus on biodiversity conservation or forest-based carbon sequestration (PRONAFOR, 2015). On the other hand, most contracts for the Biodiversity Heritage Fund are aimed at biodiversity conservation (PRONAFOR, 2015). Payments to landowners for all three programs are financed through the *Presupuesto de Egresos de la Federación*, which are federal government funds destined for public expenditures. Each

year, between \$27 million USD and \$50 million USD<sup>6</sup> are allocated to PES by the Mexican congress (Interview with Matching Funds director, June 2016). The PES programs are also funded through Mexico's water fee, where an average of \$39 million USD per year are reserved for payments destined to providers (Interview with Matching Funds director, June 2016). As mentioned above, this study undertakes a comparative analysis of the National PES and Matching Funds programs, which are explained in more detail below.

### **2.3.1 The National PES Program**

PES was first implemented by the Mexican national government in 2003, with the goal of conserving existing forest cover, which is thought to serve as a proxy for the production of environmental services (J. Alix-Garcia et al., 2005). This new program was assigned as the responsibility of CONAFOR, a sub-department of the Environmental Secretariat (*SEMARNAT, Secretaría de Medio Ambiente y Recursos Naturales*) (PRONAFOR, 2015). CONAFOR was created in 2000 and designated by Vicente Fox, the president at that time, as "a commission dedicated to unifying forestry and soil management policy" (J. Alix-Garcia et al., 2005). The PES program was designed by the National Institute of Ecology (*INE, Instituto Nacional de Ecología*), a research agency of the federal state. This

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<sup>6</sup> UDS amounts were calculated based on a 1:18 conversion rate.

agency included economists and other experts from universities in Mexico and the United States, as well as staff from the World Bank's Environment Department (Muñoz, Guevara, Bulas, Torres, & Braña, 2005).

While the PES designers were attached to the idea of creating private ecosystem service markets, creating them in practice proved unfeasible (J. Alix-Garcia et al., 2005; McAfee & Shapiro, 2010). Politically, the PES program became part of the government's pro-poor discourse, and was promoted as a program designed to benefit poor, indigenous, and marginalized groups (McAfee & Shapiro, 2010). From an institutional perspective, the complex local rules and norms that would have to emerge in order to allow ecosystem service markets to arise and persist, coupled with the weakness of local institutions inherited from past regimes, made the creation of private markets nearly impossible (Elizabeth Shapiro-Garza, 2013).

As a result, PES was implemented as a national program, where the central government acted as user, making payments to local providers, largely leaving private users out of the transaction (J. Alix-Garcia et al., 2005). Providers are private landowners or *núcleos agrarios*, comprised of *ejidos* or indigenous communities that own property in common (J. Alix-Garcia et al., 2005). The *núcleos agrarios* were created as part of the land reform that started with the 1910 Revolution, and currently own around 60% of the forested land in Mexico (Madrid, Núñez, Quiroz, & Rodríguez, 2009). *Núcleos agrarios*

comprise the majority of PES participants (Sims et al., 2014), and are referred to as 'local communities' in this proposal.

National PES contracts last five years, and providers receive an annual payment ranging between \$27 USD per hectare and \$35 USD per hectare (PRONAFOR, 2015; Sims et al., 2014). The payment amount depends on the type of eligible area in which providers' land is located, with the highest paying area being the cloud forest (Sims et al., 2014). Participants in National PES are required to implement specific forest conservation activities (fencing against cattle intrusion, patrolling against illegal logging, posting signs recognizing CONAFOR's funding, etc.) that are specified in every contract, as well as other activities that can be selected from a menu of options (e.g. creation of fire breaks, digging of water infiltration ditches, etc.) (PRONAFOR, 2015). CONAFOR has an office in each state, and staff members travel to local communities once per year to verify that PES activities have been implemented. The National PES program requires that a specified portion of the total payment be used to contract a CONAFOR-certified technical assistance provider, usually a licensed forester or contractor, to help landowners implement the PES activities (PRONAFOR, 2015). Technicians are intended to help communities complete contract requirements by helping them develop a forest management plan required by the program, train them in how to implement some of the conservation activities, and help them gather the paperwork required by CONAFOR.

Based on extensive interviews with communities and state CONAFOR officials involved in the PES programs, there is a wide variety in the quality and quantity of service provided by these technicians. According to community members and CONAFOR officials, most technicians generally provides a very basic assistance level, visiting communities a few times per year to check up on their conservation activities (if at all), although in some cases technicians are said to provide in-depth training and assistance.

### **2.3.2 The PES Program through Matching Funds**

The central government's involvement in PES through the National program, through which CONAFOR provides the payments and institutional infrastructure, was meant to be temporary, with the idea that at the end of five-year contracts, providers would have found an independent user (i.e. water utility, municipality, state government, NGO, etc.) to pay for their environmental services (McAfee & Shapiro 2010). This very rarely occurred, and political pressure led to program design changes to allow these government-supported contracts to be renewed indefinitely (Shapiro-Garza 2013). Based on an explicit assumption that PES mechanisms will be more effective in producing additional ecosystem services if direct users are involved (McAfee and Shapiro, 2010), in 2008, CONAFOR implemented a PES program through Matching Funds. The Matching Funds program requires that 50% of the payment to providers be from a private user or government body that is not the central government. CONAFOR

then matches that sum. Matching Funds payments are made annually and contracts generally last five years. One primary objective of the Matching Funds program is to create PES markets that are independent of federal funds, with the funding from the central government serving to incentivize and support local actors in finding users and to develop the institutions necessary for local PES markets (Interview with CONAFOR directors, March 2014).

The Matching Funds program is designed to operate through a local partner (socio local), who initiates the program application and takes on the task of connecting users and providers (PRONAFOR, 2015). Local partners include a wide range of actors, such as NGOs but can also be the users themselves (i.e. businesses, water utilities, municipalities, or state governments with an interest in creating a PES and/or getting government funding). Therefore, users can sometimes play a double role by also acting as local partners. These local partners intervene in provider communities in various ways. They set the payment rate, which is then matched by CONAFOR, and can impose additional rules and requirements on providers beyond those set by CONAFOR. For example, through interviews with providers and local partners, I found that local partners that are NGOs often have additional requirements regarding how communities must spend their PES funds, as well as other conditions that communities must comply with in order to receive their PES payments. For example, many NGOs require that

funds be reinvested in a community project as opposed to distribution among households. In addition, some NGOs require that communities attend mandatory workshops given by NGO staff on topics such as record keeping, community organizations, and environmental educations. NGOs also established formal procedures that community members were expected to follow for implementing conservation activities. These included establishing work schedules, taking attendance, and fining community members that had committed to work but failed to show up.

Local partners that had additional PES requirement for providers generally also provided in-depth assistance to help them meet their requirements. Through initial fieldwork in 2013, I observed that local partners that are NGOs provide a higher level of assistance to provider communities, including regular and frequent visits, guidance for completing paperwork and conservation activities, verification that conservation activities have been implemented, workshops aimed at strengthening community organization and governance, guidelines for how communities can spend PES funds, and financial assistance for transportation, tools, and other materials. Provider communities participating in Matching Funds with an NGO might still have a CONAFOR-certified technician but receive additional assistance from NGO staff, or the NGO may decide to take on the responsibility of providing the entire technical assistance, in which case provider communities do not hire a technician and only rely on

the NGO. For this reason, the level of assistance provided to local communities participating in the Matching Funds program is in many cases higher than the assistance provided to communities participating in National PES.

Because of their heavy involvement in local communities and their significant additions to PES contracts, looking at NGOs in the Matching Funds program is an opportunity to study the influence of intermediaries on the PES-related outcomes experienced by local providers. At the time of the study, the program structure and requirements were very similar for Matching Funds and National PES, with contracts between CONAFOR and local communities being almost identical. The main difference between the programs was the inclusion of a local partner in Matching Funds, which can provide intensive assistance to communities and also impose additional requirements to the ones in the basic contract between CONAFOR and local communities. This makes the National PES program an optimal point of comparison for evaluating the influence of intermediaries in PES.

I ask the following research questions:

1. How does NGO intervention influence the environmental, material, and governance PES outcomes in communities that participate in Mexico's Matching Funds program?

2. How do the PES outcomes experienced by providers in the Matching Funds program compare to their neighbors in National PES?

## **2.4 Methods**

### **2.4.1 Variables**

Outcomes in local communities are defined in terms of gains or losses in: 1) material outcomes, including the distribution of wage payments and investment in community activities; 2) community governance, including organization, transparency, unity, and conflict resolution; and 3) environmental outcomes, assessed by the level of compliance with the conservation activities specified in PES contracts. These three dependent variables are outlined in table 1 below.

Two key factors that influence the PES outcomes in local communities are the pre-existing levels of community governance before participating in PES (classified as strong, medium, and weak) and whether PES contracts are direct (between the government and providers) or indirect (presence of an intermediary NGO that imposed additional requirements). In Mexico, local communities vary in terms of their internal governance level. Some have strong internal organization, rules and norms, conflict resolution mechanisms, and might even have their own community business or enterprise while others have unresolved conflicts and weaker ability for organization

and collective action. The strength of communities' internal governance is an important variable to consider when analyzing their participation in Matching Funds because stronger communities require a supportive role from external actors (Ostrom, 1990) while weaker communities could benefit from NGOs intervening to build or strengthen local institutions (Ostrom, 2010). Given that different communities have different needs, it is important to analyze how intermediaries deal with these differences especially when they select communities with different governance strength to participate in Matching Funds.

A second factor that can affect the PES outcomes experienced by communities is the involvement of intermediary NGOs, which is assessed by the presence or absence of additional PES requirements and/or assistance provided by NGOs that take on the role of local partners in Matching Funds. In some cases, NGO involvement in PES can be beneficial. Barsimantov (2010) suggests that external actors such as NGOs are "the main link between forest communities and funding, capacity building, and technical support" (p.49) and therefore could play a crucial role in helping communities participate in programs such as PES and shaping program outcomes. Such intermediaries can enhance the power of local communities vis-à-vis government officials (de Albuquerque Vasconcellos and Vasconcellos Sobrinho, 2015), and help strengthen community organization and collective action (Duthy and Bolo-Duthy, 2003). On the other hand, the

requirements imposed by NGOs can be administrative burdens for some participants (Cohen et al., 1985; Heinrich and Brill, 2015). These two independent variables are outlined in the table below.

**Table 1: Classification for Dependent and Independent Variables**

Dependent Variable		Description
PES Benefits	Material	<i>Gains include:</i> Cash payments to community members who implement the conservation activities specified in their PES contracts, either through daily waged or distribution to households involved in PES when they receive the yearly payment; Investment in a community business (apiculture, ecotourism, etc.), infrastructure (roads, bridges, etc.), or community education (workshops, courses) <i>Losses include:</i> Spending money on an inadequate activity
	Governance	<i>Gains include:</i> Increases in community organization, skills, knowledge, group work, sense of pride, sense of unity, goal setting, problem solving, and conflict resolution <i>Losses include:</i> Increases in community conflicts and disagreements
	Environmental	<i>Gains include:</i> Compliance with conservation activities specified in PES contracts, determined by verifications by CONAFOR staff <i>Losses include:</i> Failure to implements conservation activities
Independent Variables		Description
Community strength before participating in PES	High	<ul style="list-style-type: none"> <li>- Experience working together on a community project or working to achieve a common goal, and the project or goal was initiated and is directed by the community itself (as opposed to introduced or managed by outsiders)</li> <li>- Moderate to elaborate mechanisms for conflict resolution: vote, debate with judges, agreement to respect rules you don't agree with if they were voted by the majority</li> <li>- Moderate to high participation in community meetings and community projects</li> <li>- Presence of rules (formal or informal) that are respected by the majority of community members</li> <li>- Moderate to strong sense of unity</li> </ul>
	Medium	<ul style="list-style-type: none"> <li>- Moderate to elaborate mechanisms for conflict resolution: vote, debate with judges, agreement to respect rules you don't agree with if they were voted by the majority</li> <li>- Moderate to high participation in community meetings and community projects</li> <li>- Presence of rules (formal or informal) that are respected by the majority of community members</li> <li>- Moderate to strong sense of unity</li> </ul>

	<b>Low</b>	<ul style="list-style-type: none"> <li>- Limited mechanisms for conflict resolution</li> <li>- Little participation in community meetings and community projects</li> <li>- Limited rules in the community and/or rules are not respected</li> <li>- Limited sense of unity</li> </ul>
<b>Directness of PES contracts</b>	<b>Intermediary</b>	NGO provides additional requirements than those specified by CONAFOR in PES contracts in terms of: <ul style="list-style-type: none"> <li>- requirements and assistance for implementing PES activities</li> <li>- requirements and assistance for managing and spending PES funds</li> </ul>
	<b>Direct</b>	<ul style="list-style-type: none"> <li>- Providers only need to follow contract requirements specified by CONAFOR</li> </ul>

**2.4.2 Research Design**

To observe the conditions under which intermediary NGOs help or pose obstacles to communities participating as providers in PES, I used a controlled comparison method. This allowed me to keep some factors constant (insofar as this is possible), while obtaining variation on the levels of community governance and assistance provided by external actors. The controlled comparison is an appropriate method for this study because it allows me to observe the ways in which specific combinations of independent variables (external assistance and pre-PES community strength) affect local communities participating in PES.

I selected five NGOs that are local partners in Matching Funds and that each modified the original PES contracts by adding additional requirements to the basic activities required by CONAFOR. These five NGOs participated in PES with multiple

communities that had different levels of pre-PES governance (high, medium, low). I then compared the environmental, material, and governance gains or losses in the different communities to observe the ways in which impacts varied according to level of governance. I then compared the gains and losses experienced by the Matching Funds communities to the gains and losses experienced by neighboring communities in the National PES program with similar levels of pre-PES governance. These communities served as “controls” by validating that the changes observed on communities enrolled in the Matching Funds program were in fact the result of intermediary NGO assistance and not simply due to the different levels of governance.

A total of 14 pairs of Matching Funds – National PES neighbors were interviewed for this study, therefore 28 communities. In total, there are five pairs with high pre-PES governance strength, five pairs with medium pre-PES governance strength, and four pairs with weak pre-PES governance. Each pair was “matched” in the sense they had the same level of pre-PES governance and were similar in the following exogenous factors: population size, education level, market access, ethnic group, land tenure, income source, and out-migration.

An important shortcoming of the controlled comparison is that it is not possible to hold all external factors constant while isolating the independent variables. While originally designed as an experimental method, when the controlled comparison used in

the field it is impossible to find two communities that are absolutely identical in all aspects except for community strength and level of external assistance. This messiness makes it more difficult to draw conclusions and eliminate alternative explanations. For this reason, within each community, I also conducted process-tracing using participant observation and semi-structured interviews with key actors in order to uncover the chain of events that led to particular outcomes and to eliminate rival explanations (Van Evera, 1997). Supplementing experimental methods with within-case analysis such as process tracing is recommended by scholars (George and Bennett, 2005; Van Evera, 1997) and is considered to be a valid technique for addressing the limitations of the controlled comparison.

### **2.4.3 Sample Selection**

Provider communities participating in Matching Funds and National PES were selected using a purposive sampling strategy, where communities, local partners, and certified technicians were contacted with the help of CONAFOR staff at the central headquarters in Guadalajara, Jalisco. Only communities that signed PES contracts in 2013 or before were included in this study, in order to make sure that sufficient time has passed before making conclusions about program outcomes.

#### **2.4.4 Data Collection**

I collected qualitative data using three methods: 1) archival research, 2) semi-structured interviews, and 3) participant observation. I first studied documents at CONAFOR's central office in Guadalajara that contained information about the National PES and Matching Funds programs and about the specific cases selected for field work. These documents included: National PES and Matching Funds rulebooks since 2003 and 2008, respectively; copies of the contracts between CONAFOR and provider communities (for National PES); copies of the contracts between CONAFOR, provider communities, and local partners (for Matching Funds); lists of conservation activities undertaken by communities; descriptions of community characteristics such as population size, indigenous background, livelihood sustenance, and level of organization; and databases with the history of participation in CONAFOR programs for each community. For the Matching Funds program, I also studied written information produced by the local partner (if available), such as websites and NGO documents describing their vision, programs, and participation in Matching Funds. This information was used to select the five cases for further study.

Second, I conducted semi-structured interviews with key actors in each of the five cases involved in the implementation of both the National and Matching Funds PES programs. Interviewees included: community leaders (both current and past);

community members actively involved in implementing National PES or Matching Funds activities and/or managing PES funds; CONAFOR-certified technicians that help communities apply for and implement activities for National PES and in some cases the Matching Funds program; program directors and staff working for the NGO local partners; and program directors and staff working for National PES and Matching Funds at the CONAFOR central office in Guadalajara. Interviewees were selected using snowball sampling, where initial leaders or directors were identified and interviewed, and were then asked to identify other community members of staff that were involved in the programs.

Finally, I collected observational data about program functioning and implementation through participant observation. Where possible, I attended community meetings, accompanied community members when they were implementing their PES activities in the forest, accompanied CONAFOR regional office staff when they verified that activities have been implemented, and was present when local partners and CONAFOR-certified technicians talked to community members or gave presentations. Participation in these activities gave me a better understanding of how the National PES and Matching Funds programs work and allowed me to see observe the dynamics between community members and external actors.

### **2.4.5 Data Analysis**

I transcribed and coded interviews, research notes, and documents using NVivo (version 11), a qualitative data analysis software, in order to identify themes, relationships, and patterns in the data. I started with “open coding” (Breckenridge, 2014), through which a large number of themes are identified until new interview data adds no new topics. I then did “selective coding” (Breckenridge, 2014, p. 3) by integrating existing codes into more general themes, which enabled the formulation of preliminary concepts and the discovery of potential relationships.

## **2.5. Results**

This section presents the research findings, which are organized according to each community type – strong, medium, and weak. For each community type, I describe the material, governance, and environmental gains and losses experienced by participants in the Matching Funds and National PES programs. Gains or losses were assessed in each community through semi-structured interviews with past and present community leaders and at least four other community members involved in PES.

### **2.5.1 Strong Communities**

I begin by presenting the material, governance, and environmental gains experienced by five strong communities participating in the Matching Funds program

and their five neighbors in the National PES program. I find that strong communities in the National PES program experienced gains in all three categories. On the other hand, most strong communities in the Matching Funds program experienced material gains in terms of wages paid to residents that implemented PES activities, but experienced losses when it comes to community investments. In terms of self-governance, these strong Matching Funds communities did not experience any gains or losses. They did enjoy environmental benefits, but they are conditional on their participation in the program, which in some cases the community losses made some community leaders consider dropping out of Matching Funds.

The material and governance gains and losses for each of the communities with high self-governance in both programs are summarized in Table 3 below, and each category is also covered in the sections that follow. The two categories, material and governance outcomes, are placed in a table side-by-side because the way communities spend their money influences the governance gains they experience. The third category, environmental outcomes, is not in the table but is described in a separate section below.

**Table 2: Material and Governance Gains and Losses for Communities with High Self-Governance**

Communities <sup>7</sup>	Material Gains/Losses		Governance Gains/Losses
	Wage payment	Community Investment	
1a in MF	Yes	<b>Loss</b> – Spent time in workshops (crop rotation and organic fertilizers) that did not interest them; wanted instead to start a community business	None
1b neighbor in Nat. PES	Yes	None	<b>Gain</b> – Development of a collective vision for environmental conservation, which led to the creation of fines for logging and hunting without permission
2a in MF	Yes	<b>Loss</b> – Spent money on beehives but quit the project because the community had no interest in apiculture. Would have liked to reinvest in ecotourism project but were not allowed. Are considering dropping out of the program.	None
2b neighbor in Nat. PES	Yes	<b>Gain</b> – Invested PES funds in ecotourism project and repaired roads to make tourists' travel easier	<b>Gain</b> – More efficient management of ecotourism company; increased sense of pride and unity
3a in MF	Yes	<b>Mixed</b> – Bought new bee hives, but the NGO was unable to help them sell and market the honey	None
3b neighbor in Nat. PES	Yes	<b>Gain</b> – Community leader travelled and attended workshops on apiculture	<b>Gain</b> – Increased skills and knowledge about apiculture
4a in MF	Yes	<b>Mixed</b> – Agreed to invest PES funds in apiculture project but the NGO had not yet delivered the materials (1 year later); Attended mandatory workshops organized by the NGO	<b>Loss</b> – Wasted time attending mandatory workshops, which they considered useless because they did not learn anything new
4b neighbor in Nat. PES	Yes	<b>Gain</b> – Designed community logo and bought uniforms to wear when working in the forest; Hired professionals to give workshops about various topics of interest	<b>Gain</b> – Increased sense of unity and community from wearing uniforms with their logo; gained new skills and knowledge from workshops

<sup>7</sup> Communities are presented as pairs (i.e. 1a and 1b), where “a” represents the communities enrolled in the Matching Funds program (abbreviated to MF) and “b” represents the neighboring communities in National PES (abbreviated to Nat. PES).

5a in MF	Yes	<b>Gain</b> – New activities to improve tree quality for their sustainable logging business; new truck; workshops on holding more effective meetings	<b>Gain</b> –New knowledge and skills about tree quality; more effective community meetings
5b neighbor in Nat. PES	Yes	<b>Gain</b> – Built new bathrooms in health center; Built a new classroom in school	<b>Gain</b> – Increased sense of competence and accomplishment; increased group work

### 2.5.1.1 Material Gains and Losses

Strong communities participating in both Matching Funds and National PES used program funds to pay wages to community members that implemented the PES activities. They also reinvested leftover funds in a community businesses or infrastructure. Both communities that participated in the Matching Funds and National PES programs experienced material gains from the wage payments, which benefited individual community members and their households. In this aspect, there is no difference in how Matching Funds and National PES communities participate in and benefit from the program.

There are some significant differences between Matching Funds and National PES in terms of the ways in which communities with strong internal governance invested PES funds in community projects. Surprisingly, we see that four out of the five strong communities participating in Matching Funds experienced material losses or mixed results (in Table 3, see communities 1a, 2a, 3a, and 4a). During interviews,

community members in these four cases said that the PES funds had been spent on activities that were not welcomed by residents or that were considered to be a waste of time. The lack of success of these community projects can be attributed to the fact that residents were not free to spend their funds however they wished but had to comply with NGO requirements. For example, four of the five NGOs required that communities reinvest their funds in an apiculture project. While this requirement represented genuine good intentions from the part of the NGOs to improve community members' livelihoods, the project was either unwelcome or not useful for the respective communities (see communities 2a, 3a, and 4a in Table 3).

For instance, community 3a was required by the NGO to reinvest PES funds in an apiculture project. That community was already doing apiculture before participating in PES and initially welcomed the project, using PES funds to buy additional beehives. During interviews, community members said they were also hoping to expand their apiculture business by learning how to market their honey and sell it to a wider clientele. Although the NGO staff made visits to the community several times per month to help with paperwork, give workshops, and help with the apiculture project, they were unable to help the community market and sell their honey because the staff had no experience in business and marketing. The most NGO staff could do was to help sell the community's honey to their own friends and family, which did not address the core

need of the community, which was the desire to gain marketing skills in order to expand their business. If we compare community 3a to its neighbor 3b in National PES where community members were also doing apiculture, we see that the leader, having no requirement to participate in an NGO-led project, used PES funds to travel to other communities and to attend regional workshops on apiculture. That community's particular concern was parasites that kill the bees and the leader was able to travel and learn new methods from bee experts for keeping bees safe and healthy. While community 3a received assistance from an NGO that meant well but lacked the specific skills the community needed, the leader in community 3b was able to seek out experts that helped the community address their particular pest problem. During interviews, residents in community 3a said that by the time they had realized that the assistance provided by their NGO was not helpful, they had already spent most of their PES funds and were not able to imitate their neighbors and hire their own expert to teach them marketing skills.

Other strong communities participating in Matching Funds were required by the intermediary NGOs to attend workshops they found to be useless (communities 1a and 4a), to invest PES funds in projects that did not interest them (communities 1a and 2a), and had to deal with their NGO's lack of specialized assistance (communities 1a, 2a, 3a, and 4a). During interviews with members of strong communities that participated in

Matching Funds, two main complaints were voiced repeatedly. First, community members said that the knowledge and skills the NGOs tried to transmit during visits were too basic. They said that they already knew the basics of apiculture, record keeping, organic fertilizers, etc. and so they did not learn anything new from NGO staff. Second, community members also said they would have preferred to not have any restrictions on how to spend their PES money. Instead of spending time and money on projects proposed by the NGO, they would have liked to hire an expert to teach them the specific skills they needed to start or strengthen an existing community project. If we compare these Matching Funds communities to their neighbors in National PES, which received limited guidance and assistance from outsiders but had more freedom in choosing how to spend their money, we see that most communities were able to successfully reinvest in a community project or business. Communities enrolled in National PES were able to spend money on exactly what they needed and in return they experienced material gains from PES without any of the material losses that we see in communities participating in Matching Funds. These findings suggest that strong communities are able to spend their PES funds in a way that creates material gains for the whole community when given full decision making power, and that conditions imposed by outsiders may not be beneficial because they can prevent strong

communities from seeking out experts that will address the community's specific needs and transfer valuable knowledge and skills.

There is one strong community participating in Matching Funds (community 5a) that was able to invest PES funds in a community project of choice because it participated with an NGO that was flexible in its requirement and willing to hire experts to assist the community. This NGO required that the money be reinvested in a community project, but allowed the community to choose that project. Community 5a owned a sustainable logging business and received help from an NGO staff member who was a forester and taught residents how to take care of their pine trees in order to create optimal growth conditions. During interviews with community members and NGO staff, I found that the community also wanted to learn how to conduct shorter and more efficient monthly meetings, and the NGO responded by contracting two consultants that traveled to the community and gave workshops on how to conduct meetings that last about two hours (previously, community meetings lasted about 8 hours). Because the NGO was flexible in its program requirements and hired consultants in areas where its staff had limited expertise, this community was able to experience material gains from PES without experiencing any losses.

### **2.5.1.2 Governance Gains and Losses**

When looking at Table 3, we see that communities who managed to successfully develop or expand a community project also experienced gains in community governance. This includes all communities participating in National PES as well as community 5a in Matching Funds. Governance gains include learning new skills and information, increased organizational skills, number of meetings, participation in meetings, and group work, as well as increases in less tangible aspects of community such as sense of pride and unity. These governance benefits were mentioned by community members during interviews when asked to reflect upon the outcomes of PES in their communities.

On the other hand, the strong communities who experienced little gains from the community project or even material losses did not see an increase in internal governance. During interviews, community members expressed that the NGO requirements were imposing additional burdens to their busy schedule and that it restricted their community autonomy. When asked what would happen after their Matching Funds contracts ended, leaders in two communities said they were considering dropping out of the program early (communities 1a and 3a), and leaders in the two other unsuccessful cases said they would apply to participate in the National PES program, which they saw as having more flexibility over how to spend their funds.

### **2.5.1.3 Environmental Gains and Losses**

Both groups of communities participating in Matching Funds and National PES complied with the conservation activities specified in their PES contracts. All ten communities passed their yearly CONAFOR verifications and were considered to be providing environmental services. There did not seem to be a difference in the compliance levels between communities that participated with the help of an NGO and those who received assistance from the certified technician only. However, as mentioned previously, interviewees from communities 1a and 2a revealed that they were considering dropping out at the time of the study because they were frustrated with the requirements imposed by their NGOs. While these two communities were still participating in Matching Funds at the time of the study, their negative experience with NGOs raises some concerns about the program's environmental impact. If communities become frustrated with the additional requirements imposed on them by NGOs and do drop out, this might limit the program's effectiveness at producing environmental services.

### **2.5.2 Medium Communities**

This section presents the material, governance, and environmental outcomes experienced by five communities with a medium governance level in Matching Funds,

and five in National PES. For medium-governance communities, it is the ones that participated in Matching Funds with an intermediary NGO that experienced the most material and governance gains. In addition to paying wages to residents that implemented the conservation activities, NGOs required Matching Funds communities to invest leftover PES funds in a community project. This requirement had a positive impact for medium-governance communities, who were pushed to invest funds in the community and were given an opportunity work together and to improve some governance characteristics such as organization and conflict resolution. On the other hand, their neighbors that participated in National PES were not required to reinvest their PES funds in a community projects and as a result decided to distribute leftover money as additional payments to landowners. While households benefitted from these payments, the community as a whole did not benefit from a common project or an increase in governance level. These material and governance outcomes are summarized in table 4 below. The environmental outcomes are presented in a separate section below. Communities in both Matching Funds and National PES remained in the program and enjoyed environmental gains from PES activities. In this aspect, we see no difference between communities participating in Matching Funds and their neighbors in National PES.

**Table 3: Material and Governance Gains and Losses for Communities with Medium Self-Governance**

Communities	Material Gains/Losses		Governance Gains/Losses
	Wage payments	Community Project or Investment	
6a in MF	Yes	<b>Gain</b> – New seedbed, rotational crop system; workshops on using organic fertilizer and record keeping	<b>Gain</b> – New knowledge and skills about rotational crops and organic fertilizers, improved organization, improved record keeping
6b neighbor in Nat. PES	Yes	None	None
7a in MF	Yes	<b>Gain</b> – New apiculture project	<b>Gain</b> – New knowledge and skills about apiculture, more efficient group work, increased sense of pride and unity
7b neighbor in Nat. PES	Yes	None	None
8a in MF	Yes	<b>Gain</b> – New activities to improve tree quality for their sustainable logging practice; new crane; workshops on establishing work plan and record keeping system	<b>Gain</b> – New knowledge and skills about tree quality; better organization, record keeping, more efficient group work
8b neighbor in Nat. PES	Yes	None	None
9a in MF	Yes	<b>Gain</b> – Built a school with two classrooms	<b>Gain</b> – Increased group work and organization; increased sense of pride and accomplishment
9b neighbor in Nat. PES	Yes	None	None
10a in MF	Yes	<b>Gain</b> - built 2 bridges and a new <i>casa ejidal</i>	<b>Gain</b> – Increased group work and organization; increased sense of pride and accomplishment
10b neighbor in Nat. PES	Yes	None	None

### 2.5.2.1 Material Gains and Losses

Just like the strong communities, communities with medium-level governance in both Matching Funds and National PES spent some of their PES money on wages for

community members that implemented the conservation activities. However, when looking at community investment, we see a striking difference between medium-governance communities that participate in Matching Funds and their neighbors in National PES. Communities participating in the National PES program did not receive intensive assistance from NGOs nor did they have any requirements for how to spend PES money. During interviews with community members, it was revealed that, in the absence of requirements by external actors, all five communities participating in National PES decided to pay wages to their PES workers and divide any leftover money among the PES workers and their households.

In contrast, all five medium communities that received assistance from an NGO had been required to invest time and money in a community project such as sustainable fertilizers (community 6a), apiculture (community 7a), attending workshops (communities 6a and 8a), and building community infrastructure (communities 9a and 10a). Unlike for members of strong communities, who said that projects initiated and managed by the NGO were a waste of time and money, interviewees in medium communities said they benefitted from NGO involvement because they were able to learn from the knowledge and skills the staff shared with them during visits and workshops. For instance, the same NGO that required that Matching Funds communities invest their PES funds in an apiculture project and was a hindrance for the

strong community (community 3a) greatly benefitted the medium community that participated in the same project (community 7a). During interviews, residents in community 7a said they had limited knowledge of how to care for bees and bottle honey but that NGO staff taught them how to do it. We see similar results in the four other Matching Funds communities, where an NGO helped them create a new community project or strengthen an existing one.

#### **2.5.2.2 Governance Gains and Losses**

All five communities that received a high level of assistance from NGOs and had invested PES funds in a community project also experienced governance gains. The projects required by the NGOs pushed communities to improve their organization and group work and learn new skills. Specifically, NGOs played an important role in helping communities form a concrete work plan, teaching basic skills related to the project, give workshops on record keeping and community organization, and were available to answer any questions or concerns communities may have. For example, interviewees in community 7a that participated in the apiculture project mentioned that thanks to the project, they gained new knowledge and skills about apiculture, conducted more efficient group work, and had an increased sense of pride and unity compared to their baseline before participating in the project. They said the NGO staff also helped them strengthen their organizational skills by setting regular group meetings and

developing a work plan for the apiculture project. Similar views were expressed by members of the other four communities, who also saw their self-governance increase as a result of the community project and NGO assistance.

These governance outcomes contrast with the results we see in medium strength communities participating in National PES, which were not required to make a community investment, and chose not to do so. Since these communities did not have the opportunity to learn new knowledge or skills, they did not experience any governance gains during interviews.

### **2.5.2.3 Environmental Gains and Losses**

All ten communities participating in Matching Funds and National PES complied with the conservation activities specified in their PES contracts. All ten communities passed their yearly CONAFOR verifications and were considered to be providing environmental services. There did not seem to be a difference in the compliance levels between communities that participated with the help of a NGO and those who received assistance from the certified technician only. None of the communities with a medium governance level said they were considering dropping out of their respective PES program.

### **2.5.3 Weak Communities**

This section presents the material, governance, and environmental outcomes for four communities with weak internal governance participating in Matching Funds and their four neighbors in National PES. Only two of the four weak communities participating in Matching Funds experienced material gains in the form of wage payments to residents that implemented the PES conservation activities. In the other two communities, residents disagreed with the NGO requirement to reinvest PES funds in a community project and dropped out of the Matching Funds program. On the other hand, all four communities participating in the National PES program enjoyed material gains in the form of wage payments without dropping out of the program. Communities participating in Matching Funds also experienced increased community conflict because the NGO requirement to reinvest PES funds into a community activity caused disagreements among community members. Their neighbors in the National PES program did not experience any governance gains, but at least they did not see an increase in conflict. The material and governance outcomes are described in Table 5 below. Finally, only two communities in Matching Funds experienced environmental gains (since the other two had dropped out), while all four communities participating in National PES experienced environmental gains.

**Table 4: Material and Governance Gains and Losses for Communities with Low Self-Governance**

Communi- ties	Material Gains/Losses		Governance Gains/Losses
	Wage pay-ment	Community Project or Investment	
11a in MF	No – Dropped out	None	<b>Loss</b> – Increased community conflict
11b neighbor in Nat. PES	Yes	None	None
12a in MF	No – Dropped out	None	<b>Loss</b> – Increased community conflict
12b neighbor in Nat. PES	Yes	None	None
13a in MF	Yes	<b>Gain</b> – NOT forced to invest in a community project but asked to attend workshop on record keeping	<b>Gain</b> – Improved community organizations due to better record- keeping skills, which was a source of community conflict
13b neighbor in Nat. PES	Yes	None	None
14a in MF	Yes	<b>Mixed</b> – Had plans to build a water tank but unsure if this will succeed because of disagreements in community	<b>Loss</b> – Increased community conflict
14b neighbor in Nat. PES	Yes	None	None

### 2.5.3.1 Material Gains and Losses

As shown in Table 5, two of the four communities that participated in Matching Funds and received a high level of assistance from an NGO were able to pay wages to community members that implemented PES activities. The other two communities did not get to make payments because they had dropped out of the program. Those two

communities were not able to comply with the NGO requirement to invest part of their PES funds in a community project, so they were forced to stop participating in Matching Funds. On the other hand, the communities that participated in National PES and received a low level of assistance had no conditions for how to spend PES funds and chose to pay wages to the people who implemented the conservation activities and then distribute any leftover funds to these same people and their families.

None of the weak communities were interested in investing in a community project, as multiple community members expressed in interviews. The communities in National PES were able to forego the community project without any consequence from an intermediary NGO. Among the Matching Funds communities, the two that dropped out did not experience any gains in community projects for the reason mentioned above. One community (community 13a in Table 5) reluctantly agreed to invest in a water tank in order to keep participating in the program, even though the community members interviewed said they would have rather received cash payments. However, the project kept being delayed because of community disagreements and divisions between people who wanted to keep complying with the NGO requirement (even if reluctantly) and those who wanted to drop out of the program.

One Matching Funds community (13a) benefitted from a flexible NGO that agreed to let the community distribute leftover funds to people who implemented PES

activities instead of investing in a community project. The only condition was that community members attend a workshop on record keeping and transparency, since mismanagement of funds had caused conflict in the past and the NGO did not want the PES payment to increase conflict in the community. This was the same NGO that had been flexible with the strong community in Matching Funds (community 5a in Table 3), suggesting that this particular NGO has a good strategy for interacting with communities and helping improve their well-being.

#### **2.5.3.2 Governance Gains and Losses**

Communities participating in National PES did not experience any governance gains because they had not participated in a community project or developed new skills. At the same time, they did not experience any governance losses. On the other hand, three out of the four communities that participated in Matching Funds with the help of an NGO experienced an increase in community conflict. During interviews, community members said that disagreements and community divisions arose when residents realized they had to invest in a community project in order to keep participating in Matching Funds. In all four communities, there were disagreements between those who wanted to reluctantly comply with NGO demands and those who wanted to drop out. This situation put considerable stress on communities whose institutions for conflict resolution were weak to begin with. The only community who experienced governance

gains was (community 13a), which had a NGO that was flexible and did not insist that the community invest in a group project but that instead required residents to attend a free workshop aimed at improving record-keeping and transparency in order to help reduce conflict in the future.

### **2.5.3.3 Environmental Gains and Losses**

For the communities with weak internal governance that remained in the program, there did not seem to be any difference in compliance with conservation activities between those participating in Matching Funds and those in National PES. However, the fact that two Matching Funds communities dropped out of the program raises concerns about the Matching Funds program's effectiveness in providing environmental services. If partnering with NGOs means that they impose requirements that cause conflict in weaker communities to the point where they stop participating, then this might limit the effectiveness of the program in producing environmental services.

## ***2.6 Summary and Discussion***

The purpose of this study was to: (1) Analyze the conditions under which the involvement of intermediary NGOs in PES affects the environmental, material, and governance outcomes in communities that participate in Mexico's Matching Funds program, and (2) Compare the outcomes experienced by providers in Matching Funds to

their neighbors in National PES, which participated through a direct contract between themselves and CONAFOR. In the sections below, I provide a summary of the research findings, followed by a discussion that explains why NGO involvement in PES leads to different outcomes in communities with different levels of internal governance.

### **2.6.1 Summary**

When communities participated in Matching Funds with the help of intermediary NGOs that provided a high assistance level, in almost all cases it was the communities with medium-level internal governance that managed to successfully invest in a community activity and to increase skill levels, organization, unity, and other governance aspects. Their medium-governance neighbors in National PES were not required to reinvest in a community project and chose not to do so, which suggests that NGOs played an important role in creating incentives for medium-governance communities to reinvest in a community activity and to help increase community self-governance, which might not have happened otherwise. This suggests that PES contracts that are mediated by NGOs work best for medium-governance communities, which experienced PES related gains due to NGO involvement.

While most communities participating in Matching Funds experienced gains in the form of wage payments as well as the environmental gains from implementing the PES activities, NGO requirements proved to be an administrative burden for strong and

weak communities participating in Matching Funds. For communities with strong internal governance, NGO requirements limited communities' autonomy and prevented them from deciding where to invest PES funds. In addition, the limited expertise of NGO staff was not very useful to strong communities, who by participating with an NGO were stuck relying on its staff instead of using their money to hire professional consultants. The behavior of their neighbors with strong internal governance participating in National PES suggest that if strong communities are given autonomy over how to spend PES funds, they are likely to make community investments by spending money on workshops given by professionals and on activities they judge to be best suited to their specific needs. These findings suggest that direct PES contracts without intermediaries are better suited for strong communities, which have the necessary social capital and collective action capacity to make decisions that will likely maximize environmental, material, and governance PES gains.

NGO requirements in the Matching Funds program were also an administrative burden for communities with weak self-governance, as the requirement to reinvest PES funds in a community project was too demanding. None of the weak communities in this study had an interest in making a community investment and instead wanted to give cash payments to community members who implemented the conservation activities. Inflexible NGO requirements caused two weak communities participating in

Matching Funds to drop out and increased conflict in three of the four communities. In addition to producing material and governance losses, the Matching Funds program in this case also led to losses in environmental services produced because communities dropped out of the program. On the other hand, the neighboring communities with weak internal governance participating in National PES were free to give cash payments to their members. While neither PES program seems to be ideal for weak communities, direct contracts between communities and the state are better than NGO involvement. While with direct contracts communities did not experience any gains in terms of community investment and governance, at least they did not experience any losses.

An exception in this study is the one strong community and one weak community participating in Matching Funds with the same NGO that experienced material and governance gains. This NGO was flexible enough to allow the strong community to decide how to spend PES funds and assisted community members by sending professional staff and consultants to help implement the community's chosen projects. For the weaker community, the NGO was lenient and did not force residents to invest PES funds in a community project, but instead requested that community members attend a free workshop on transparency and record-keeping, which was a governance issue that interested the community since mismanagement of funds had caused conflicts in the past. This indicates that intermediary intervention does not

necessarily disadvantage strong and medium communities. Rather, NGOs that are more flexible and operate by hiring consultants would likely create positive PES outcomes for a wide range of communities. However, these types of NGOs are likely an exception rather than the norm.

### **2.6.2 Discussion**

These mixed results reveal that intermediary NGOs do not have the ability to assist all community types, but that instead they are mainly beneficial for a particular group – medium communities. Why were most NGOs unable to provide adequate assistance to stronger and weaker communities? To explain these results, I argue that the role of NGO is best understood in terms of “limited functions”. In addition, a discursive understanding of “representation” is helpful for understanding why NGOs only benefit a specific community type.

From my research findings, it is apparent that intermediary NGOs generally performed a limited number of functions, which are usually more appropriate for communities with certain levels of internal governance than for others. The problem, however, is that given these limited functions, NGOs select communities with a wide range of governance levels and therefore different needs. This makes it difficult for the same NGO to assist communities with a wide range of governance strength that participate in PES.

A key function performed by the NGOs in this study was giving community members the opportunity to work together as a group on a community project. By requiring community members to reinvest their program funds in a community activity, residents were incentivized to attend meetings, make decisions as a group, work together to implement the required activities, solve problems, and develop a collective goal or vision. Medium-governance communities that found themselves in this situation greatly benefitted and saw increases in community-level material benefits and governance. NGO requirements and basic level of expertise in the projects undertaken by communities were particularly well-suited for these medium communities. They had the will and governance capacity to collaborate on a community project, but benefitted from a push by the NGO whose rules helped them make decisions, get organized, and develop new skills. NGOs gave communities an opportunity to work together and develop their collective action abilities, leaving community members with valuable skills they can transfer to another project if the one required by the NGO does not work out. As their governance strengthens, medium communities might need NGOs to perform other functions such as enabling them to make their own decisions or connecting them to experts, but at this stage their needs were compatible with the approach and skill level of intermediary NGOs.

While the opportunity to work together on a group project was beneficial for medium-governance communities, it was not appropriate for stronger and weaker communities. Strong communities already had experience working on a group project as most of them had community businesses and other projects they initiated themselves. Therefore, they would have benefitted from being in touch with specialists and professional consultants that could help them develop professional skills and take their community business, project, or idea to the next level. One of the five NGOs in this study was more flexible as an intermediary and its functions extended to community advisor and connector, linking community members to experts and resources while leaving significant decision making power in the hands of the community.

For weak communities, the main problem was their limited mechanisms for conflict resolution and collective action, which made them less likely to spend time and money on activities that would benefit the community as a whole. In these cases it very hard for a community project to be implemented successfully without first establishing some mechanisms to increase communication, making community decisions, greater transparency when spending funds, and better conflict resolution. NGO staff should first seek to address these underlying issues instead of requiring weak communities to work together on a project. This task might also require the help of specialists who are trained in conflict mediation, problem resolution, and community organization.

The differences in assistance required by each community type are summarized in Table 5 below:

**Table 5: Type of Assistance Needed in Each Community Type**

Community type	Type of assistance needed
<i>Strong self-governance</i>	<ul style="list-style-type: none"> <li>- Experts that can help develop specific skills that will help community members develop or expand a community business or activity</li> <li>- NGOs should hire professional consultants if staff cannot assist members of strong communities in reaching their goals</li> </ul>
<i>Medium self-governance</i>	<ul style="list-style-type: none"> <li>- Encouragement to work together on a community project</li> <li>- NGO staff can help with organization, work schedules, and conflict resolution</li> </ul>
<i>Weak self-governance</i>	<ul style="list-style-type: none"> <li>- Development of mechanisms for conflict resolution</li> <li>- NGOs should hire professional consultants that specialize in conflict resolution if staff does not have sufficient experience</li> </ul>

While most NGOs provided functions that were best suited to medium communities, they nevertheless applied the same PES requirements to stronger and weak communities. To understand why that is the case, we must look at how NGO staff understand and represent local communities discursively.

Scholars point out that the way in which project staff see local communities, talk about them, and write about them in policy documents does not necessarily correspond to reality but is rather based on their assumptions about local communities (Bebbington, 2005). The assumptions that project staff hold about local communities are often flawed, yet they have real (and most often negative) consequences on project beneficiaries because they shape the types of projects carried out (Ferguson, 1990).

Based on interviews with NGO staff and an analysis of project documents, I found that NGO representations of rural communities in Mexico were based on two assumptions. First, group work was perceived as highly desirable by staff in all five NGOs. That is, PES funds would be better invested into a project that benefits the community as a whole (i.e. a common business or infrastructure) instead of dividing them among households to spend individually. Second, NGO staff assumed that in order to improve their wellbeing, community members need help from outsiders. If left to decide how to spend PES funds themselves, they would not make decisions that would benefit the community in the long run. Therefore, they need to be pushed to invest program funds into a community project that will last into the future, otherwise they might decide to spend it on alcohol or on material possessions such as new vehicles. A related view is that communities do not have their own significant businesses, ideas, and projects. Rather, they are viewed as blank canvases that would readily accept any project proposed by NGO staff.

In reality, not all communities fit these assumptions. Communities with a medium level of internal governance were the ones that best fit NGOs' representations in the sense that they were interested in undertaking group work and welcomed their NGOs' proposed group projects. Strong communities were also interested in reinvesting PES funds in a group activity. However, they already had successful businesses in which

they would have liked to invest their PES funds, which NGO staff did not take into account. Weak communities did not have existing community businesses, but preferred to distribute PES funds among households. In these communities, unresolved conflicts and weak social capital made them uninterested to invest in a community activity. Again, these local realities were ignored by NGO staff, who insisted that weak communities undertake group work.

Interestingly, staff at the NGO that was flexible and successfully assisted all three community types also held the two assumptions about communities described above. The difference between this NGO and the other four is that its activities were not as constrained by donor requirements and by financial limitations. First, the four NGOs that were unsuccessful at assisting strong and weak communities were under pressure to implement a community project (e.g., apiculture) that was decided by the organizations that funded the PES projects. Second, these same four NGOs were also financially constrained and could not necessarily afford to hire consultants to help communities that had needs that were different from what the NGO staff had to offer. On the other hand, the successful NGO had a larger PES budget that and no donor requirements for how to implement the project on the ground. This suggests that the act of representing local communities is most harmful when facing monetary and donor constraints. When faced with these constraints, NGO staff are pressured to narrow

down the range of activities undertaken in local communities and to instead select specific projects that will fit into their budget while at the same time being approved by the donors. The projects that end up being selected are usually based on stereotypes and expectations about what local communities should be instead of assessing local residents' real needs.

## **2.7 Conclusion**

In the Matching Funds program, there is a disconnect between the type of assistance needed in most communities with strong and weak levels of governance and the assistance offered by NGOs. In general, these communities need more specialized assistance, such as learning more advanced skills in marketing, business, etc. (in the case of strong communities), and conflict resolution (in the case of weak communities). For NGOs assisting these communities, being flexible in project requirements and/or hiring consultants might be difficult, since many NGOs impose restrictions on communities in order to be accountable to their donors and also have limited funds for hiring consultants that can assist communities in a meaningful way. Four of the five NGOs in this study fit this profile, and it is not only a problem for PES intermediaries but for NGOs in general (Hickey and Mohan, 2004).

One way for NGOs to overcome their limitations in capacity and flexibility is to refine their criteria for community selection. NGOs with staff that have limited skills and

that face donor constraints preventing them from being flexible in their requirements could only select communities that have a medium level of governance or use another measure of compatibility they see fit. However, the problem with only selecting compatible communities is that it would limit the type of communities able to participate in PES, thereby restricting access to stronger and weaker communities. In government-led PES initiatives such as Matching Funds, the central government could also play a role in helping intermediary NGOs provide better assistance to communities. In Matching Funds, for example, the central government could partner with actors that are able to provide adequate assistance for higher and weaker communities, such as consulting firms, businesses, and organizations specializing in community work. The government could also organize workshops and forums for PES intermediaries that can be used to transmit best practices for community assistance and also enable learning and exchange among the various intermediaries.

### **3. Learning from Mistakes? Obstacles to Direct Feedback in Payments for Environmental Services**

#### ***3.1 Introduction***

Learning from mistakes is an important skill for project managers addressing global environmental and development problems. Defined as the ability to “detect errors and correct them by changing [one’s] theory of action” (Mbengue and Sane, 2013, p. 28), learning can take various forms. For managers conducting projects aimed at achieving environmental sustainability and fostering economic development in the Global South, an important way to learn is from direct feedback provided by project beneficiaries. Since local residents have detailed knowledge of their environment, their behaviors, and their preferences, open communication between project managers and beneficiaries can help reduce errors and lead to more successful strategies for environmental conservation (Cooke & Kothari, 2001; Hickey & Mohan, 2004). Local knowledge and feedback is essential in reducing information asymmetries between project managers and participants, which allows managers to learn from mistakes and revise project designs to ensure that their activities are locally appropriate (Cooke and Kothari, 2001; Hickey and Mohan, 2004).

While there is general consensus that local feedback is desirable and conducive to project success (Carlsson & Wohlgemuth, 2001; Cooke & Kothari, 2001; Hickey &

Mohan, 2004), the particular mechanisms through which project managers are able to learn from communicating with participants remain undertheorized. How can managers<sup>1</sup> get an accurate picture of how their projects perform locally, learn from mistakes, and revise project designs? How do beneficiaries voice their preferences and opinions? Are there any obstacles to open communication?

These questions are important because numerous projects aimed at solving global environmental issues, be they World Bank initiatives, government programs, or projects implemented by small-scale non-governmental organizations (NGOs), have been criticized for being incompatible with local needs, incentives, and conditions (Bank, 2004; Bryant & Bailey, 1997; Coomes & Barham, 1997; M. Goldman, 2005; Lovell & Liverman, 2010). In some cases, beneficiaries participate in programs but then abandon them, indicating that the project was not locally relevant to begin with (DETR, 2000; Lawrence, 2013). In other cases, projects have negative effects, leaving people worse off than before having participated (Bending & Rosendo, 2006; Ferguson, 1990; Scott, 1985).

While some scholars see these environmental and development projects as attempts to impose the worldviews of powerful actors onto less powerful groups (Carrier and West, 2009; Scott, 1985), others remind us that local people are not passive

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<sup>1</sup> I use the term “project manager” to refer to staff members that have some decision making power in an organization that leads a project.

recipients of outside models, projects, and ideas (Filer, 2009; Geoghegan, 2009; Peters, 2000; Sundberg, 1998, 2006). Instead, beneficiaries are pragmatic and resourceful actors that reject or change project components to suit their own local needs and preferences (Geoghegan, 2009; Sundberg, 1998). Yet, little is known about the conditions under which beneficiaries are able to communicate their different preferences and worldviews to project managers, and whether managers are able to learn what is wrong with their projects and revise them accordingly.

Theories that are applicable to learning in environmental projects include Ostrom's (2005) model of institutional learning, which proposes that individuals learn from experience and from mental models, and Hirschman's (1970) *Exit, Voice, and Loyalty* where he argues that clients or members of an organization are able to provide feedback to decision makers through exit and voice. My study aims to contribute to our understanding of how the learning process works in environmental projects by (1) examining the mechanisms through which participants are able to give feedback to project staff in a way that leads to project revisions, and (2) identifying any obstacles to feedback and learning. I focus my analysis on two case studies in Mexico's Payments for Environmental Services through Matching Funds program (referred to as Matching Funds in this paper), where landowners are compensated in exchange for their environmental management and protection. Matching Funds is ideal for studying

feedback and learning because while the program is managed by the central government, it is designed to operate through local organizations such as NGOs in order to allow for customization of the Payments for Environmental Services (PES) model. While some local organizations adopt a top-down approach to PES, others opt for a more participatory strategy. This variation in local approaches is optimal for examining learning and feedback processes in a range of circumstances.

I find that in the Matching Funds program, the learning process is blocked because it is too costly for beneficiaries to exit the project, and voicing negative feedback in front of project staff is too risky. As a result, decision makers receive distorted feedback about how their initiatives work on the ground and are not able to see flaws and modify their projects accordingly. I refer to this phenomenon as *insulation*, and I argue that it is an obstacle to project success caused by inequalities in resources and decision making power between project staff and local beneficiaries.

The rest of this article proceeds as follows. Section 2 reviews Ostrom and Hirschman's theories as they relate to learning and feedback. Then, in Section 3, I present the concept of insulation and explain how it creates obstacles to open communication in environmental projects such as PES. Section 4 provides background information on the Matching Funds program and explains the research approach and methods. Section 5 presents the results, namely two PES examples managed by local

NGOs, where I show how insulation was an obstacle to feedback and learning in both a “top-down” project and a more participatory one. Section 6 summarizes and discusses the obstacles to learning and feedback in Mexico’s Matching Funds program. Section 7 provides a discussion and Section 8 recommendations for decision makers. Section 9 concludes.

### **3.2 Existing Theories Explaining Learning and Feedback**

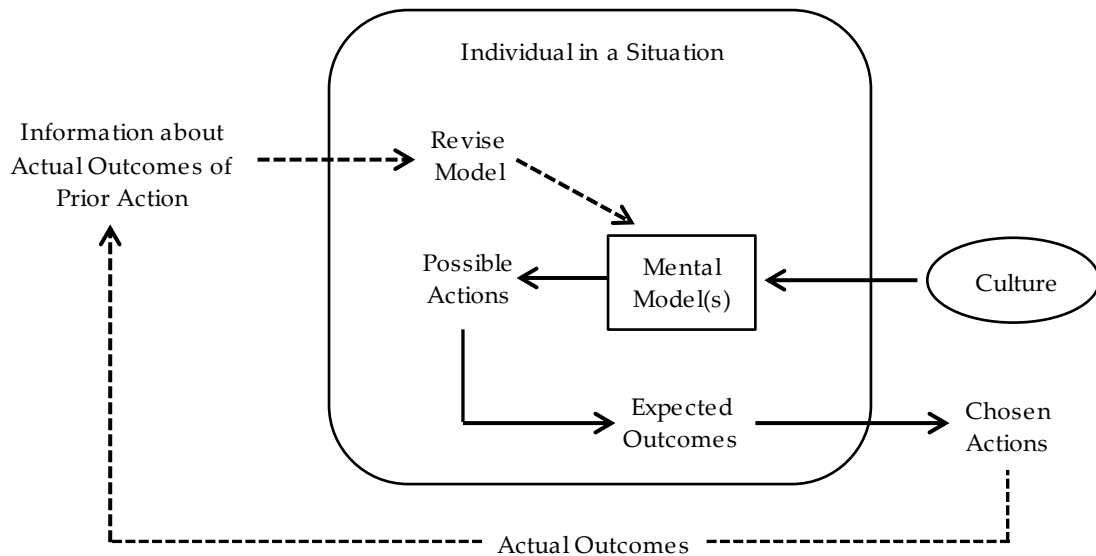
#### **3.2.1 Institutional Learning**

How can managers learn whether their projects are compatible with local needs and preferences? In her 2005 book entitled *Understanding Institutional Diversity*, Elinor Ostrom presents a two-step framework for learning that is useful for understanding how organizations can incorporate feedback from local actors and change their practices to make their projects fit better locally.

According to this framework, individuals learn through two mechanisms: 1) learning “from shared mental models” and 2) learning “from experience” (Ostrom, 2005, p. 106). When faced with a new situation, individuals initially rely on “earlier mental models formed of this situation” (Ostrom, 2005, p. 105) – assumptions and belief systems promoted by the discourses, culture, and context in which the individual is immersed – to make sense of the situation and take action. She explains that

If [individuals are] satisfied with the outcomes [of their actions], they may not search for further information. What they learn about the outcome of their own and others' actions, however, will potentially stimulate an effort to revise their mental model if there is an incongruity or a lack of satisfaction. (Ostrom, 2005, p. 105)

As the quote above suggests, learning can happen in two phases. First, we learn how to act from the people around us, where we mimic the behaviors and adopt the beliefs embedded in the culture and institutions that surround us. Second, we learn through experience, by first acting based on our cultural beliefs, and then modifying our behavior based on the feedback we get from the world. This process is illustrated in Figure 3 below:



**Figure 3: Learning Through Mental Models and Through Experience**

(Source: Adapted from Ostrom, 2005, p. 105.)

In Figure 1, the solid arrows represent the information transmitted to the individual as well as the actions taken based on mental models, which are influenced by an individual's culture. On the other hand, the dotted arrows represent learning through experience, where an individual receives other outside information as "feedback from the world" (Ostrom, 2005, p. 105) based on actions taken. Feedback from the world, gained through experience, is a crucial learning opportunity through which people can revise their pre-conceived assumptions, beliefs, and models. However, these feedback information flows are represented as dotted arrows because of their different source and

the uncertainty (i.e., whether individuals will receive such feedback, pay attention to it, or revise their mental models).

Ostrom's framework for institutional learning is directly applicable to project managers and staff undertaking environmental projects. In more traditional "top-down" projects, managers might decide which activities to implement based on their "mental models", which are often preconceived views, beliefs, and assumptions about local people and their natural environments (Carrier & West, 2009). As a result, projects that emerge based on those initial mental models may not be as interesting or appropriate to local beneficiaries (Filer, 2009). In "bottom-up", participatory projects, mental models and activities might be jointly decided with local beneficiaries. While participatory initiatives are likely to be more locally appropriate (Cooke and Kothari, 2001; Hickey and Mohan, 2004), no project is free of flaws and revisions might still be necessary along the way.

Even if projects have flaws, managers have an opportunity to revise them through institutional learning. As Figure 1 indicates, project managers can learn whether their projects are appropriate or inappropriate through experience, by observing the outcomes of their chosen actions, receiving information about the consequences of their actions, and then revising their models to make them more suitable. Therefore, what matters most is not the initial mental model but rather the extent to which project

managers are able to receive information about how their projects work locally and then revise their plans. For this reason, the type and quality of feedback received from local beneficiaries is a valuable source of information and an essential learning tool.

### **3.2.2 Exit and Voice**

How can local beneficiaries give feedback to project managers? Hirschman's theory on "exit" and "voice", from his 1970 book entitled *Exit, Voice, and Loyalty*, provides a useful model for how beneficiaries can make their preferences known to organizations.

According to Hirschman, if customers, members, or beneficiaries are unhappy with an organization's product, service, or activity, they have two options: exit and voice. First, beneficiaries can exercise their exit option and simply stop participating in the project and "shop elsewhere", finding another organization with a project that is more in line with their preferences (Hirschman, 1970). Second, they can exercise their voice option and express their dissatisfaction by making complaints or suggestions to the organization's staff (Hirschman, 1970). Voice is usually more informative to decision makers than exit. It gives them more information about specific problems, which enables them to address the issues (Hirschman, 1970). According to Hirschman (1970), organizations that do not pay attention to voice usually experience an unexpected decline when clients all of a sudden decide to exit. Since it is assumed that rational

individuals would not normally continue dealing with an organization that does not provide adequate services, exit is a mechanism that keeps organizations competitive and eliminates low quality products, services, and activities (Hirschman, 1970).

In the context of environmental projects, exit and voice are mechanisms through which beneficiaries can communicate their preferences to project managers, thus providing local feedback that is valuable in the learning process. In theory, beneficiaries that are discontent with the projects in which they participate can drop out and find another organization that offers projects that suit them better. Local beneficiaries also have the option of voicing their preferences and giving feedback to project staff regarding what they like and do not like about the initiative. For projects led by NGOs and other organizations, voice and exit could potentially be effective mechanisms for communicating local preferences and keeping project staff accountable to local participants. As explained by Gibson (2005), the fields of development and environmental aid are competitive, and organizations are pressured to design and lead projects that will make a positive difference for local people. While some organizations might have vested interests that prevent them from designing projects that are locally appropriate (Escobar, 1994; M. Goldman, 2005; Heyman, 2009; Le Meur, 2006), other organizations have a genuine interest in learning how to improve their projects (Gibson, 2005).

### **3.3 *Insulation***

The models proposed by Ostrom and Hirshman suggest that, at least in theory, learning is possible through feedback from local beneficiaries. While these theories present a hopeful picture about learning in projects tackling global environmental issues, in practice there are obstacles to learning and feedback transmission.

For many beneficiaries living in impoverished and marginalized areas, voice is risky and exit is costly. Risk-averse beneficiaries often abstain from voicing their true preferences because in doing so they run the perceived risk of losing the benefits they do get from participating in projects (Carlsson and Wohlgemuth, 2001). As a result, project managers do not always get adequate feedback, as the people who are most affected by the projects do not feel comfortable voicing their criticisms or suggestions (Carlsson and Wohlgemuth, 2001). While according to Hirschman beneficiaries would exit and the organization would experience decline, many project participants that live in areas with few alternatives cannot necessarily afford to drop out. Instead, they might prefer to continue participating and receiving some benefits, even if very few. In these situations, project managers do not receive adequate local feedback and the learning process outlined by Ostrom (2005) is undermined. Due to these constraints, flawed projects models are able to persist because the red flags that would otherwise be raised by voice and exit mechanisms are absent.

I refer to this phenomenon as *insulation* because project managers are kept in a bubble where their thoughts, beliefs, and actions conform to their mental models. In this state, they are not able see or hear feedback that would lead them to question the assumptions on which their projects are based. Similar processes have been documented by critical scholars, who have likened the closed and self-reinforcing mental models of project managers to the story about “The Emperor’s New Clothes” (Bending and Rosendo, 2006), to a “Santa Claus Effect” (Salemink, 2006), or to a “virtual reality” (Carrier and West, 2009). In these cases, the flawed assumptions of project managers are allowed to persist without being challenged, which leads to the persistence and durability of flawed projects. This insulating process is not captured in the normative institutional and rational choice theories outlined by Ostrom (2005) and Hirschman (1970) because they do not necessarily integrate the effect of uneven power relations into their models.

In development projects that take place in the Global South, there are usually two types of asymmetries: an information asymmetry and a power asymmetry. First, project beneficiaries have more knowledge of their own needs and preferences than project staff, who usually rely on assumptions or estimates of what local residents need and want (Bebbington, 2005). Furthermore, beneficiaries are also able to withhold some information or provide false information to project staff. Due to this information

asymmetry, project managers do not always receive accurate information, and must usually engage in extensive research and consultation with local residents in order to design adequate projects (Coomes and Barham, 1997).

Second, environmental and development projects in the Global South have a power asymmetry. Project managers are generally in a position of power because they possess resources to allocate, can choose who participates, and can exclude those that do not comply with program criteria (Hickey and Mohan, 2004). On the other hand, beneficiaries usually have less power being on the receiving end of projects, where issues are identified and defined by “experts” and actors with decision making power (Li, 1999). The power asymmetry is particularly large in the Global South, where development projects often target marginalized communities that have few economic options. In these situations, it is difficult for beneficiaries to signal their preferences to managers without running the perceived risk of losing benefits. This power asymmetry feeds into the information asymmetry by making it less likely that beneficiaries will voice their true preferences to project staff, thus exacerbating the layer of insulation between themselves and project staff. While there are certainly cases where local beneficiaries directly resist projects (Peters, 2000), Scott (1985) reminds us that indirect resistance is more common among less powerful groups.

Therefore, insulation is a condition where inadequate projects persist without being challenged because project staff are unable to see or hear local feedback that contradicts their assumptions. It specifically happens under two circumstances. First, the project model does not adequately represent the needs and preferences of local beneficiaries thereby creating a conflict of preference between beneficiaries and project staff. This usually happens because of the power asymmetry, where project managers have the authority to define and lead a project with little input from local participants (Nelson & Wright, 1995). Second, the uneven playing field in which environmental and development project in the Global South take place creates an incentive for local beneficiaries to abstain from voicing their true preferences and negative feedback more generally. This reticence from the part of local actors can take two forms. On one hand, the absence of negative feedback can be a deliberate performance, where beneficiaries that disagree with project components consciously abstain from giving their opinion (Carlsson and Wohlgemuth, 2001). This is how local beneficiaries are able to manage project staff and control project outcomes on an uneven playing field, by taking advantage of the information asymmetry. On the other hand, reticence can be less intentional. Spivak (1987) argues that subaltern groups use the vocabulary and tools of the more powerful groups to express themselves when they enter a discursive space created by those in power – as is the case when project beneficiaries participate in a

project designed by outsiders. While beneficiaries do not necessarily internalize the views and models promoted by project staff, they are not able to step out of the powerful discourses used to represent them and their local issues.

I argue that in situations where there is a “conflict of preference” (a discrepancy between project goals and local preferences) combined with power and information asymmetries, insulation happens and learning from mistakes becomes very difficult for project managers. Conversely, if project goals happen to be what local beneficiaries want and need, there is no conflict of preference and learning is not an immediate issue. Moreover, in some situations project goals might clash with local preferences but beneficiaries have an incentive to openly criticize the project (e.g., they have other economic opportunities and do not depend on a particular project). In such cases, we would expect learning to be possible because the criticism from beneficiaries reduces the information asymmetry. While there is no guarantee that project managers would be receptive to negative feedback, direct confrontation nevertheless sends a powerful message that something might be wrong with their project models. We would also expect learning to happen in projects that are participatory in nature. Such projects are meant to reduce the information and power asymmetries through regular and open communication processes and the sharing of decision making power between project managers and local participants (Nelson & Wright, 1995). However, the participatory

project generally represents an ideal type, as in practice many projects are criticized for reproducing the same inequalities between project staff and participants as more traditional top-down projects (Cooke & Kothari, 2001).

These four different scenarios are summarized in Table 6 below. It is important to note that these scenarios are not fixed in time but represent temporary phases. For example, a project might begin in Scenario 1 with little conflict of preference between project managers and beneficiaries. Then, as problems start to appear the dynamic might shift to Scenario 2 or Scenario 3.

**Table 6:  
How Information and Power Asymmetries Affect Learning: Four Scenarios**

<b>Scenario</b>	<b>Description</b>
<b>Scenario 1: Compatibility</b> Project is compatible with local preferences	<ul style="list-style-type: none"> <li>• Information and power asymmetries are not immediate issues</li> <li>• Learning is not an immediate issue</li> </ul>
<b>Scenario 2: Indirect resistance</b> Project with conflict of preference where participants use indirect resistance	<ul style="list-style-type: none"> <li>• Information and power asymmetries are reinforced</li> <li>• Learning does not happen</li> </ul>
<b>Scenario 3: Direct resistance</b> Project with conflict of preference where participants use direct resistance	<ul style="list-style-type: none"> <li>• Information asymmetry is reduced</li> <li>• Learning can happen in theory</li> </ul>
<b>Scenario 4: Participatory</b> Participatory project where models are co-created	<ul style="list-style-type: none"> <li>• Both information and power asymmetries are reduced</li> <li>• Learning can happen in theory</li> </ul>

These different scenarios further our understanding of how power and information asymmetries operate in environmental and development projects in the Global South, and help us understand the conditions under which learning is possible. I argue that Scenario 2, insulation, is particularly problematic because in this situation the power and information asymmetries create the illusion that projects are problem-free. Insulation allows inadequate projects to be durable in spite of their flaws and is responsible to project persistence in spite of repeated failure. In the sections below, I assess the conditions under which learning can and cannot happen through four case studies that help illustrate power and information dynamics in Mexico's PES through Matching Funds Program.

### ***3.4 Mexico's Payments for Environmental Services through Matching Funds Program***

#### **3.4.1 Background**

To analyze the conditions under which learning can happen, I specifically look at four examples of interactions between beneficiaries and NGO project staff that participate in Mexico's Payments for Environmental Services through the Matching Funds program. Matching funds is a government-led program where individual and communal landowners receive monetary compensation in exchange for abstaining from

environmentally destructive practices and undertaking activities that are considered to conserve watersheds or biodiversity. These activities include fencing their property, patrolling to prevent illegal intruders, fire prevention, garbage collection, and other activities that may depend on the type of ecosystem under protection (PRONAFOR, 2015).

Unlike other government-led PES programs that apply uniform rules and criteria across the board, Matching Funds was designed to operate through local organizations such as NGOs, municipalities, state governments, water utilities, and businesses. These local organizations are expected to pay half of the payment to landowners and that amount is then matched by the National Forestry Commission (CONAFOR, *Comisión Nacional Forestal*), which is the federal government department charged with managing Mexico's PES programs (PRONAFOR, 2015). Payments to landowners usually range between \$20 to \$40 USD<sup>2</sup> per hectare per year. Local organizations are also able to come up with their own participation requirements for landowners when it comes to participant selection, the types of conservation activities implemented, and any restrictions on the spending of PES funds. Local actors can also step in to provide assistance that goes beyond the standard assistance provided by a CONAFOR-certified

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<sup>2</sup> Payments to landowners were obtained from CONAFOR databases. Payment amounts were converted from Mexican pesos to US dollars using an exchange rate of 1:18.

PES technician. According to CONAFOR directors, this flexibility around assistance provision and criteria setting is more likely to produce PES projects that are more locally appropriate than where decisions are made by central government officials.

NGOs are the most common type of local actor, accounting for about 40% of all local organizations involved in Matching Funds<sup>3</sup>. Based on extensive interviews with Matching Funds local partners, I found that in comparison to state governments, water utilities, and other local actors, NGOs are most likely to have a closer relationship with landowners and to be aware of their local problems, needs, and preferences. Given their particular missions and accountability to donors, they are also most likely to impose stricter requirements onto landowners, particularly when it comes to managing and spending PES funds. I found that most NGOs impose stricter requirements when Matching Funds participants are local communities<sup>4</sup> instead of individuals or households. For example, many NGOs prohibit landowners from dividing PES funds among households and instead require them to reinvest their money into workshops (e.g., account management, transparency, environmental education, etc.), community projects (e.g., environmental monitoring), economic activities (e.g., apiculture, sustainable logging, ecotourism, etc.), or community infrastructure (e.g., roads, school,

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<sup>3</sup> This data was obtained from CONAFOR databases containing a list of Matching Funds participants.

<sup>4</sup> Local communities consist of *ejidos* or indigenous communities that own land in common and generally make decisions as a group.

hospital, etc.). During interviews, NGO staff members said that the requirement to reinvest funds in an activity that requires group work and decision making is considered to build social capital, encourage investment in infrastructure or an economic activity that will last into the future, and generate benefits for the community as a whole. However, strict NGO requirements could potentially be at odds with local needs and preferences, especially if they are designed by project managers with little input from beneficiaries. While some NGOs decide activities with the input of local residents through a participatory approach, others decide the conditions on behalf of communities without their input.

### **3.4.2 Research Approach and Methods**

The purpose of this study is to observe the conditions under which feedback and learning can or cannot happen in NGO-led PES projects. In this study, I selected four types of community-NGO interactions, each corresponding to one of the four scenarios in Table 6. The first case is a project where there is no conflict of preference between project managers and beneficiaries. Participants were required by the NGO to reinvest their PES funds into an apiculture project. While the activity was decided by donors and project managers with little community input, this particular local community wanted to do apiculture and welcomed the project. The second case is a similar top-down project where beneficiaries were required to reinvest their PES funds into an

apiculture project regardless of local preferences. However, this community did not want to participate in apiculture, thus creating a conflict of preference. In the third case, participants were required by their NGO to reinvest PES funds into a community project. Community members disagreed with this requirement, wanting instead to distribute program funds among households. In this third case, however, participants expressed their disagreement by directly criticizing and openly challenging the project manager. Finally, the fourth case is a participatory project where participants were free to invest their funds in a project of their choice. I exclusively focus on NGOs because they are more likely to intervene in local communities to help them manage their PES funds and therefore they present an opportunity to study whether project managers are able to learn from local feedback. The presence or absence of learning can be assessed by observing what happens in these four different situations.

The four case studies were selected using a purposive sampling approach. I specifically selected NGOs that were involved in local communities by providing assistance and that helped communities manage their PES funds. NGOs that did not play an active role in PES projects were discarded because in such cases organizations were only present on paper and did not conduct projects in communities. I also selected cases that signed PES contracts in 2012 or before, to ensure that enough time had passed to observe any conflicts, learning processes, and associated results. These criteria

narrowed the list to five NGOs, from which I selected four cases that represented “typical cases” from each of the four scenarios (Yin, 2009). Within each project, I present the interaction between NGO staff and a selected community. In order to maintain confidentiality, I do not reveal the names and location of the NGOs and communities.

For this study, qualitative data was collected through: 1) the analysis of NGO documents and websites; 2) semi-structured interviews with key stakeholders that included past and present community leaders, community members involved in the activities proposed by the NGOs, and NGO staff, directors, and project managers; and 3) participant observation, where I was present during the implementation of project activities and during meetings and conversations between NGO staff and community members. Data was collected over a period of seven months in 2016, and for this study I interviewed 36 participants.

Data was organized and coded using NVivo, a qualitative analysis software that is useful for identifying themes in the data and establishing connections between events. I followed the coding process for qualitative data outlined by Breckenridge (2014, p. 3), where I started with “open coding” and generated new categories as they emerged in the transcripts and documents. I then did “selective coding”, where I narrowed down the list by merging themes into more general categories, which allowed me to generalize and make connections between categories (Breckenridge, 2014, p. 3). Within each case, I

used the process tracing approach advocated by George and Bennett (2005) to explain the sequence of events and draw conclusions.

Finally, I would like to acknowledge my researcher positionality in this study. It is important to recognize my position as a student researcher from a university in the United States in relation to my research participants, who were rural community members in Mexico. I was in the privileged position of being able to travel to Mexico and interview participants who were kind enough to host me and participate in my study. My ability to conduct research in rural Mexico comes from my position of privilege, and has influenced my relationship with participants. For this reason, the research findings reflect my own experience and are necessarily partial. While I do not aim to speak for my research participants, in this chapter I share my understanding of their experiences with the PES projects conducted by NGOs. This study did not start as a deliberate attempt to write about insulation or to document power inequalities in the field. Rather, issues about power, fear, and discomfort emerged during interviews aimed at evaluating PES program outcomes in local communities that were used in Chapters 2 and 3 (see Appendix A for interview guide). While I recognize that the information shared with me by community members is partial and influenced by my position as a foreign student researcher, I believe that my semi-structured interview

format and my willingness to listen to issues that went beyond my immediate research goals made participants willing to share sensitive information with me.

## **3.5 Results**

### **3.5.1 Case Study 1: Apiculture Project with no Conflict of Interest**

#### **3.5.1.1 Project Model**

In this first example, a Mexican NGO aiming to promote sustainable development among rural communities in Mexico required that community members invest their PES funds in an apiculture activity. This NGO operated under the assumption that economic activities undertaken as a group would help strengthen social capital among local beneficiaries as well as provide a source of income into the future. Project managers also assumed that local beneficiaries would readily welcome the apiculture project proposed by the NGO staff. Community members were required to spend their money on beehives, bottles, and labels. The NGO also helped residents with setting up a work schedule to care for bees and produce honey.

#### **3.5.1.2 Local Preferences**

These particular community members happened to be interested in apiculture. During interviews, residents explained that they had previously wanted to raise bees but could not afford the purchase of beehives. Therefore, the NGO's requirement to invest PES funds into apiculture helped them achieve an existing community goal.

### **3.5.1.3 Learning in a Project with no Conflict of Preference**

While the NGO's top-down approach might cause problems down the road, there were no immediate conflicts of interest between project managers and local beneficiaries. At this stage, learning was not an immediate issue for the NGO because they happened to be on the same page as local beneficiaries.

## **3.5.2 Case Study 2: Apiculture Project with Conflict of Interest and Indirect Resistance**

### **3.5.2.1 Project Model**

The project model in this second example is very similar to the first one. A Mexican NGO, whose goals were to promote economic development and environmental sustainability in rural Mexico, required that communities participating in the PES program reinvest their funds into an apiculture project. Like in the previous case, community members were required to spend their money on beehives, bottles, and labels, and were expected to work together as a group to produce honey. The requirement to reinvest PES funds into an apiculture project was considered by NGO staff as an opportunity to teach rural communities how to undertake economic activities, thereby contributing to their economic development. The underlying assumption behind such a model is that rural communities had few economic skills and opportunities and that they would automatically welcome an apiculture project proposed by outsiders.

### **3.5.2.2 Local Preferences**

The problem with the project model adopted by the NGO was that some communities were already successful entrepreneurs, running their own community businesses. One community, in particular, ran a successful ecotourism business and was not interested in apiculture. During interviews, community members said they would have much rather invested the PES funds into their existing business. According to the community leader, the price of honey was too low and therefore not a good investment. The ecotourism business also brought them a significant source of revenue and kept people employed at their local restaurant and tourist cabins. Pursuing apiculture meant that community members would have to take time from their busy schedules in order to work for no pay in the project. In addition, community members said they feared that the bees would bother tourists, and feared that the apiculture project would reduce their income from ecotourism. As a result, residents kept delaying the construction of beehives, and NGO staff said they feared the community might drop out of the project altogether.

### **3.5.2.3 Obstacles to Learning**

During interviews, community members said they did not want to drop out of the NGO project because it brought them a significant source of revenue, but that they would have liked to reinvest that money into their existing ecotourism business instead

of apiculture. However, community members did not feel comfortable directly challenging the project or asking NGO staff to let them invest their money in ecotourism. The community leader did let project managers know that he was not interested in apiculture, but he had voiced his complaints in an indirect way and the staff did not take him seriously. For example, the community leader told project managers that he was scared of bees and that he did not want to do the apiculture project because he would get stung. When I asked him why he did not tell project managers about the same problems with apiculture that he told me during his interview (i.e., the low price of honey, the threat to their ecotourism business), his reply was that “they wouldn’t understand”. Later, several community members mentioned that people in the community became shy or timid when talking to project managers and they found it hard to contradict NGO them. Clearly, voicing their true preferences in front of project staff was costly for community members who not only feared losing the conservation funds but were also uncomfortable giving negative feedback and preferred to voice their complaints more indirectly.

Project managers did not take seriously the community leader’s reason for not wanting to participate in apiculture (i.e., being scared of bees) and insisted that community members go forward and implement the project. They labeled the community problematic and unorganized, since they did not fully understand or made

no effort to understand why residents were unwilling to invest in apiculture. While the problem could have been solved by modifying part of the NGO's requirement for investing conservation funds to allow community members to invest in their ecotourism business, project managers remained oblivious to local realities and insisted on pursuing a community project that was less than ideal for both the community and the NGO. Not only was the NGO's requirement that the community reinvest their conservation funds in apiculture restrictive for the community, but it was also counterproductive to the NGO's own goals of promoting economic development in addition to environmental sustainability. Since the community already had a successful ecotourism business, it made more economic sense to let them invest more funds into that business instead of forcing them to undertake apiculture, an activity that did not interest the residents. Had project managers and community members managed to talk openly, they could have come up with a solution that was more beneficial to both the community and the NGO.

### **3.5.3 Case Study 3: Community Project with Conflict of Interest and Direct Resistance**

#### **3.5.3.1 Project Model**

In this third case, a Mexican NGO also required that communities reinvest their PES funds in a community project. Project managers did not require that local residents invest their funds in a specific project such as apiculture. Instead, community members

were free to choose the project, as long as it involved group work. Like in the two previous cases, there was an assumption from the part of NGO staff that group work is desirable, and project managers required that local beneficiaries reinvest PES funds in a group project of their choice. During interviews with project managers, it became apparent that they held negative views of communities that did not want to work together or that wanted to distribute program funds among households instead of investing in a community project. They labelled communities that were not interested in group work as “problematic,” meaning that they were disorganized and lacked a “sense of unity”. In turn, these labels further justified the NGO’s group work requirement, as staff assumed that investing funds in a community project would help build the organization skills and social capital these communities lacked.

### **3.5.3.2 Local Preferences**

One particular community that participated in PES with this NGO was not interested in investing their program funds in a group activity. This community was located near a tourist destination, and many community members were employed at the local restaurant that served the tourists. They commuted from their community to the restaurant most days of the week and, during interviews, residents said they had little time to invest in group work. Instead of investing program funds into a community activity, residents wanted to distribute the money among households.

### 3.5.3.3 Learning from Direct Resistance

Unlike the community from the second case study, community leaders told NGO staff directly that they wanted to distribute the money to households and had no interest in investing them in a community project. Initially, project managers insisted that residents invest in a group activity and facilitated a brainstorming session, where they proposed several options. These included apiculture, a women's sewing workshop, and a community project manager where a local resident would take on project coordination duties in an attempt to empower community members and transfer project ownership locally. However, community members held their ground and insisted that they did not want to invest in a group project. During an interview, the project manager that hosted the brainstorming activity told me that community members said they would "use program funds to buy a noose to tie around [his] neck" rather than invest in a community project. This confrontation represented an act of direct resistance against the activities proposed by NGO staff. During interviews, community members also said that they would leave the project if the NGO did not relax its community investment requirement.

In response, the project manager ended the workshop without insisting on the community project any further. Furthermore, during the interview, he mentioned that the NGO had made several mistakes when interacting with community members, and

that they should have seen some warning signs earlier. This experience also led him to reflect on how to best revise program requirements and selection criteria for local communities.

Why did this particular community have an incentive to use direct resistance to confront the project manager and to consider dropping out of the program? In this community, residents had also applied and received approval for participation in the National PES program, which is a similar PES program that is implemented by the central government alone, without NGO involvement. At the time of the study, the National PES program had no requirement for how recipients should spend their program funds. Community members therefore had another option for earning extra income, which reduced their dependence on the NGO-led PES project. If community members stopped participating with the NGO, they would have still obtained some government funding without the hassle and demands that were imposed on them by the NGO.

### **3.5.4 Case Study 4: Participatory Project**

#### **3.5.4.1 Project Model**

In this last PES case, a Mexican NGO together with local communities decided that PES funds would be reinvested into a community project. The idea, which appeared to be shared by both NGO staff and local beneficiaries was that the program should

benefit the community as a whole (as opposed to individual households) and also strengthen social capital by having community members work together on a community project. It was up to the community to decide which project they wanted to undertake. The project was decided through a participatory process where NGO staff facilitated brainstorming sessions with community members, then several activities were proposed and community members decided which activity they wanted to undertake by taking a vote. This voting process was in line with community rules and institutions, where important decisions were generally decided by majority vote. Thus, the NGO's process and activity was not imposed onto local residents, as was the case in the previous example, but followed pre-existing rules and procedures that were locally appropriate.

#### **3.5.4.2 Local Preferences**

On the surface, this project did not seem to be problematic. Community members had decided to use project funds to make repairs to their *casa ejidal* (an office where community leaders worked and stored documents) and to build a guest house in the community. However, during interviews, community members shared some of their visions and ambitions, which included implementing various economic activities. These included cultivating fruit trees, engaging in ecotourism activities, as well as hiring an expert to conduct a market analysis in order to determine whether their proposed ideas were economically viable. They told me that they would have liked to use project funds

to invest in these economic activities instead of how they had currently “decided” to spend the money, and suggested that I should be the one to transmit their ideas to the NGO staff. While community members did choose to invest in repairing their *casa ejidal* and building a guest house, these activities had not been their first choice.

#### **3.5.4.3 Obstacles to Learning**

When I asked community members why they did not say they wanted to invest their PES funds into their first choice activities during their brainstorming sessions, some of them told me they did not know whether the NGO would allow them to invest in an economic activity or to hire an expert. Even though this project was supposed to be participatory, it seemed that project managers had not properly communicated to community members that they had the choice to invest in *any* activity as long as it benefitted the community as a whole. Instead, NGO staff gave the impression that they were inflexible in their requirements. As in the previous case, community members felt uncomfortable voicing their true preferences because they feared that the NGO would not approve some of their choices. Other community members said they felt shy speaking up in front of project managers.

Upon further inquiry, I found out that during brainstorming sessions, community members only felt comfortable suggesting activities that they thought fell into the NGO’s existing set of goals and activities normally implemented in

communities. These activities usually involve *obras sociales*, which are labor intensive group activities where community members get together to work on building some type of infrastructure in the village (road repair, building classrooms, etc.). Using the money to set up a business or hiring an expert did not fall into these classic “community” activities and residents did not feel comfortable voicing them with the NGO because they did not think that the NGO staff would approve them.

Since beneficiaries did not voice their preferred ways of spending PES funds, project managers never found out that the community would have wanted to reinvest their funds into an economic activity instead of an *obra social*. The NGO staff seemed to think that things were going well and did not seem to know that community members were stuck implementing their second choice activities. Nor did they realize that they had not adequately communicated to community members that they could invest their money into any project, not only in *obras sociales*.

This project did not fail in the same way as the apiculture project did, since the community was not completely unsatisfied with the project. However, the absence of local feedback prevented managers from knowing beneficiaries’ true preferences. As a result, they ended up with a project that was mediocre, when in reality it could have been modified to better suit community preferences.

This NGO was particularly keen on conducting projects that were locally appropriate and in letting community members decide their own activities. When I told project managers that community members would have preferred to invest their funds in another economic activity and to hire a specialist, they said that they were willing to consider these types of activities and wished the community had told them about their preferences earlier. Unfortunately, at the time I conducted my interviews the community had already spent their money on their second choice activities. As in the previous case, local residents did not feel comfortable giving negative feedback to NGO staff. In turn, NGO staff missed the opportunity to make what would have been very simple changes, such as communicating more clearly that communities could invest funds in a project of their own choice.

### ***3.6 Obstacles to Learning and Feedback in Mexico's Matching Funds Program***

In three of the four cases, project managers made several errors in designing and implementing their community projects. In the mandatory community projects, the NGOs decided how communities would spend their PES funds without first consulting with local people in order to make sure they were interested in apiculture and/or group projects. In the participatory project, NGO staff failed to adequately communicate that residents were completely free to invest in any type of community project.

Making mistakes is normal and it is unrealistic to expect any person or organization to come up with a perfect project design and implementation. As long as project managers are able to learn from past mistakes, they can improve and continue to provide value to the people and communities they serve. One way to learn from mistakes is through direct feedback provided by local beneficiaries. As we have seen in the third case study, the direct confrontation by community members led to the project manager questioning his requirements and community selection criteria. While the NGO did not automatically become problem-free, the negative feedback from community members nevertheless played an important role in disrupting the project model requiring that PES funds be reinvested in a community project.

However, when mistakes are made in a context of uneven power relations (i.e., in terms of resources and decision making), then flawed assumptions and communication failures become highly problematic because they remain unchallenged. As a result, project managers become insulated from local perspectives and fail to see what is wrong with their projects. Insulation operates by blocking the direct feedback that project managers could receive from beneficiaries. Managers are not able to learn about mistakes through their experience in the field while implementing the project. As a result their mental models are not challenged. While they might see some evidence that contradicts their mindsets, Greif (2006) reminds us that changing existing beliefs is

costly for individuals. The indirect or occasional contradictions from beneficiaries are simply not sufficient to give project managers a “reality check”.

But although projects might fail to reach their stated goals, they remain unchallenged and persist in spite of their flaws, creating a situation where flawed models coexist with local preferences. When an initiative is locally inappropriate, project managers likely cannot make their ideas and activities stick locally because local people are not passive recipients of models imposed from the outside (Filer, 2009; Geoghegan, 2009; Peters, 2000; Sundberg, 1998; 2006). It is also unlikely that residents would internalize ideas and practices with which they disagree (Geoghegan, 2009). At the same time, flawed projects are not challenged, which creates a bubble around project managers that makes them unlikely to see the real local preferences and values.

### ***3.7 Discussion***

The findings of this study are generalizable to development and conservation projects in general, where there is usually a power difference between project staff and local beneficiaries (Carlsson and Wohlgemuth, 2001). Specifically, the concept of insulation can help explain why numerous projects fail, as well as why many projects considered to be failures persist in spite of their shortcomings (Escobar, 1994; Heyman, 2009; Le Meur, 2006). Being on the receiving end of projects, it is easy to see how local beneficiaries in many situations might abstain from criticizing the project and from

voicing their true preferences. In these cases, we have a coexistence between flawed project models that remain unchallenged and the local needs of beneficiaries.

Currently, the literature seeking to explain program failure is largely divided into two categories: the technical perspective and the critical political economy perspective (see also Mosse, 2004), both of which are outlined below. I argue that while both views provide valuable explanations about why we see repeated project failure, the specific mechanisms through which failure happens in practice remain unclear. My study takes a different approach and looks at the interaction between project staff and participants in order to identify the obstacles to learning and feedback that prevent decision makers from revising their projects.

### **3.7.1 The Technical Perspective**

A first group of scholars focuses on getting the model right in development and conservation projects (Hickey and Mohan, 2004; Mosse, 2004). From this perspective, project failure and managers' inability to learn or adapt is usually attributed to flaws in project design and implementation, to insufficient funds and resources, and to insufficient knowledge about local beneficiaries and their motivations. For example, Gupta et al. (2008) stress the importance of "careful design of the project" (p. 273) in achieving sustainable development goals. Other scholars attribute failure to improper communication of project objectives to local participants (see Webber et al., 2007), to the

lack of ongoing evaluation and monitoring based on appropriate indicators and measurements (see Gubbi et al., 2009), and to insufficient funding for realizing correct implementation and monitoring (Steiner, 2006; USAID, 2009). Vested interests such as manipulation and corruption are mentioned in some studies (Brett 2003) but the focus remains on designing initiatives that will reduce the incentives for opportunist behavior. For example, Brett (2003) argues that a participatory project design, while desirable in many situations, is not appropriate when the project takes place in a context where it is prone to manipulation by agencies, and should be avoided in such cases (Brett, 2003).

Other scholars bring up a related issue, which is that faulty project design and implementation is due to a lack of in-depth knowledge about the local communities participating in sustainable development programs and their local contexts (Coomes and Barham, 1997; Lovell and Liverman, 2010; World Bank, 2004). For example, Coomes and Barham (1997) emphasize the importance of learning about local communities' social dynamics, microeconomic context, and local histories in order to design projects that are sensitive to local needs and that are compatible with local incentive structures. According to this logic, if we fully understood how local people behave, how they use natural resources, how they think, what they value, and how they make decisions, then we could design environmental projects that are more likely to be successful.

From a technical perspective, preventing project failure is a matter of collecting the right information about local beneficiaries and using that information to change project goals and practices in order to increase the likelihood of success. However, a technical explanation only provides a partial explanation of the factors leading to learning problems because it only covers design errors made by project managers without considering how these errors are sustained in the field. While a flawed project design and inability to collect relevant information can undermine a project from the start, I argue that flawed models can also be an end result caused by feigned compliance from the part of local participants, and might only be visible after the program has already failed. Furthermore, it is unrealistic to assume that project outcomes are solely determined by project managers. Outcomes must be viewed as the result of the relationship and interaction between managers and beneficiaries. This involves looking at the relationship between project managers and local beneficiaries, to see what kind of feedback is communicated to managers and what they choose to do about it.

### **3.7.2 The Critical Political Economy Perspective**

This second group of scholars is less concerned with the day-to-day organization and operation of development and sustainable development projects but is instead trying to expose the assumptions under which they operate and the tensions they face while being implemented in practice. For example, some scholars argue that projects fail

because they are inherently exploitative (Gutiérrez 2012; Harvey, 2006; Newell et al., 2012; Smith, 2007). According to critical scholars, many sustainable development programs contain a tension between rhetoric and facts. Numerous studies show how organizations present an unproblematic image of their environmental projects, which obscures the economic relations that place local recipients at a disadvantage (Bakker, 2010; Baldwin, 2009; Putz & Redford, 2009; Smith, 2007). In other words, development and sustainable development initiatives have ulterior motives (i.e., maximizing economic gain or controlling local populations) and they fail to improve environmental and recipients' well-being because achieving sustainable development objectives is not their priority (Ferguson, 1994; Goldman, 2005).

Other authors view the various discourses embodied in projects as attempts to make local people and their environments legible and therefore easier to manage (Carrier and West, 2009). Carrier and West (2009) explain that development and conservation projects often fail to deliver the results originally envisioned because planners draw on models of environmental and human behavior that are oversimplified and based on western assumptions, which do not conform to local realities (Carrier and West, 2009). The result is what they refer to as "virtualism", which happens when people forget that their project goals and environmentalist values are simply models and try to "make the world conform to that virtual reality" (Carrier and West, 2009, p. 7).

Another set of critical scholars emphasizes the difficulties in challenging actors that are politically or economically powerful. For example, Blaikie (1985) argues that conservation initiatives led by a government's environmental department are less likely to challenge projects resulting from economic policies that are environmentally destructive or socially unjust. Other scholars point out that poverty and environmental degradation are structural problems with deep roots and are difficult to solve (Atkinson, 1991; Bryant, 1992; Hecht, 1985; Robbins, 2012). Resolving these problems requires addressing structural issues, and addressing structural issues means challenging some actors that are in power (Atkinson, 1991; Blaikie, 1985; Bryant, 1992; Robbins, 2012). Sustainable development programs seeking to change structural issues may be met with resistance by powerful actors and prevented from having a positive impact on the environment and on the lives of local people (Goldman, 2005). As Blaikie (1985) puts it, "soil erosion [and environmental degradation more generally] in lesser developed countries will not be substantially reduced unless it seriously threatens the accumulation possibilities of the dominant classes" (p. 147). The difficulties in changing existing power structures are apparent in participatory projects, which aim to include beneficiaries into project design and implementation (Hickey and Mohan, 2004). Scholars argue that such designs often become coopted by project managers or local elites when they are implemented in practice (Cooke and Kothari, 2001), thus reinforcing the same

inequalities that persisted in more traditional development and sustainable development projects.

Finally, scholars point out that project administrators and fieldworkers feel the pressure to meet donor demands instead of implementing a project that is designed based on the priorities of local recipients (Carrier and West, 2009; Salemink, 2006). This problem is enhanced by the physical distance between donors local recipients, where the people who have the power to make decisions affecting program design and implementation are usually the most removed from the local context in which programs are implemented (Biggs and Smith, 2003; Geoghegan, 2009).

In sum, critical political economy is useful for understanding how the assumptions and vested interests of powerful actors prevent meaningful change from happening. But like the technical perspective it takes the focus away from the agency of local beneficiaries and how they manage outsiders and their programs in a context of unequal power relations (see bending and Rosendo, 2006 and Salemink, 2006 for exceptions). The overwhelming focus on the agency of project managers and donors in shaping successes and failure is due to the fact that, like technical explanations, critical political economy explanations are largely focused on exposing the flawed mental models embodied in dominant discourses and the vested interests that prevent managers from designing more appropriate projects. What is missing is a focus on the

mechanisms through which socioeconomic inequalities are manifested in the field, during interactions between staff and local beneficiaries, and how their resulting behavior affects the learning process.

### **3.8 Recommendations for Decision Makers**

While PES practitioners should focus on improving their project designs and communication strategies, they should also focus on improving their *relationship* with local beneficiaries. While the consequences of insulation can be reduced by adopting a participatory project design, insulation is not a design feature, but instead it is due to the unequal power relationship between staff and beneficiaries. Inequality in resources and decision making power, where managers have resources to give and are the ones to select or reject local participants, is present in most NGO-led projects. In all project types, whether they are participatory or more traditional, managers should be overly attentive and open to the indirect feedback from beneficiaries.

However, simply increasing managers' observational skills is not enough. As we have seen, assumptions and perceptions are very difficult to change in the absence of direct feedback from local beneficiaries. Ultimately, project managers should strive to create a safe space where beneficiaries can express their true preferences and opinions without fear of negative consequences. One way to create this safe space is by hiring a student or consultant external to the NGO to interview beneficiaries and then report

local feedback in general and confidential terms. In my experience as a student researcher, whenever I told local participants that I would like to hear their feedback about a particular project and that I would transmit, confidentially, their problems and suggestions to managers, beneficiaries seemed eager to tell me their complaints. What is more, they seemed pleased and hopeful that I would transmit their message to project managers, indicating that they wanted to be heard and they would have liked for the project to change but they were uncomfortable confronting project managers directly. Therefore, hiring an outsider to transmit feedback on behalf of participants might be a good investment for an NGO. Another way to create a safe space is to establish a way for participants to present their ideas or give feedback anonymously – for example, by writing their choices or opinions on a piece of paper, or having a community member transmit all of the anonymous messages. While these suggestions are not a perfect solution to the insulation problem, they could significantly help project managers understand local perspectives.

Unfortunately, there is no easy fix to the insulation problem because it is not necessarily a problem with the project's design. Rather, the root of the problem lies in the unequal relationships between project managers and beneficiaries, which affects both top-down and participatory projects. Even if participatory projects seek to reduce this imbalance by giving local participants more decision-making power, project

managers are still the ones that have resources to offer. Furthermore, they decide whether to include local beneficiaries in decision making to begin with. As we have seen in the case of the participatory project in Mexico, even though beneficiaries might have decision making power on paper, in practice, they might still try to conform to what they think is expected of them, and be unwilling to voice their true preferences. For NGOs and other relatively powerful stakeholders, a key point is that with resources and decision making power come negative consequences such as insulation. To mitigate insulation, they should create safe spaces for less powerful stakeholders to be able to provide feedback. In turn, these safe spaces could increase the likelihood of successful project implementation as well as delivering greater benefits to beneficiaries.

### ***3.9 Conclusion***

In this study, I have explored the obstacles to learning and feedback in NGO-led environmental projects. Using the Mexican PES program through Matching Funds as an example, I analyzed how uneven power relations in terms of resources and decision making power make it difficult for project beneficiaries to voice their true preferences in front of project staff. Two dominant rational choice theories – Ostrom’s institutional learning and Hirschman’s exit and voice – would suggest that NGO staff can learn from mistakes by paying attention to the local outcomes of their actions and to direct and indirect feedback from beneficiaries. However, I argue that the mechanisms proposed by

these theories do not work in cases where beneficiaries do not feel comfortable criticizing the project in front of NGO staff. As a result, project staff does not have sufficient evidence about what might be wrong with their projects and have little incentive to revise their models and assumptions. Instead, what we have is insulation, which is a situation where flawed projects coexist with local preferences and create a situation that is less than ideal for both NGOs and beneficiaries.

## **4. Transitioning from Government-Led PES to Local Ecosystem Service Markets: The Case of Mexico's Matching Funds Program**

### ***4.1 Introduction***

Payments for Ecosystem Services (PES) is becoming an increasingly popular strategy for environmental protection that has been implemented in many countries across the world (Gómez-Baggethun et al., 2010). PES initiatives were originally conceived as private and local agreements between buyers and sellers of ES (Pagiola et al., 2002). For example, economists promoted PES as a Coasean approach to internalizing the positive externalities produced by environmental conservation, which eliminates the need for intervention by the state (Engel et al., 2008; Pagiola et al., 2002). Its advocates argue that such a market-based mechanism establishes a direct connection between users and providers, enabling them to negotiate a payment system where people who conserve their environment are compensated for their environmental services (Engel et al., 2008; Pagiola et al., 2002; Wunder, 2005). The decentralized PES approach is believed to be more effective than command-and-control strategies to environmental regulation because the flexibility of market-based approaches allows them to be better adapted to local conditions (Wunder et al., 2008).

However, in many regions local PES agreements are unfeasible due to political limitations and weak local institutions (Arriagada and Perrings, 2009; Dempsey and

Robertson, 2012; Muradian et al., 2010; Wunder et al., 2008). Numerous PES initiatives, particularly in the Global South, are implemented by central governments in a way that is closer to a government subsidy than a market agreement (Naldini et al., 2009). While in some contexts centralized environmental management is more appropriate than local decentralized initiatives (Bardhan, 2002), government-led PES has some important limitations. In general, conservation attempts led by the central government have somewhat of a blueprint character because they do not always distinguish between different local capacities, needs, and preferences (Larson and Soto, 2008). In the Global South, a great number of providers are impoverished and marginalized rural communities, and there is no guarantee that they will have the necessary resources and institutions needed to fulfill the requirements of their PES contracts or participate in the program to begin with. Moreover, some PES practitioners consider that central PES programs keep beneficiaries dependent on government subsidies and prevent the development of local PES institutions that would enable them to earn revenue and continue providing environmental services when government contracts end (Interview with Matching Funds directors, March 2014).

In light of these limitations, how can government-led PES produce lasting environmental and economic benefits? Scholars have given us lists of conditions for the emergence of durable PES mechanisms, where factors range from reducing transaction

costs to strengthening the organization of PES providers (Muñoz Escobar et al., 2013; Vatn, 2010). However, less attention has been paid to the processes through which these conditions are met in practice. In other words, how do central governments attempt to decentralize PES in practice and are they successful at it?

One strategy is for central governments to partner with nongovernmental organizations (NGOs) and other local actors that are able to compensate for the government's limitations such as its limited local reach (Goldsmith and Eggers, 2004), and help build durable PES institutions locally. Scholars point to the emergence of partnerships between, public, semi-public, and private actors as an emerging trend in natural resource management that is more likely to produce successful outcomes than traditional top-down governance (Bryson et al., 2015; Goldsmith and Eggers, 2004; Sorensen and Torfing, 2007). It is well known that intermediary organizations have long played an important role in PES programs; however, fewer studies have analyzed the extent to which these various partnerships are successful at establishing durable local PES markets.

My study aims to fill this gap by analyzing what types of partnerships between the central government and local actors can be conducive to the development of institutions that are likely to sustain local PES markets after government contracts end. I specifically look at two types of local actors – state governments and NGOs – in

Mexico's Local Mechanisms for Payment for Ecosystem Services through Matching Funds program (referred to as Matching Funds in this paper). Matching Funds is a government-led PES program that was designed with the purpose of transitioning to decentralized PES by involving local organizations that would take on various responsibilities. In addition to delivering environmental services, Matching Funds aims to partner with local actors in order to (1) increase the level of assistance and capacity building provided to communities selling ecosystem services, and (2) build the necessary institutions for the emergence of local PES markets (Interview with Matching Funds director, March 2016). These two factors are believed to lead to the development of local PES mechanisms that are more appropriate than government-led PES.

Based on the analysis of qualitative data, I evaluate how NGOs and state governments perform in relation to building local PES institutions and capacity building in the Matching Funds program. I find that neither type of local partner is able to achieve both goals; instead, they have complementary strengths and weaknesses. While NGOs excel at assisting communities participating in PES they are less effective at securing durable funding that would enable PES to persist in the future. On the other hand, state governments do not attempt to build capacity in local communities but are more successful at institutionalizing PES, making local PES initiatives part of their long-term plans for environmental protection. These findings are applicable to government-

led PES in general, and more specifically to practitioners that seek to make PES durable by partnering with local intermediaries.

The remainder of this paper is structured as follows. Section 2 reviews the literature on the role of institutions in PES. Section 3 outlines the political and institutional contexts in Mexico and explains how they influenced the evolution of PES. Section 4 presents the research approach and methods and Section 5 the results. Section 6 analyzes the complementary strengths of state governments and NGOs, and Section 6 contains the discussion. Section 7 concludes.

## ***4.2 Conditions for the Emergence of Durable PES***

While dominant PES theories might portray the process as a straightforward exchange between users and providers (Pagiola et al., 2008), scholars have demonstrated that implementing PES in practice is usually a complex and costly process (Fauzi & Anna, 2013; Vatn, 2010). As Vatn (2010) explains, in order to be effective at producing environmental services and achieving co-objectives such as alleviating poverty, most PES programs require some institutional development and capacity building in at least three dimensions. First, establishing a PES requires deciding “which interests and values get protection” and creating “rights and rules [...] to govern the interaction between agents” (Vatn, 2010, p. 1246). Examples include securing property rights or obtaining formal land titles for landowners participating as providers, deciding which

environmental services to compensate (hydrological, carbon, biodiversity, etc.), and assigning them a monetary value. Second, “the level of transaction costs influences the functioning and choice of PES arrangements”, such as whether PES is best managed by the market, by “hierarchies like firms of the state”, or by local communities (Vatn, 2010, p. 1246). Third, institutions must be coordinated and designed in such a way as to produce the desired incentives and “motivations for action” (Vatn, 2010), which in the case of PES can include willingness to provide environmental services and willingness to pay for them.

In some cases, the institutional structure required to make PES work might be weak or missing. For example, Muñoz Escobar et al. (2013) apply criteria used for assessing the durability of common pool resources to PES arrangements and find that “enabling conditions” (rules, norms, and regulations) need to be present at various scales and levels of organizations. These levels include the “resource system”, the “group characteristics” of users and providers, the “relationship between [the] resource and group characteristics”, the “institutional arrangement” that governs PES, and the “external environment” including the political and economic contexts (Muñoz Escobar et al., 2013, p. 48). In other cases, local values and institutions conflict with PES principles and complicate its implementation. For example, Westermann (2007) explains how the Andean vision of water as a living being and universal right differs from the

view of water as an environmental service and produces a conflict of value with PES. In their study on PES in Chiapas, Mexico, Corbera et al. (2007) find that “[t]he perceived legitimacy of the activities and the distribution of economic outcomes and project-related information are found to be mediated by organizational allegiances and the history of social relations regarding access to property and forest resources” (p. 587). Fauzi and Anna (2013) find that conflicting laws, difficulty in establishing property rights, and high transaction costs “hindered the effectiveness of various PES schemes in the country” (p. 62). Similarly, (Gatzweiler, 2014) finds that local policies and regulations often conflict with one another and argues that in order to establish successful PES practitioners should focus on establishing “institutional complementarities” across various arenas. Scholars have also focused on the negative effects of PES on local contexts, including how PES can exclude the poorest and most marginalized landowners (Corbera et al., 2007; Kosoy and Corbera, 2010), how it can reinforce existing inequalities in market systems (Kosoy and Corbera, 2010), and how PES can cause motivation crowding (Kaimowitz, 2002).

These complex institutional realities and how they interact with PES have led scholars to identify pre-existing conditions necessary for PES to work (Wunder, 2013) or question whether PES mechanisms can be effective and durable altogether (Hiedanpaa & Bromley, 2014). However, it is important to remember that PES initiatives are likely to

proliferate and become adopted in various countries and regions in spite of sub-optimal conditions. Given this reality, my study looks at whether the adoption of PES in the absence of optimal local institutions can actually develop and strengthen local institutional capacity for effective and durable environmental service markets. This question is particularly relevant in the case of government-led PES where, at least in Mexico, PES is managed by the central government because of weak local institutional capacity and limited local resources. Mexico's Matching Funds program, adopted in 2008, represents a government attempt to decentralize PES by partnering with local organizations, with the hope of transitioning toward environmental service markets that are independent of federal subsidies (Interview with Matching Funds director, March 2014). In this paper, I evaluate the extent to which this has happened in practice.

### ***4.3 The Mexican Context: PES and the Influence of Politics***

In this section, I begin by explaining the Mexican political context that has shaped the local institutional context in which PES is currently implemented. I then outline the Matching Funds program and its 2003 predecessor, the National PES program.

### **4.3.1 Political Context in Mexico**

Since its inception in 1929, one single party dominated Mexican politics for over 71 years (Bartra & Otero, 2005). The party was originally named the National Revolutionary Party (PNR), and the name was changed in 1936 to Party of the Mexican Revolution (PRM), and then again in 1946 to the Institutionalized Revolutionary Party (PRI), which is the party's still-current name (Preston & Dillion, 2004). The key feature of PRI rule was a very centralized, top-down, and semi-authoritarian form of governance (Barta and Otero, 2005).

While the central government in Mexico is said to have a disproportionate amount of power (Fox, 1995), scholars remind us that it was not always so. Diaz-Cayeros (2004) explains that when federalism emerged in Mexico, the state governments had a considerable amount of power, and were less dependent on cash transfers from the federal level of government. Over time, however, state governors agreed to hand over their taxation power to the central government, and in exchange they were promised political rewards such as a secured career in government (Diaz-Cayeros, 2004). As a result, "federal revenue transfers gradually substituted for taxes raised by state and municipal governments" (Diaz-Cayeros, 2004, p. 224). These changes in power facilitated the shift toward "fiscal and political institutions designed for a centralized

dominant-party system” (Diaz-Cayeros , 2004, p. 199), which were essential for the dominance of the PRI.

In Mexico’s rural areas, governance was described as “populist paternalism toward rural citizens,” and was said to include government handouts and subsidies that helped boost the leader’s popularity (McAfee & Shapiro, 2010, p. 3). National programs designed for the poor were instrumental in securing PRI loyalty among rural populations. For example, Mexico’s PRONASOL program (*Programa Nacional de Solidaridad*) was a nation-wide initiative implemented from 1989 to 1994, which in theory was supposed to reduce poverty through monetary transfers to lower levels of government that were to improve the provision of public services (Diaz-Cayeros & Magaloni, 2003). According to Magaloni, Diaz-Cayeros, and Estevez (2007), PRONASOL did not have a meaningful impact on poverty alleviation because central officials had too much flexibility over how they allocated funds, and as a result gave resources to lower levels of government not based on need but rather to secure party loyalty.

In the 1980s and 1990s, Mexico went through a series of decentralization reforms that were supposed to strengthen municipal capacities and reduce the role of the central state in local governance (McAfee & Shapiro, 2010). Nevertheless, scholars have demonstrated that while formal institutions (i.e. legislations) have been changed to shift the power away from the federal government, the old governance structures still persist

informally (Fox, 1995; Mendoza, 2010). For example, the local municipalities were formally declared autonomous from the central government, but this has not been accompanied by a transfer of funds, resources, and capacity-building to enhance their actual governing capabilities (Mendoza, 2010; Mizrahi, 2001).

To this day, Mexico is characterized as having a strong central government and weak local institutions (Mendoza, 2010). Nevertheless, the country faces continuing pressure to decentralize, whether from international organizations that fund environmental programs with the condition that some power and resources are devolved to lower levels of governance (Blomquist, Dinar, & Kemper, 2010; Zimmerer, 2006), or from the conviction of some national policy makers who share the view that local governance is more effective (Shapiro-Garza, 2013). Mexico's history of centralized government, combined with the pressure felt by policy makers to decentralize their policies, is reflected in the evolution of PES described below.

#### **4.3.2 The Implementation of PES in Mexico**

PES in Mexico was first conceived in the early 2000s. The idea of PES was introduced by World Bank economists and developed by a team from the National Institute of Ecology, a federal research agency (Muñoz et al., 2005). This team was composed of economists and other scholars from universities in Mexico and the United States, as well as staff from the World Bank's Environment Department (Muñoz et al.,

2005). While World Bank officials pushed for implementing PES as local, private ecosystem services markets, creating such markets was not possible in practice (Alix-Garcia et al., 2005; McAfee and Shapiro, 2010). Mexico had inherited from past regimes a centralized bureaucracy coupled with weak local institutions (Fox, 1995), conditions in which it is almost impossible for local PES markets to arise and persist (Shapiro-Garza, 2013). As a result, Mexican policy makers decided that PES would be best implemented as a subsidy program managed by the federal government. A subsidy program was also an attractive political strategy, where PES became part of the government's pro-poor discourse, and was promoted as a program designed to benefit poor, indigenous, and marginalized groups (Interview with CONAFOR directors, March 2014).

In 2003, PES was thus implemented as a National PES program, which was managed by the National Forestry Commission (*CONAFOR, Comisión Nacional Forestal*), a sub-department of the Environmental Secretariat (*SEMARNAT, Secretaría de Medio Ambiente y Recursos Naturales*). The program targets both individual and communal landowners; however, the majority of participants are *ejidos* or indigenous communities that own property in common and currently own from 70% to 80% of the forested land in Mexico (Alix-Garcia et al., 2005). In this paper I focus on communal landowners when assessing PES Mexico, and refer to them as "local communities".

The National PES program's main focus is on the provision of hydrological services but it has been expanded in subsequent years to include biodiversity conservation. The preservation of forest cover is used as a proxy for the production of environmental services and is monitored by CONAFOR through satellite images (Alix-Garcia et al., 2005). The National PES program targets both individual and communal landowners, who are responsible for fencing their property, abstaining from farming, logging, and cattle ranching, as well as undertaking forest management activities including fire prevention, garbage collection, patrolling to prevent illegal intruders, and other activities depending on the forest type. To help them with program application and activity implementation, landowners hire a CONAFOR-certified PES technical assistant who works as a private contractor helping them participate in the program and submitting annual reports that activities have been implemented to CONAFOR. Verifications take place annually and are undertaken by CONAFOR officials, who monitor satellite images and are supposed to visit each landowner in person. If they pass the verification, landowners receive an annual payment from CONAFOR that varies according to six eligible zones. This federal subsidy program excluded potential local users from the equation.

Nevertheless, the idea of establishing market-based PES persisted among policy makers, who saw in PES the potential to reduce local communities' dependence on

government subsidies (Interview with CONAFOR directors, March 2014). It also became apparent that the technical assistance provided to local communities in the National PES program was often insufficient and highly dependent on the individual PES assistant. While some communities were lucky and hired a technician that provided high quality assistance, others were stuck with technicians that were absent or that tried to ask for more money than they are supposed to receive (Interview with CONAFOR directors, February 2016). While community members have the legal right to fire their assistant at any time, many do not exercise this right in practice because they are scared there will be negative consequences and they often lack the necessary knowledge and resources (Interview with PES providers, March-August, 2016). For example, some communities do not have access to a phone to inform CONAFOR that they wish to fire their assistant and to ask for the directory where they can choose other assistants (Interview with PES providers, March-August, 2016). In other cases, PES technicians intimidate community members by telling them that they have been appointed by CONAFOR to their community, which is not true (Interview with PES providers, March-August, 2016).

To address these issues, CONAFOR implemented the Matching Funds program in 2008. The operation of Matching Funds is very similar to the National PES Program, the key difference being that CONAFOR only pays for half of the funds to landowners and the other half comes from a local organization such as a state government, NGO,

municipality, business, etc. The organizations are called “local partners” (*socios locales*), and the most prevalent types of local partners are NGOs (about 40%) and state governments (about 30%).

The payment amount is determined by the local organization and that sum is then matched by CONAFOR. Local partners are also expected to reach out to landowners and assist them with paperwork, implementation of PES activities, and verification that activities have been implementing correctly. Local communities still have the option of hiring a PES technical assistant, but they can also receive additional assistance from the local partner. Of course, the assistance provided to landowners varies across and within types of organizations, where some local partners are highly involved in local communities while others are hardly present. By partnering with a local organization, the Matching Funds program aims to create the necessary institutions for PES to continue after government contracts (which usually last 5 years) end. In addition, local partners are expected to provide customized assistance and resources to local communities that enables them to participate and benefit from Matching Funds (Interview with CONAFOR directors, March 2014). This dual process of institution building for PES and capacitation of local communities is expected to facilitate a transition toward local PES and provide a source of revenue for local communities that is independent from federal funds.

## **4.4 Methods**

### **4.4.1 Research Approach and Sample Selection**

The goal of this study is to evaluate how state governments and NGOs, two important local organizations in the Matching Funds program, perform their role as creators of PES institutions and capacity builders in local communities. I selected three local partners that are NGOs and three local partners that are state governments, each participating with a minimum of two provider communities. In order to maintain confidentiality, the names and locations of the NGOs and state governments are not disclosed. The state governments are each located in different states, and for the NGOs, two of them are located in the same state and the other one is in a different location.

The NGOs and state governments were selected using a purposive sampling strategy. To make sure that sufficient time has passed before making conclusions about the program, I selected cases where Matching Funds contracts were signed in 2011 or before in order to see what happens when contracts had ended or were about to end. I also selected cases where the local partner had signed contracts of the same five-year length in order to see what happened at the end of the contracts for all local partners.

#### **4.4.2 Data Collection and Analysis**

I collected qualitative data using three methods: interviews with key stakeholders, participant observation, and document analysis. First, I interviewed a range of key stakeholders in Matching Funds and National PES, including: CONAFOR staff charged with implementing the PES programs; NGOs and state government employees charged with overseeing participation in Matching Funds; past and present community leaders and other community members that participated in Matching Funds; and CONAFOR-certified technical assistants. I selected interviewees using snowball sampling, where I identified leaders in communities and local partner organizations and asked them to identify other community members of staff that were involved in the PES program. Second, I collected data using participant observation, attending community meetings and accompanying local partners and certified technicians when they visited community members. Third, I studied relevant documents and websites, including: PES contracts; annual reports submitted to CONAFOR; the websites of CONAFOR and local partners; and documents published by local partners that described their participation in Matching Funds.

I used NVivo, a qualitative data analysis software, to transcribe and code documents, interviews, and research nodes. To code the data, I followed the grounded theory approach proposed by Breckenridge (2014), which contains two steps: “open

coding” and “selective coding” (Breckenridge, 2014, p. 3). First, I conducted “open coding” by scanning interviews, notes, and document to identify a large number of themes until new data was not able to add any new categories. Then, using “selective coding” I narrowed the list by merging similar themes together and creating more general categories. In the results section below, I present the two final categories – (1) assistance provided to communities and (2) efforts to establish PES markets. It is important to note that these categories are not meant to represent a complete list of what is needed for building capacity in local communities and developing PES institutions. Rather, they represent what was done by the local partners at the time of the study in order to fulfil the goals set by the National Forestry Commission.

## ***4.5 Results***

### **4.5.1 Assistance Provided to Communities**

When it comes to the assistance provided to local communities, all three NGOs in this study provided a significantly higher level of assistance and capacity building than state governments. Table 6 below provides a summary of the comparison between the two types of intermediaries.

**Table 7: Comparison of Assistance Provided by NGOs and State Governments**

<b>Assistance</b>	<b>NGOs</b>	<b>State governments</b>
<b>Payment per hectare</b>	- Average \$3000 pesos	- Average \$2000 pesos
<b>Material resources</b>	- Tools and equipment for implementing conservation activities (truck, equip. for fire brigade, machetes, etc.)	- None
<b>Coordination between local partner and PES technician</b>	- Two NGOs coordinated and oversaw assistance provided by PES technician - One NGO provided the PES assistance free of charge	- No coordination between local partner and PES technician - Assistance was only provided by PES technician with no oversight from state governments
<b>Number and frequency of visits for assistance with PES</b>	- Average of 17 visits from PES technician and/or NGO staff - Visits are made year-round	- Average of 7 visits from PES technician and/or state government - Visits occur only throughout the duration of the implementation of PES activities
<b>Administrative delays</b>	- Timely submission of CONAFOR paperwork and reports - Delays in payment were <u>not</u> caused by failure to submit paperwork and reports to CONAFOR	- Paperwork and reports were not always submitted on time to CONAFOR - There were delays in payment caused by failure to submit paperwork and reports on time
<b>Assistance with implementing PES activities</b>	- Instructions on how to implement PES activities - Attended community assemblies to discuss activity implementation - Helped establish a workschedule, procedures for taking attendance, work rules, and penalties for failing to follow rules - Verification that activities have been implemented	- Instructions on how to implement PES activities - Occasional verification that activities have been implemented correctly
<b>Assistance with managing PES funds</b>	- Opening a bank account - Condition: must reinvest PES funds in a community project - Setting goals and workschedule for community project - Supplying or facilitating purchase of equipment for community project	- None
<b>Accessibility of local partner and/or PES technician</b>	- NGO staff could be contacted by phone or in person - PES technician could be contacted by phone - NGO staff contacted PES technician	- PES technician could be contacted by phone - Repeated complaints that assistant does not respond to community messages and requests

	on behalf of community if necessary	- Community members did not know whom to contact in the state governments
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To begin with, NGOs provided more monetary and material resources to their communities in comparison to state governments. As we can see, NGOs set the Matching Funds payment to an average of MX \$3,000 per hectare over five years, while state governments set the payment to an average of MX \$2,000 per hectare. In addition to providing a higher payment, NGOs also provided additional resources to help communities participate in the program and implement the conservation activities specified in their PES contracts. One NGO partially funded the purchase of a truck that community members used for transportation to their parcel. The two other NGOs paid for the gas when residents traveled to implement conservation activities on their enrolled land and when travelling to the CONAFOR regional office to sign the contract and submit paperwork. In all three cases, NGOs purchased tools and equipment for implementing activities, including uniforms for the fire brigades, machetes, fences, gloves, etc. In contrast, none of the three state governments helped cover the costs of transportation, tools, and equipment for implementing the PES activities.

NGOs also provided higher quality assistance to their communities. One of the three NGOs decided to provide the PES assistance, meaning that local communities did not have to hire a CONAFOR-certified technician to help them with paperwork and the implementation of activities specified in the contracts. Instead, the NGO took on that responsibility and assisted communities free of charge. In the two other cases, the NGOs initially let communities hire a PES technician. In both cases, NGO staff mentioned that after about one year communities reported that their technicians were not very reliable: they rarely visited communities, were difficult to reach by phone, and did not submit paperwork on time to CONAFOR (and as a result the payment to communities was delayed). In response, one NGO helped the communities fire the inadequate technician and used funds from the organization to hire a new staff member whose job it was to provide assistance to its communities. The other NGO also supported its communities in firing the assistant and then helped them find another CONAFOR-certified technician that was considered to be more reliable and had a good reputation in the region. The higher coordination and/or dedication of NGO staff in providing assistance to communities also resulted in fewer administrative delays when submitting paperwork and annual reports to

CONAFOR. As a result, communities did not experience delays in PES payments due to administrative complications. In contrast, in all three cases involving state governments, the PES payment to local communities was delayed due to the PES technicians' failure to submit documents on time. The assistance they received from the technician was limited to instructions on how to implement PES activities (if at all) and occasional verification that activities have been implemented correctly.

When local communities received assistance from an NGO or both an NGO and a PES technician, they received an average of 17 PES-related visits throughout the year. During these visits, NGOs (or NGOs in coordination with PES technicians) assisted residents with the implementation of conservation activities and the management of PES funds. In all three cases, NGO staff attended community assemblies to discuss activity implementation; gave instructions on how to implement PES activities; helped residents establish a work schedule, procedures for taking attendance, work rules, and penalties for failing to follow rules; and verified that activities have been implemented correctly. NGOs also required that communities reinvest their PES funds into a community project and helped residents manage the steps, which included

opening bank account; setting goals and a work schedule for implementing a community project using PES funds; and supplying or facilitating the purchase of equipment for the community project. While the requirement to reinvest PES funds in a community project does not work to the advantage of all communities (see Chapter 2), it nevertheless shows that NGOs are heavily involved and invested in local communities. In contrast, when communities participated in Matching Funds with the help of a state government, they received an average of 7 visits per year. Most of these visits were from the PES technicians, who generally traveled to the community only during a few months over the year, when conservation activities were being implemented by residents (and did not visit communities year-round like the NGOs did). In only one of the three cases, staff from the state government visited local communities once per year in order to touch base with community members as a formality. In the other two cases, it was reported that state government staff never visited the communities.

Finally, there was a difference in the accessibility of the local partners and PES technicians when comparing NGOs and state governments. Community members said that NGO staff was easy to contact by phone or by visiting the organization in-person visits always responded to the community's requests

with little delay. If community members had difficulties in reaching PES technicians, NGO staff followed up with them and put pressure on the technicians to respond to the community. Conversely, staff in state governments were difficult to reach, as none of the community members knew whom to contact at the state level should they have any questions or concerns. When PES technicians did not respond to community members in a timely manner, there was no one to put pressure on them and as a result in some cases months went by without contact between some communities and their PES technicians.

#### **4.5.2 Efforts to Establish PES Markets**

When it comes to establishing local PES markets, the performance of NGOs and state governments is reversed. While NGOs provided in-depth assistance to local communities, they have not been able to create the institutions necessary for PES to continue after Matching Funds contracts ended. On the other hand, state governments were not very invested in assisting local communities but they have shown a commitment to institutionalize PES locally. These findings are summarized in Table 7 below.

**Table 8: Comparison of Efforts to Establish PES markets by NGOs and State Governments**

<b>Efforts</b>	<b>NGOs</b>	<b>State governments</b>
<b>Changing laws or regulations</b>	- None	- PES integrated in states' official laws and documents
<b>Including PES in organization's mission</b>	- PES was not officially included in NGOs' mission - PES seemed to be an interchangeable source of government funding	- PES became a strategy in the state's overall mission to protect the environment
<b>Identifying a user</b>	- For two NGOs, no clear user identified; NGOs act as buyers using funds from donors, but these donor funds are not specific to PES - In one case, attempted to convince a municipality to be the PES user, but only manage to get a payment for the first two years	- State governments have self-identified as PES user and pay for environmental services with taxes from municipalities
<b>Durability of PES payment</b>	- Funds were unstable, NGOs scrambled to gather the PES funding each year - Average delay in PES payment is 13 months due to unstable funding from donors	- Five years' worth of PES funds put in a trust and cannot be touched - Average delay in PES payment is 6 months due to administrative delays caused by the PES technician
<b>What happened after Matching Funds contract ended</b>	- No plans to continue PES independently from CONAFOR - Continue assisting communities with projects funded by PES - Facilitate participation in other conservation and sustainable development projects	- Plans to continue PES independently from CONAFOR - May or may not continue relationship with provider communities

An important difference between the two types of local partners is that state governments have a clearly identified ecosystem service user with a stable funding source while most NGOs generally scramble every year to secure funding to cover the PES payment to communities. All three state governments had self-identified as ecosystem service users and the payment to communities

comes from part of the taxes collected from municipalities, a portion of which they have earmarked for PES. Payments to communities were released relatively on time every year and Matching Funds contracts were upheld even after changes in leadership occurred in the state government. This is because the total PES funds for five years were placed in a trust when the Matching Funds contracts were signed and these funds could not be withdrawn or used for another purpose.

In contrast, none of the three NGOs had self-identified as a PES user. One NGO managed to convince a municipality to pay for the hydrological services they were receiving thanks to the conservation efforts of local communities. But while the municipality signed a five-year contract, a change in leadership occurred after two years and the new mayor refused to continue paying. This left the NGO scrambling to find internal funds to pay communities and delayed the PES payment by two years. The other two NGOs had no plans to involve a user; instead, they saw Matching Funds as an opportunity to increase the resources transferred to local communities. They paid for PES using internal funding from their donors and these payments were often delayed by administrative complications with donor organizations, which in turn delayed the payments to

communities. When participating with an NGO, payments to communities were delayed an average of 13 months and the reason for the delay was the instability of payments from donors. In contrast, delays in payments to communities with state governments lasted 6 months on average and were mainly due to sloppiness or delays on the side of the PES technicians.

Another difference between the two types of local partners is that for state governments, PES became part of the state's overall mission to protect the environment. Laws and documents were modified to include PES in official plans to achieve environmental conservation and sustainable development. For example, in one state's 2015 legislation for environmental conservation, PES is listed as a strategy for combatting climate change. At the time of the study, the five-year Matching Funds contracts were about to end and all three state governments had made plans to continue PES on their own without funding from CONAFOR. Two states planned to continue providing payments to the communities that had participated in Matching Funds but also planned to expand and pay additional communities for their environmental services. One state government did not continue providing payments to the communities that participated in Matching Funds because new legislation had passed that made

those communities part of a protected area. However, state officials planned to target communities outside the protected area for participation in PES.

In contrast, for NGOs PES seems to be an interchangeable source of government funding. None of the three NGOs made PES part of their organization's mission for combatting climate change and/or assisting local communities. The NGOs did have a concrete vision and mission for achieving environmental conservation and economic development in rural communities, and most of their activities consisted of promoting environmental awareness and environmentally friendly economic activities with rural residents. To help communities economically, NGOs also encouraged them to apply to various government subsidies that supported environmental conservation and indigenous or rural development. The Matching Funds program was simply another government subsidy that represented an opportunity for NGOs to help community members earn extra income. PES also became a way to finance the various projects already promoted by NGOs, such as apiculture projects and environmental workshops. Creating local PES mechanisms was not part of the NGOs' plans, nor did they develop this goal after participating in Matching

Funds. After the five-year contracts ended, NGOs did not have any plans for continuing a PES mechanism.

Nevertheless, NGOs continued promoting environmental conservation and sustainable development with the communities that had participated in Matching Funds. NGO staff continued providing assistance with the community projects that were started using PES funds and also connected communities to other conservation projects led by governments or NGOs. While communities might not necessarily continue the PES activities that are believed to produce environmental services, with the help of NGOs they are likely to continue conserving their forest and to shift their economic dependence on environmentally-friendly activities. On the other hand, the communities that did not continue participating in Matching Funds with their state government had stopped doing the PES activities and they did not undertake any other conservation activity.

#### ***4.6 Discussion***

The discussion is divided into two sections. The first section analyzes CONAFOR's partnership with local organizations and discusses the implications for

PES led by central governments in general. The second discusses the study's results in the context of the literature on decentralization and partnerships.

#### **4.6.1 Making Local PES Durable through Partnerships**

Matching Funds aims to make PES durable beyond the five-year government contracts by partnering with local organizations to (1) increase the level of assistance and capacity building provided to communities selling ecosystem services, and (2) build the necessary institutions for the emergence of local PES markets. These two factors are likely to be common needs not only in Mexico but in most government-led PES initiatives, as they represent common reasons why a central government would have to step in and manage PES in the first place. However, CONAFOR's strategy to partner with local organizations has attracted partners that are able to fulfil only one of the two requirements for locally sustainable PES.

On one hand, there are organizations like NGOs, which have a close relationship with provider communities and influence the type of conservation that takes place on providers' land, but have a limited ability secure durable PES funding. In the Matching Funds program, NGOs seemed to establish a strong relationship with community members, providing material resources and a high level of assistance, which can improve communities' capacity to participate in PES and benefit from the program. However, these organizations do not necessarily have the power and influence to secure

long-term funding for a local PES mechanism. Due to their funding structure, they largely depend on outside donors to fund local PES schemes and do not have the power and authority to secure funds by pressuring the donors to pay or requiring that funds are placed in a trust upfront. At the same time, organizations such as NGOs are able to ensure that providers continue conserving their land in the future even if they do not continue participating in PES after their five-year contracts.

On the other hand, there are organizations like state governments, which are interested in becoming PES users, have the power to establish a secure source of PES funding, but have a weak relationship with local communities. In the Matching Funds case, all three state governments decided to continue PES on their own and modified laws and government documents in order to institutionalize PES. State governments, like many governments in general, are concerned with their image when it comes to environmental conservation and their relationship to poor and marginalized members of society such as rural communities. Thus, PES might be a way to maintain a positive image in the face of critics and activists. PES might also represent a genuine attempt by states to conserve the environment. In the Matching Funds case, all three states had long-term plans for environmental conservation and adding PES as a strategy for sustainable development might be a way to amplify their existing efforts. In this study, two states had ecosystems that attracted a large number of tourists, and it is

understandable that they might want to preserve their natural environment in order to keep generating tourism revenue. Representatives from the third state said that PES was a good strategy for preventing watershed degradation and preserving the city's water supply. While three cases are not enough to draw definitive conclusions, these findings suggest that, under the right conditions, local PES institutions can emerge as a result of a government-led program that is implemented in an area where PES did not previously exist.

#### **4.6.2 Local PES Markets: Decentralization vs. Shedding of Responsibility**

To understand why CONAFOR's attempt at encouraging the development of local PES markets was only partially successful, it is helpful to look at the decentralization scholarship. According to Larson and Ribot (2004), decentralization is "the transfer of power from the central government to actors and institutions at lower levels in a political-administrative and territorial hierarchy" (p. 3). At the same time, scholars distinguish between true decentralization and shedding of responsibility. While some central governments simply seek to transfer costs and responsibility onto local actors, true decentralization generally requires the central government to continue playing an active supportive role in natural resource management (Larson and Ribot, 2004; Ribot et al., 2004). Far from reducing the role of the central government,

decentralization is, in fact, meant to strengthen both local actors and the state (Larson and Ribot, 2004). For example, Andersson and Ostrom (2008) advocate for a polycentric natural resource governance model, where the local governance systems are supplemented by complementary governance efforts at larger scales. Therefore, decentralization of natural resource management schemes such as PES does not only involve a transfer of resources, decision-making power, and responsibility onto local actors. Rather, decentralization changes the role of the central government from being the main administrator of a program to playing a more supportive role.

The need for the government to play a supportive yet active role is echoed in the literature on public-private partnerships (PPPs)<sup>5</sup>. Brinkerhoff and Brinkerhoff (2012) define partnerships as “working arrangements based on a mutual commitment (over and above that implied in any contract)” and “shared dedication to achieve some kind of joint outcome” (p. 3). Therefore, the government cannot simply expect local actors to achieve its goals but must dedicate time and resources to plan, implement, and monitor progress jointly with the local partner (Rosenau, 1999).

When contrasting what scholars consider to be successful decentralization and successful partnerships with Mexico’s Matching Funds program, some areas of

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<sup>5</sup> While state governments are not private organizations, the PPP literature still applies to this study because it is useful for conceptualizing a partnership between the central government and a local organization.

improvement become apparent. First, the partnership literature suggests that program goals should be established by both parties together; not by the government alone. In the Matching Funds program goals were determined by CONAFOR, and are expected to be achieved by the local partners. Furthermore, it seems that CONAFOR transferred too many responsibilities onto local actors without the accompanying resources and central government support that would be needed to successfully meet the program's goals. By expecting local organizations to achieve both goals of increasing the assistance provided to local communities and to develop the necessary institutions for durable PES, CONAFOR is expecting too much from its local partners. As explained above, organizations usually have the capacity to perform one of these goals, but not both. When partnering with local organizations, the central government should play a more active role in providing the necessary resources and support for local organizations.

In sum, CONAFOR's desire to decentralize PES by making the program less dependent on the central government has created a partnership problem, where local partners are not able to achieve program goals alone. Far from being off the hook, the central government must continue to dedicate staff and resources to set more realistic program goals and capacitate local actors in achieving them. Ironically, this decentralization process might require that the central government play a greater, not smaller, role in PES.

## **4.7 Conclusion**

The Matching Funds program is an example of how a partnership between the central government and local actors can lead to the establishment of local PES institutions and capacity building that did not previously exist. However, government-led PES programs seeking to partner with organizations that are expected to implement PES mechanisms locally might only be able to attract organizations that are able to fulfil part of the necessary conditions. This suggests that governments attempting to decentralize PES should not over-rely on local organizations to fulfill all of the program goals but should step in to provide the necessary support.

In cases where local organizations are only able to partially fulfil program goals, government officials have two options. First, they could take on a bigger role to compensate for the organizations' limitations. For instance, if organizations are unable to secure a stable funding source due to limited power and influence, government officials could step in by attending meetings with their donors or sending reminders to donors reminding them of their commitment to PES. If organizations have a limited relationship with providers, government officials could send their own staff or hire consultants to undertake the necessary capacity building.

Second, if the local organizations have complementary strengths as is the case between state governments and NGOs in Matching Funds, government officials could

address their limitations by encouraging partnerships between complementary organizations. For example, state governments in the Matching Funds program could collaborate with NGOs to ensure that their communities receive adequate PES assistance and resources to participate in PES. In turn, NGOs collaborating with state governments that agree to be PES users could focus on assisting the community without relying on distant and non-committed PES buyers that can refuse to participate at any time. To facilitate collaboration among organizations, government officials could host workshops and seminars where members of organizations can interact, as well as disseminate best practices and examples of successful collaborations.

## Appendix A: Interview Instruments

### ENTREVISTA CON PROVEEDORES

Nombre:

Cargo:

#### *Información básica proveedores*

1. ¿Cuántas personas hay en el ejido? (ejidatarios, vecindados, familias)
2. ¿La mayoría de los ejidatarios son de la tercera edad?
3. ¿Cómo ganan su vida la gente en el ejido?
  - Aprovechamiento forestal (madera)
  - Otro aprovechamiento (plantas medicinales, frutos, animales)
  - Agricultura (para vender, de subsistencia)
  - Ganadería
  - Trabajo fuera del ejido (negocios, oficios, peones, otro)
4. Si están aprovechando: ¿Me puede platicar un poco sobre cómo se organizan para aprovechar el bosque? ¿Quién participa?
5. ¿Cuál es el nivel de educación de la mayoría de la gente en el ejido? (Primaria, secundaria, estudios superiores)

6. ¿A qué distancia queda el mercado más cercano dónde la gente va a vender o comprar cosas? ¿Cuánto tiempo en auto?

### *Organización y capital social proveedores*

#### *Comisariado*

7. ¿Qué tipo de decisiones o de actividades hace el comisariado?
8. ¿Las reglas son respetadas por la gente en el ejido?
9. ¿Cuántas veces tiene reuniones el comisariado?
10. En los últimos años, ¿hubo algún cambio en el cómo funciona el comisariado?
11. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

#### *Asambleas*

12. ¿Con qué frecuencia tienen asambleas?
13. ¿Hay mucha gente que atiende? ¿Cuantas personas más o menos?
14. ¿Hay mucha participación? ¿La gente se siente cómoda para hablar y decir su opinión?
15. En los últimos años, ¿hubo algún cambio en las asambleas? (frecuencia, asistencia, participación) ¿Por qué?

16. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

#### *Organización*

17. ¿El ejido tiene ordenamiento territorial? ¿Cómo fue este proceso?

18. ¿El ejido tiene algún tipo de programa de manejo forestal?

19. ¿El ejido está participando en otros programas o participó en otros programas en el pasado? ¿Cuáles? ¿Qué tuvieron que hacer?

20. En los últimos años, ¿hubo algún cambio en la organización del ejido?

21. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

#### *Capital social y acción colectiva*

22. ¿Los ejidatarios son muy unidos? ¿Me puede dar un ejemplo?

23. ¿Hay mucho trabajo en grupo en el ejido?

24. ¿Hay algunos comités u organizaciones en el ejido? En su opinión, ¿funcionan bien?

25. ¿Los ejidatarios tienen tequio/faina? ¿Cuántas veces hay tequio? ¿Qué hacen en el tequio?

26. ¿Hace 5 años, la situación era igual? (unidad, trabajo grupo, comités, tequios, conflictos)
27. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Fondos Concurrentes y PSA*

28. ¿Cuándo empezaron a participar en FC/PSA?
29. ¿Antes de entrar al FC/PSA, qué uso le daban al predio?
30. ¿Qué actividades están haciendo para FC/PSA?
31. ¿Me pueden platicar un poco sobre como fue el proceso de hacer el PMPM/GMPM? ¿Cómo decidieron qué actividades incluir en el PMPM/GMPM? ¿Quién les ayudó?
32. ¿Qué hacen con el pago de FC/PSA? ¿Los pagos llegan a tiempo?
33. ¿Antes de entrar al FC/PSA, ya hacían algunas actividades o proyectos que ahora están en el PMPM/GMPM? ¿Hacían otras actividades para manejo de bosque o conservación? ¿Cómo se organizaban para hacer estas actividades?
34. ¿Cómo se están organizando para hacer las actividades (y/o los proyectos)? ¿Quién participa?
35. ¿Tuvieron que crear nuevas reglas para especificar quién hace trabajo, cuando, y cómo?

36. ¿Estas reglas son respetadas por los demás? ¿Hay sanciones para cuando no se cumple con las reglas de trabajo?
37. ¿Desde que empezaron a participar en el programa FC, se creó un comité encargado de supervisar las actividades del programa? (Comité de vigilancia, cuerpo de bomberos, comité de saneamiento, etc.)

### *Efectos del programa*

38. ¿Cree que el Programa FC/PSA ha traído algún beneficio al ejido?
- Mayores ingresos
  - Proyectos productivos
  - Más conocimientos sobre su bosque o el medio ambiente
  - Los ejidatarios ven a su bosque como algo que tiene valor
  - Mayor organización
  - Conocieron a más gente u organizaciones externas
39. ¿De qué manera? ¿Cuál era su ingreso antes? ¿Cómo veían a su bosque antes?/¿Cómo eran organizados antes?/¿A quién conocían antes?

### *Seguimiento*

40. ¿Cuántas personas u organizaciones externas les dan asistencia técnica o seguimiento en la implementación de proyectos en el ejido? ¿Cuáles son?

41. ¿Quién les ayudo para aplicar al programa FC/PSA? ¿Cómo les ayudó?
42. ¿Quién les da seguimiento ahorita para las actividades o los proyectos de FC/PSA? ¿Cómo les está ayudando? (visitas, ayuda para hacer las actividades, para manejar los pagos)
43. ¿Cuántas veces les visitan [actores mencionados arriba]?
44. ¿Hace cuánto tiempo que están trabajando con [actores mencionados arriba]?
45. Con [actores mencionados arriba] ¿Se siente cómodo decirle si algo no está bien o hablarle si tiene alguna duda?
46. En su opinión, ¿cómo se podría mejorar el seguimiento que reciben por la parte de [actores mencionados arriba]?
47. Desde qué han empezado participar en FC/PSA, ¿la relación entre el ejido y [actores mencionados arriba] ha mejorado, empeorado, o quedó igual?

### *Preguntas finales*

48. Usted tiene alguna opinión sobre cómo se podría mejorar el programa FC/PSA? ¿qué les diría?
49. Si usted u otros ejidatarios tienen alguna duda o queja sobre el programa FC, ¿con quién se pueden comunicar? ¿Han intentado comunicarse con el socio/la CONAFOR/el asesor técnico alguna vez para dudas o quejas?
50. ¿El programa FC causó algunos conflictos en el ejido? ¿Con quién?
- Entre los ejidatarios

- Con los vecinos
- Con las contrapartes, el asesor, o la CONAFOR

51. Yo he terminado con la entrevista. ¿Hay otra cosa que le gustaría decirme? O ¿hay cosas que le gustaría preguntarme a mí?

## ENTREVISTA CON SOCIO

Nombre:

Cargo:

Desde cuando está trabajando con [nombre de la organización]:

En qué proyectos está involucrado en los ejidos:

Desde cuando conoce a los ejidos:

### *Información sobre el socio*

1. ¿Me puede platicar un poco sobre que hace [nombre de la organización]?
2. ¿Cuándo y cómo se formó [nombre de la organización]?
3. ¿Cuánto personal tiene su organización?
4. ¿Qué tipo de proyectos se hacen con los ejidos y/o comunidades?
5. ¿Cuánta veces por semana o por mes hay personal de su organización que visita a los ejidos o comunidades?

### *El socio en FC y PSA*

6. ¿Por qué decidió [nombre de la organización] de participar en FC?
7. ¿Quién inició el proceso?
8. ¿Cuántas organizaciones o grupos están involucrados en el FC?
9. ¿Se han creado algunos comités, instituciones, o grupos para manejar el FC? ¿Se han creado algunos grupos locales para manejar el FC?
10. ¿Se hace verificaciones en los ejidos? ¿Se hace algún tipo de monitoreo?
11. ¿De dónde viene el financiamiento para el programa FC?
12. Si hay usuario: Los pagos llegan a tiempo? ¿Es posible que el usuario decida no pagar? ¿Han hecho contratos aparte del FC con el usuario? ¿Tienen un mecanismo de recaudación?
13. ¿Qué cree que va a pasar cuando se terminen los contratos FC?

### *Ejidos o comunidades en FC y PSA*

14. ¿Qué ejidos o comunidades participan en FC? ¿Desde cuándo?
15. ¿Los proveedores tienen que cumplir con algunas condiciones de [nombre de la organización] para poder participar en FC? ¿[nombre de la organización] ha firmado contratos aparte con los proveedores?

16. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con [nombre de la organización]? ¿Desde cuándo?
17. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?
18. ¿El programa FC tuvo el mismo efecto en todos los ejidos y comunidades?  
(actividades, proyectos, conflictos)
19. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?
20. ¿Es difícil participar en FC? ¿Los beneficiarios tuvieron que mejorar su organización para poder cumplir con el programa?
21. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

Si es aplicable:

22. ¿Qué ejidos o comunidades participan en PSA Nacional? ¿Desde cuándo?
23. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?
24. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con [nombre de la organización]? ¿Desde cuándo?
25. ¿El programa PSA tuvo el mismo efecto en todos los ejidos y comunidades?
26. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?

27. ¿Es difícil participar en PSA? ¿Los beneficiarios tuvieron que desarrollar algunos comités, reglas, normas para poder cumplir con el programa?
28. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

### *Seguimiento FC y PSA*

29. ¿[nombre de la organización] tiene personal que se encarga de dar seguimiento a ejidos o comunidades que participan en FC? ¿En PSA?
30. ¿Con qué frecuencia hacen visitas a los beneficiarios de FC? ¿A los beneficiarios de PSA?
31. ¿Hay asesores técnicos que dan seguimiento a los beneficiarios en FC y PSA?
32. ¿Quiénes son y para qué ejidos o comunidades?
33. ¿[nombre de la organización] se coordina con los asesores técnicos para dar seguimiento a los beneficiarios en FC? ¿A los beneficiarios en PSA?
34. ¿Con qué frecuencia visitan los técnicos a los beneficiarios FC? ¿A los beneficiarios de PSA?
35. ¿Si los beneficiarios tienen algunas dudas o quejas con la asesoría técnica o con otra cosa del programa FC o PSA con quién pueden hablar?
36. ¿Usted tiene alguna opinión sobre cómo se pudiera mejorar el programa FC?
37. ¿Usted tiene alguna opinión sobre cómo se pudiera mejorar el programa PSA?
38. ¿Usted tiene alguna opinión sobre cómo se pudiera mejorar la asistencia técnica?

## PREGUNTAS ESPECÍFICAS SOBRE PROVEEDORES

Explicar mi selección de casos: Ejido en FC con más alta organización, ejido en FC con más baja organización, si esos ejidos tienen vecinos en PSA o si se pueden comparar

### *Información sobre cada ejido o comunidad*

52. ¿Cuántas personas hay en el ejido? (ejidatarios, vecindados, familias)
53. ¿La mayoría de los ejidatarios son de la tercera edad?
54. ¿Cómo ganan su vida la gente en el ejido?
  - Aprovechamiento forestal (madera)
  - Otro aprovechamiento (plantas medicinales, frutos, animales)
  - Agricultura (para vender, de subsistencia)
  - Ganadería
  - Trabajo fuera del ejido (negocios, oficios, peones, otro)
55. Si están aprovechando: ¿Me puede platicar un poco sobre cómo se organizan para aprovechar el bosque? ¿Quién participa?
56. ¿Cuál es el nivel de educación de la mayoría de la gente en el ejido? (Primaria, secundaria, estudios superiores)

57. ¿A qué distancia queda el mercado más cercano dónde la gente va a vender o comprar cosas? ¿Cuánto tiempo en auto?

### *Comisariado*

58. ¿Cuántas veces tiene reuniones el comisariado?

59. ¿El comisariado tiene mucho apoyo de la parte de los ejidatarios?

60. En los últimos años, ¿hubo algún cambio en el cómo funciona el comisariado?  
(respeto reglas, reuniones, apoyo)

61. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Asambleas*

62. ¿Con qué frecuencia tienen asambleas?

63. ¿Hay mucha gente que atiende? ¿Cuantas personas más o menos?

64. ¿Hay mucha participación? ¿La gente se siente cómoda para hablar y decir su opinión?

65. En los últimos años, ¿hubo algún cambio en las asambleas? (frecuencia, asistencia, participación) ¿Por qué?

66. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Organización*

67. En su opinión, ¿el ejido tiene buen nivel de organización? ¿Por qué? ¿Me puede dar un ejemplo?
68. ¿El ejido tiene ordenamiento territorial? ¿Cómo fue este proceso?
69. ¿El ejido tiene algún tipo de programa de manejo forestal?
70. ¿El ejido está participando en otros programas o participó en otros programas en el pasado? ¿Cuáles? ¿Qué tuvieron que hacer?
71. En los últimos años, ¿hubo algún cambio en la organización del ejido?
72. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Capital social y acción colectiva*

73. ¿Los ejidatarios son muy unidos? ¿Me puede dar un ejemplo?
74. ¿Hay mucho trabajo en grupo en el ejido?
75. ¿Hay algunos comités u organizaciones en el ejido? En su opinión, ¿funcionan bien?
76. ¿Los ejidatarios tienen tequio/faina? ¿Cuántas veces hay tequio? ¿Qué hacen en el tequio?
77. ¿Hay algunos conflictos en el ejido?

78. ¿Hace \_\_\_\_\_ años, la situación era igual? (unidad, trabajo grupo, comités, tequios, conflictos)
79. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Fondos Concurrentes*

80. ¿Antes de entrar al FC/PSA, qué uso le daban al predio?
81. ¿Qué actividades están haciendo para FC?
82. ¿Me pueden platicar un poco sobre como fue el proceso de hacer el PMPM/GMPM? ¿Cómo decidieron qué actividades incluir en el PMPM? ¿Quién les ayudó?
83. ¿Qué hacen con el pago de FC/PSA? ¿Los pagos llegan a tiempo?
84. ¿Quién les está ayudando a hacer las actividades y los proyectos?
85. ¿Antes de entrar al FC, ya hacían algunas actividades o proyectos que ahora están en el PMPM/GMPM? ¿Hacían otras actividades para manejo de bosque o conservación? ¿Cómo se organizaban para hacer estas actividades?
86. ¿Cómo se están organizando para hacer las actividades (y/o los proyectos)?  
¿Quién participa?
87. ¿Tuvieron que crear nuevas reglas para especificar quién hace trabajo, cuando, y cómo?

88. ¿Estas reglas son respetadas por los demás? ¿Hay sanciones para cuando no se cumple con las reglas de trabajo?

89. ¿Desde que empezaron a participar en el programa FC, se creó un comité encargado de supervisar las actividades del programa? (Comité de vigilancia, cuerpo de bomberos, comité de saneamiento, etc.)

### *Efectos del programa*

90. ¿El programa FC/PSA causó algunos conflictos en el ejido? ¿Con quién?

- Entre los ejidatarios
- Con los vecinos
- Con las contrapartes, el asesor, o la CONAFOR

91. ¿Cree que el Programa FC ha traído algún beneficio al ejido?

- Mayores ingresos
- Proyectos productivos
- Más conocimientos sobre su bosque o el medio ambiente
- Los ejidatarios ven a su bosque como algo que tiene valor
- Mayor organización
- Conocieron a más gente u organizaciones externas

92. ¿De qué manera? ¿Cuál era su ingreso antes? ¿Cómo veían a su bosque antes?/¿Cómo eran organizados antes?/¿A quién conocían antes?

*Preguntas finales*

93. Yo he terminado con la entrevista. ¿Hay otra cosa que le gustaría decirme? O ¿hay cosas que le gustaría preguntarme a mí?

**ENTREVISTA CON LAS GERENCIAS ESTATALES DE CONAFOR**

Nombre:

Cargo:

Desde cuándo trabaja en la gerencia estatal:

*Información general sobre FC y PSA*

1. ¿Me puede platicar un poco sobre cómo es el proceso para participar en FC? En PSA?
  - a. ¿La gerencia estatal hace alguna promoción del programa con los beneficiarios?
  - b. ¿Se dan algunos talleres sobre cómo funciona el programa? ¿Quién atiende?
  - c. ¿Cuáles son los requisitos del programa FC? ¿Del PSA?
  - d. ¿Cómo se evalúa a los proveedores? ¿Me podría llevar una copia de las evaluaciones de \_\_\_\_\_ (nombre de los ejidos o comunidades)?
  - e. ¿Se hacen algunas visitas a los beneficiarios por cualquier otro motivo?

- f. ¿Cómo se hace el pago? ¿El pago llega a tiempo?
2. ¿El FC y el PSA tienen objetivos diferentes?
3. ¿Cuántas personas se encargan del programa FC? ¿De PSA?

#### *Ejidos y comunidades en FC y PSA*

4. ¿Qué ejidos o comunidades participan en FC? ¿Desde cuándo?
5. ¿Los proveedores tienen que cumplir con algunas condiciones del socio para poder participar en FC?
6. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con la CONAFOR u otras organizaciones? ¿Desde cuándo?
7. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?
8. ¿El programa FC tuvo el mismo efecto en todos los ejidos y comunidades? (actividades, proyectos, conflictos)
9. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?
10. ¿Es difícil participar en FC? ¿Los beneficiarios tuvieron que mejorar su organización para poder cumplir con el programa?
11. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

12. ¿En su opinión, el FC ha traído algunos beneficios a los proveedores?

13. ¿Ha causado algunos conflictos?

PSA Nacional:

14. ¿Qué ejidos o comunidades participan en PSA Nacional? ¿Desde cuándo?

15. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?

16. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con la CONAFOR u otras organizaciones? ¿Desde cuándo?

17. ¿El programa PSA tuvo el mismo efecto en todos los ejidos y comunidades?

18. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?

19. ¿Es difícil participar en PSA? ¿Los beneficiarios tuvieron que desarrollar algunos comités, reglas, normas para poder cumplir con el programa?

20. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

21. ¿En su opinión, el PSA ha traído algunos beneficios a los proveedores?

22. ¿Ha causado algunos conflictos?

*Asesores técnicos*

23. ¿Me puede platicar un poco sobre cómo funciona la asistencia técnica?
- a. ¿Hay unos técnicos que dan mejor seguimiento que otros? ¿Por qué?
  - b. ¿En promedio, cuantos proyectos tiene cada técnico? ¿Cuál es el mayor número que puede tener un técnico? ¿Cada técnico tiene su región?
  - c. ¿El seguimiento que se le da para FC es más complicado que para PSA?
  - d. Si un técnico no cumple con su seguimiento o no hace buen trabajo, ¿qué pasa? ¿Se le sanciona? ¿Cómo?
  - e. ¿En su opinión, hay muchos casos de beneficiarios que no están felices con su técnico?
  - f. ¿Esos beneficiarios pueden cambiar de técnico? ¿Es un proceso difícil? ¿Lo hacen, o suelen quedarse con el mismo técnico? ¿Por qué?
  - g. ¿Los beneficiarios pueden comunicarse con la CONAFOR para dudas o quejas? ¿Cómo funciona este proceso? ¿Los beneficiarios que no están felices con su técnico se quejan o suelen no decir nada? ¿Por qué?
  - h. ¿Hay encuestas donde los beneficiarios pueden evaluar a sus técnicos? ¿En su opinión, es una evaluación honesta? ¿Podría mirar a las evaluaciones?
24. ¿Hay técnicos comunitarios? ¿Cómo funciona ese sistema?
25. EN su opinión, ¿la asistencia técnica es mejor en FC o en PSA? ¿Por qué?

## PREGUNTAS ESPECÍFICAS SOBRE PROVEEDORES

### *Información sobre cada ejido o comunidad*

94. ¿Cuántas personas hay en el ejido? (ejidatarios, vecindados, familias)
95. ¿La mayoría de los ejidatarios son de la tercera edad?
96. ¿Cómo ganan su vida la gente en el ejido?
- Aprovechamiento forestal (madera)
  - Otro aprovechamiento (plantas medicinales, frutos, animales)
  - Agricultura (para vender, de subsistencia)
  - Ganadería
  - Trabajo fuera del ejido (negocios, oficios, peones, otro)
97. Si están aprovechando: ¿Me puede platicar un poco sobre cómo se organizan para aprovechar el bosque? ¿Quién participa?
98. ¿Cuál es el nivel de educación de la mayoría de la gente en el ejido? (Primaria, secundaria, estudios superiores)
99. ¿A qué distancia queda el mercado más cercano dónde la gente va a vender o comprar cosas? ¿Cuánto tiempo en auto?

### *Comisariado*

100. ¿El comisariado tiene mucho apoyo de la parte de los ejidatarios?

101. En los últimos años, ¿hubo algún cambio en el cómo funciona el comisariado? (respeto reglas, reuniones, apoyo)
102. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Asambleas*

103. ¿Con qué frecuencia tienen asambleas?
104. ¿Hay mucha gente que atiende? ¿Cuántas personas más o menos?
105. ¿Hay mucha participación? ¿La gente se siente cómoda para hablar y decir su opinión?
106. En los últimos años, ¿hubo algún cambio en las asambleas? (frecuencia, asistencia, participación) ¿Por qué?
107. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Organización*

108. En su opinión, ¿el ejido tiene buen nivel de organización? ¿Por qué? ¿Me puede dar un ejemplo?
109. ¿El ejido tiene ordenamiento territorial? ¿Cómo fue este proceso?

110. ¿El ejido tiene algún tipo de programa de manejo forestal?
111. ¿El ejido está participando en otros programas o participó en otros programas en el pasado? ¿Cuáles? ¿Qué tuvieron que hacer?
112. En los últimos años, ¿hubo algún cambio en la organización del ejido?
113. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

*Capital social y acción colectiva*

114. ¿Los ejidatarios son muy unidos? ¿Me puede dar un ejemplo?
115. ¿Hay mucho trabajo en grupo en el ejido?
116. ¿Hay algunos comités u organizaciones en el ejido? En su opinión, ¿funcionan bien?
117. ¿Los ejidatarios tienen tequio/faina? ¿Cuántas veces hay tequio? ¿Qué hacen en el tequio?
118. ¿Hay algunos conflictos en el ejido?
119. ¿Hace 5 años, la situación era igual? (unidad, trabajo grupo, comités, tequios, conflictos)
120. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Fondos Concurrentes*

121. ¿Antes de entrar al FC/PSA, qué uso le daban al predio?
122. ¿Qué actividades están haciendo para FC?
123. ¿Me pueden platicar un poco sobre como fue el proceso de hacer el PMPM/GMPM? ¿Cómo decidieron qué actividades incluir en el PMPM? ¿Quién les ayudó?
124. ¿Qué hacen con el pago de FC/PSA? ¿Los pagos llegan a tiempo?
125. ¿Quién les está ayudando a hacer las actividades y los proyectos?
126. ¿Antes de entrar al FC, ya hacían algunas actividades o proyectos que ahora están en el PMPM/GMPM? ¿Hacían otras actividades para manejo de bosque o conservación? ¿Cómo se organizaban para hacer estas actividades?
127. ¿Cómo se están organizando para hacer las actividades (y/o los proyectos)? ¿Quién participa?
128. ¿Tuvieron que crear nuevas reglas para especificar quién hace trabajo, cuando, y cómo?
129. ¿Estas reglas son respetadas por los demás? ¿Hay sanciones para cuando no se cumple con las reglas de trabajo?

130. ¿Desde que empezaron a participar en el programa FC, se creó un comité encargado de supervisar las actividades del programa? (Comité de vigilancia, cuerpo de bomberos, comité de saneamiento, etc.)

*Efectos del programa*

131. ¿El programa FC/PSA causó algunos conflictos en el ejido? ¿Con quién?

- Entre los ejidatarios
- Con los vecinos
- Con las contrapartes, el asesor, o la CONAFOR

132. ¿Cree que el Programa FC ha traído algún beneficio al ejido?

- Mayores ingresos
- Proyectos productivos
- Más conocimientos sobre su bosque o el medio ambiente
- Los ejidatarios ven a su bosque como algo que tiene valor
- Mayor organización
- Conocieron a más gente u organizaciones externas

133. ¿De qué manera? ¿Cuál era su ingreso antes? ¿Cómo veían a su bosque antes?/¿Cómo eran organizados antes?/¿A quién conocían antes?

*Preguntas finales*

134. En su opinión, ¿Cómo se podría mejorar el programa FC? ¿El PSA?
135. En su opinión, ¿Cómo se podría mejorar la asesoría técnica?
136. Yo he terminado con la entrevista. ¿Hay otra cosa que le gustaría decirme? O ¿hay cosas que le gustaría preguntarme a mí?

**ENTREVISTA CON ASESOR TECNICO**

Nombre:

Desde está trabajando en los ejidos o comunidades:

Desde cuando conoce a los ejidos o comunidades:

Desde cuando conoce al socio:

*Información sobre asesoría técnica en general*

1. ¿Por qué decidió usted ser asesor técnico?
2. ¿Da seguimiento solamente para Servicios Ambientales o para otros programas también?
3. ¿A cuántos ejidos o comunidades está dando seguimiento?
4. ¿Me puede platicar un poco sobre cómo fue el proceso para obtener su certificación?

5. ¿Usted conocía a los beneficiarios de FC/PSA antes de ser asesor técnico?

*Ejidos o comunidades en FC y PSA*

6. ¿A qué ejidos o comunidades está dando seguimiento para FC? ¿Desde cuándo?

7. ¿Qué seguimiento da usted a los ejidos o comunidades que participan en FC?

8. PMPM/GMPM

9. Hacer las actividades

10. Proyectos productivos

11. Mejorar organización

12. Talleres

13. Otro

14. ¿Cuántas veces visita a los ejidos en FC?

15. ¿Cómo se enterraron los ejidos o comunidades del programa FC?

16. Para el seguimiento que se les da a los beneficiarios FC ¿tiene que coordinarse con [nombre del socio]? ¿De qué manera?

17. ¿Los beneficiarios tienen que cumplir con algunas condiciones de [nombre de la organización] para poder participar en FC? ¿[nombre de la organización] ha firmado contratos aparte con los proveedores?

18. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con [nombre de la organización]? ¿Desde cuándo?

19. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?
20. ¿El programa FC tuvo el mismo efecto en todos los ejidos y comunidades?  
(actividades, proyectos, conflictos)
21. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?
22. ¿Es difícil participar en FC? ¿Los beneficiarios tuvieron que mejorar su organización para poder cumplir con el programa?
23. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

Si es aplicable:

24. ¿A qué ejidos o comunidades está dando seguimiento para FC? ¿Desde cuándo?
25. ¿Qué seguimiento da usted a los ejidos o comunidades que participan en FC?
  - a. PMPM/GMPM
  - b. Hacer las actividades
  - c. Proyectos productivos
  - d. Mejorar organización
  - e. Talleres
  - f. Otro
26. ¿Cuántas veces visita a los ejidos en FC?
27. ¿Cómo se enterraron los ejidos o comunidades del programa FC?

28. Para el seguimiento que se les da a los beneficiarios FC ¿tiene que coordinarse con [nombre del socio]? ¿De qué manera?
29. ¿Los beneficiarios tienen que cumplir con algunas condiciones de [nombre de la organización] para poder participar en FC? ¿[nombre de la organización] ha firmado contratos aparte con los proveedores?
30. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con [nombre de la organización]? ¿Desde cuándo?
31. ¿Qué ejidos o comunidades participan en PSA Nacional? ¿Desde cuándo?
32. ¿Cómo se decidió quién puede participar en FC? ¿Hay ejidos o comunidades que quisieron participar pero no se pudo?
33. ¿Estos ejidos o comunidades participaron o están participando en otros proyectos con [nombre de la organización]? ¿Desde cuándo?
34. ¿El programa PSA tuvo el mismo efecto en todos los ejidos y comunidades?
35. ¿Hay ejidos o comunidades que participaron al principio pero luego cancelaron?
36. ¿Es difícil participar en PSA? ¿Los beneficiarios tuvieron que desarrollar algunos comités, reglas, normas para poder cumplir con el programa?
37. ¿Para qué ejido o comunidad fue más fácil participar? ¿Para quién fue lo más difícil?

## *PREGUNTAS ESPECÍFICAS SOBRE PROVEEDORES*

### *Información sobre cada ejido o comunidad*

38. ¿Cuántas personas hay en el ejido? (ejidatarios, vecindados, familias)
39. ¿La mayoría de los ejidatarios son de la tercera edad?
40. ¿Cómo ganan su vida la gente en el ejido?
  - a. Aprovechamiento forestal (madera)
  - b. Otro aprovechamiento (plantas medicinales, frutos, animales)
  - c. Agricultura (para vender, de subsistencia)
  - d. Ganadería
  - e. Trabajo fuera del ejido (negocios, oficios, peones, otro)
41. Si están aprovechando: ¿Me puede platicar un poco sobre cómo se organizan para aprovechar el bosque? ¿Quién participa?
42. ¿Cuál es el nivel de educación de la mayoría de la gente en el ejido? (Primaria, secundaria, estudios superiores)
43. ¿A qué distancia queda el mercado más cercano dónde la gente va a vender o comprar cosas? ¿Cuánto tiempo en auto?

### *Comisariado*

44. ¿Cuántas veces tiene reuniones el comisariado?
45. ¿El comisariado tiene mucho apoyo de la parte de los ejidatarios?

46. En los últimos años, ¿hubo algún cambio en el cómo funciona el comisariado?

(respeto reglas, reuniones, apoyo)

47. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Asambleas*

48. ¿Con qué frecuencia tienen asambleas?

49. ¿Hay mucha gente que atiende? ¿Cuantas personas más o menos?

50. ¿Hay mucha participación? ¿La gente se siente cómoda para hablar y decir su opinión?

51. En los últimos años, ¿hubo algún cambio en las asambleas? (frecuencia, asistencia, participación) ¿Por qué?

52. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Organización*

53. En su opinión, ¿el ejido tiene buen nivel de organización? ¿Por qué? ¿Me puede dar un ejemplo?

54. ¿El ejido tiene ordenamiento territorial? ¿Cómo fue este proceso?

55. ¿El ejido tiene algún tipo de programa de manejo forestal?

56. ¿El ejido está participando en otros programas o participó en otros programas en el pasado? ¿Cuáles? ¿Qué tuvieron que hacer?
57. En los últimos años, ¿hubo algún cambio en la organización del ejido?
58. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Capital social y acción colectiva*

59. ¿Los ejidatarios son muy unidos? ¿Me puede dar un ejemplo?
60. ¿Hay mucho trabajo en grupo en el ejido?
61. ¿Hay algunos comités u organizaciones en el ejido? En su opinión, ¿funcionan bien?
62. ¿Los ejidatarios tienen tequio/faina? ¿Cuantas veces hay tequio? ¿Qué hacen en el tequio?
63. ¿Hay algunos conflictos en el ejido?
64. ¿Hace 5 años, la situación era igual? (unidad, trabajo grupo, comités, tequios, conflictos)
65. Si hubo cambio: ¿De qué manera? ¿Me puede dar un ejemplo? ¿Cuál fue la razón por el cambio?

### *Fondos Concurrentes*

66. ¿Antes de entrar al FC/PSA, qué uso le daban al predio?
67. ¿Qué actividades están haciendo para FC?
68. ¿Me pueden platicar un poco sobre como fue el proceso de hacer el PMPM/GMPM? ¿Cómo decidieron qué actividades incluir en el PMPM? ¿Quién les ayudó?
69. ¿Qué hacen con el pago de FC/PSA? ¿Los pagos llegan a tiempo?
70. ¿Quién les está ayudando a hacer las actividades y los proyectos?
71. ¿Antes de entrar al FC, ya hacían algunas actividades o proyectos que ahora están en el PMPM/GMPM? ¿Hacían otras actividades para manejo de bosque o conservación? ¿Cómo se organizaban para hacer estas actividades?
72. ¿Cómo se están organizando para hacer las actividades (y/o los proyectos)? ¿Quién participa?
73. ¿Tuvieron que crear nuevas reglas para especificar quién hace trabajo, cuando, y cómo?
74. ¿Estas reglas son respetadas por los demás? ¿Hay sanciones para cuando no se cumple con las reglas de trabajo?
75. ¿Desde que empezaron a participar en el programa FC, se creó un comité encargado de supervisar las actividades del programa? (Comité de vigilancia, cuerpo de bomberos, comité de saneamiento, etc.)

### *Efectos del programa*

76. ¿El programa FC/PSA causó algunos conflictos en el ejido? ¿Con quién?
77. Entre los ejidatarios
78. Con los vecinos
79. Con las contrapartes, el asesor, o la CONAFOR
80. ¿Cree que el Programa FC ha traído algún beneficio al ejido?
81. Mayores ingresos
82. Proyectos productivos
83. Más conocimientos sobre su bosque o el medio ambiente
84. Los ejidatarios ven a su bosque como algo que tiene valor
85. Mayor organización
86. Conocieron a más gente u organizaciones externas
87. ¿De qué manera? ¿Cuál era su ingreso antes? ¿Cómo veían a su bosque antes?/¿Cómo eran organizados antes?/¿A quién conocían antes?

***Preguntas finales***

88. ¿Usted tiene alguna opinión sobre cómo se pudiera mejorar el programa FC?
89. ¿Usted tiene alguna opinión sobre cómo la se pudiera mejorar el programa PSA?
90. Yo he terminado con la entrevista. ¿Hay otra cosa que le gustaría decirme? O ¿hay cosas que le gustaría preguntarme a mí?

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## **Biography**

Ruxandra Popovici was born in Bucharest, Romania and grew up in Ottawa, Canada. She has a BA in International Development from the University of Ottawa and a MA in Human Geography from Carleton University.