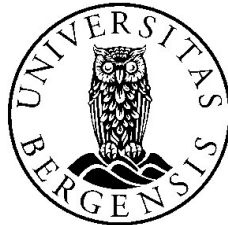


The impact of REDD+ on environmental governance and deforestation

A comparative case study of Peru and two
subnational units

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Abstract

Peru adopted a “nested approach” to REDD+ in 2008. The nested approach can teach us a lot about environmental governance and deforestation, because Peru develops REDD+ the on local, regional and national level. The international REDD+ society regard the national approach as more effective for reducing deforestation because it can build capacity and promote policies on the national level. On the other hand, scholars of community-based natural resource management (CBNRM) argue that decentralization and community management are key for managing natural resources. In this thesis I examine the research question: “*How does climate aid through REDD+ affect existing environmental governance and deforestation in Peru?*”. In a before-after study of REDD+ in Peru, I examine the effect of REDD+ on Peru and the regions San Martin and Loreto. Fieldwork and interviews have been fruitful for collecting data, and first-hand information from Peru gives me in depth knowledge on how REDD+ affects environmental governance and deforestation in Peru.

Institutional stability is key for managing natural resources, but developing countries face many institutional, economic and social challenges against establishing successful environmental governance. I discuss the obstacles and opportunities REDD+ has for advancing environmental governance in Peru. In addition, my theoretical framework is based on the idea that community-based natural resource management (CBNRM) is preferable for keeping deforestation low, and community ownership through titling of indigenous communities is crucial for achieving this in Peru.

I find that REDD+ has contributed with increased concern and funding towards environmental issues in Peru. REDD+ has promoted titling of indigenous communities, and my findings indicate that titled indigenous communities in Peru have low deforestation compared to other areas. Nonetheless, CBNRM does not hold for San Martin, where some indigenous people deforest a lot, in the context of much migration, illegal activities and infrastructure. The findings regarding deforestation in Loreto are inconsistent, and different methodologies for measuring deforestation result in different deforestation rates. Nevertheless, indigenous communities in Loreto generally have low deforestation rates, in line with CBNRM. REDD+ needs to improve horizontal linkages outside the Ministry of the Environment and solve conflict over land in order to hinder deforestation in the future.

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Abbreviations:

AIDSESP – Interethnic Association for the Development of the Peruvian Rainforest

ARA – Regional Environmental Authority

ANP – National Protected Area

ACR – Regional Conservation Area

BPAM – Alto Mayo Production Forest

BPP – Permanent Production Forest

CBNRM – Community-based natural resource management

CI – Conservation International

CIMA – Centre for Conservation, Investigation and Management of Natural Areas

COICA – Coordination of Indigenous Organizations of the Amazon Basin

DAR – Derechos, Ambiente y Recursos Naturales

DCI – Declaration of Intent (between Norway, Peru and Germany)

ENBCC – National Strategy of Forests and Climate Change

GORES – Regional Government of San Martin

GOREL – Regional Government of Loreto

IBC – Instituto Del bien Común

MINAM – Ministry of the Environment

MINAGRI – Ministry of Agriculture

MEF – Ministry of Economy and Finance

MINEM – Ministry of Energy and Mines

ORPIO – Organización Regional de los Pueblos Indígenas del Oriente

PNCA – Cordillera Azul Nacional Park

REDD+ - Reducing Emissions from Deforestation and Degradation

SERNANP – National Service of Natural Protected Areas

SERFOR – National Forest Service and Wildlife

SLRC - Sustainable Carbon Resourced Limited

TDC – Conditional Cash Transfers

UNFCCC – United Nations Framework Convention on Climate Change

ZF – Forestry zoning

ZEE – Ecological and Economic Zoning

1.0 Introduction

1.1 Setting the stage

Forests play a crucial role for both human welfare and ecosystems all over the world. The last decades, deforestation has increasingly been regarded as a political problem and receives international attention (Olesen et al. 2018, 59; Humphreys 2013, 72-74). 25% of the global population rely on forests for their livelihoods, and deforestation and degradation account for more or less 12% of the global greenhouse gas emissions (Norman and Nakhlooda 2014). The resources in the forest are under pressure from many actors, such as indigenous peoples who want to protect their land, states with conflicting interests, private companies wanting to maximize profit and NGOs trying to protect the environment (Agrawal 2012, 314).

Deforestation in the Amazon has accelerated the last years, and between 2000 and 2013, forest loss in the Amazon increased from 9.6% to 13.3%. This means 27% of the total forest loss happened in just 13 years (RAISG 2015, 6). Peru is one country that has experienced accelerating deforestation rates. Between 2001 and 2017 Peru lost 3.10% of its forests, and the rates have constantly increased during these years. (MINAM 2018a). Peru is by some regarded as the third most vulnerable country to climate change, which makes it increasingly occupied with finding solutions to its deforestation problems (Che Piu et al. 2016, 21). In response to this, concern on forests in Peru has increased, and international agreements have been signed. Reducing Emissions from Deforestation and Forest Degradation (REDD+) has been a central part of Peruvian environmental policy to reduce deforestation since 2008 (Che Piu and Menton 2014, 41-42). Between 2008 and 2015, US \$19 billion were transferred in REDD+-aid around the world, aimed at reducing deforestation (Olesen et al. 2018, 113). Norway has been one of the biggest REDD+ donors, also in Peru. In 2014 Norway signed a “declaration of intent (hereafter the DCI) with Peru and Germany. Norway can pay as much as US \$300 million to Peru, depending on Peru’s success of reducing deforestation (Che Piu et al. 2016, 54-55).

The REDD+ mechanism has been developed in more than 50 countries around the world, and has been a main response to the high deforestation rates in the developing world (Angelsen et al. 2018, 205-206). REDD+ seeks to improve environmental governance through influencing institutions, laws, civil society and adopting new tools and environmental programs, with the ultimate goal of reducing deforestation. REDD+ is also regarded a win-win mechanism, conserving the forests while economic growth is possible (Aguilar-Støen, Toni, and Hirsch 2016, 207-208; Minang et al. 2014, 691-692). Peru adopted a nested approach of REDD+ in

2008, piloting REDD+ on the project level and subnational level while the national REDD+ system is developed (Burneo et al. 2014, 3). The international REDD society regard the national REDD+ approach as the most effective for reducing the deforestation rates (Duchelle et al. 2018, 10; Angelsen et al. 2018, 208-209), on the other hand, CBNRM and decentralization scholars argue that local institutions and community management are key for reducing deforestation (Cleaver 2012, 1-3; Ostrom 1990). Larson and Ribot (2009) argue that REDD+ needs to take local needs into account in order to be legitimate. Peru's decision to implement a nested REDD+ approach can therefore teach us a lot about the interaction between levels and how local communities and regions respond to REDD+.

The grave consequences climate changes can have on Peru, its increasing deforestation rates and the development of a nested REDD+ approach makes it an interesting case to examine. This study will contribute to a growing amount of REDD+ literature, decentralized governance in developing countries and community-based natural resource management (CBNRM).

1.2 Research question and methodological approach

My research question is the following:

How does climate aid through REDD+ affect existing environmental governance and deforestation in Peru?

The first analysis chapter, chapter four, seeks to explain how REDD+ has been developed on the national level and affected the existing environmental governance framework, and if this institutional change has contributed to reducing deforestation on a national scale. With the national REDD+ development in mind, chapter five seeks to explain the success or failure of early REDD+ projects in the regions San Martin and Loreto, and how these REDD+ experiences have contributed to the development of REDD+ in Peru. The thesis is a case study of Peru and a subnational comparison of two regions. My research design is also inspired by a before-after design, as I examine the impact of REDD+ on environmental governance and deforestation in Peru. Case studies can contribute to estimating whether or how a variable matter for an outcome, but not how much the variable matters (George and Bennett 2005, 25-26). The study of subnational units can make us avoid "whole nation bias", and I can investigate if REDD+ has affected the regions differently (Rokkan et al. 1970, 49). Data has been collected through fieldwork and interviews in Peru and secondary literature. The benefit of fieldwork and interviews is that it gives in depth details and new perspectives on the research question (Brounéus 2011, 130-131).

1.3 Structure of the thesis

In chapter two I will first discuss deforestation as a concept. My theoretical framework is based around how developing countries can adopt successful environmental governance (in institutions, laws and civil society) through institutional stability. Institutional stability can be created on three arenas. 1. Stable bureaucratic politics. 2. Pressure from NGOs or non-state actors, or 3. Vertical or horizontal linkages outside the environmental ministry. Furthermore I will show how REDD+ has developed as an aid-mechanism, and how this may be a solution to the deforestation problem. Aid literature is closely connected to governance and institutions, and my theoretical framework draws inspiration from this. Climate aid has many domestic challenges in developing countries, such as overcoming collective action problems, unstable institutions and securing economic growth while the forest is conserved. If institutional stability has improved after REDD+ was implemented, we can expect the institutions, laws and civil society to be enhanced, and have the tools to efficiently reduce deforestation, through policies such as titling. To understand how REDD+ can reduce deforestation in Peru, I focus on how REDD+ has promoted titling of indigenous communities. In line with decentralization and CBNRM theory, I argue that CBNRM is preferable for reducing deforestation.

In chapter three I discuss my method, case selection and describe my experiences from the fieldwork in Peru. In the start of this of chapter I also split my research question into two sub questions, one for each chapter of analysis. **Chapter four** is the first analysis chapter. In this chapter I will first explain the political, social and economic context in Peru, and discuss how different understandings of the REDD+ concept can give the concept weak reliability. Thereafter I answer the first sub-question; *“how has REDD+ affected environmental governance and deforestation on the national level in Peru”*. I show how REDD+ has affected the environmental governance framework in Peru, afterwards, I compare deforestation rates in indigenous territories with other territories, to see if the CBNRM holds in Peru. During my fieldwork I also sought to identify which mechanisms that can explain that indigenous communities have less deforestation than other areas, which can improve knowledge on which conditions are favorable for low deforestation.

In chapter five I will examine the second sub-question: *“how successful has the implementation of REDD+ been in San Martin and Loreto, and what factors facilitate REDD+ implementation on the regional level?”*. I first compare the regions and how vertical linkages through decentralization has affected the environmental governance in the regions. Furthermore, I will explain two successful local REDD+ projects in San Martin, and one failed

REDD+ project in Loreto. After that, I show how the local REDD+ projects contributed to the continued development of REDD+ in the regions. I will also discuss how the national REDD+ approach promotes different policies in the regions, how these policies affect deforestation and how they fit with the theories of CBNRM. I summarize by discussing factors that facilitate REDD+ implementation.

In chapter six I summarize my findings and conclude by answering my research question.

2.0 Theory and concepts

In this chapter I will present relevant concepts and outline my theoretical framework. In order to assess the impact REDD+ has had on environmental governance and deforestation in Peru and two regions of Peru, I will have to understand the broader context of existing environmental policy. My theoretical framework is based around how to do successful environmental governance and institutional analysis in developing countries. I will explain the economical, institutional and social challenges and opportunities for adopting a successful environmental policy, and how environmental aid through REDD+ affects this. REDD+ has developed to be a mechanism for affecting the national policies in a country, because this can address issues such as tenure security and make the biggest structural changes in environmental governance (Duchelle et al. 2018, 5, 10; Angelsen et al. 2018, 208). On the other hand, theories of community-based natural resource management (CBNRM) insist that community management is key for keeping deforestation low (Ostrom 1990; Brosius, Tsing, and Zerner 2005, 1-2). CBNRM is my theoretical starting point in deforestation literature, and I will connect it to literature on decentralization, different categories of ownership rights and monitoring of forests, which is familiar in CBNRM literature. I aim to discuss how REDD+ treats these variables, and how this affects deforestation in Peru.

Communal ownership is a key ownership category in Peru due to the high number of indigenous communities that demand titles in the country. Therefore, I will examine if titled indigenous communities have low deforestation compared to other areas in Peru, and if they have, what mechanisms can explain this? I will also examine local REDD+ projects, which are community-market REDD+ projects. I argue that learning from the titled communities and local REDD+ projects can contribute to understanding REDD+ and the challenge of reducing deforestation.

First, I will discuss the concepts of forests and deforestation, then I will explain my theoretical framework.

2.1 Explaining the problem: Forests and deforestation

Forests play a vital role for both human welfare and ecosystems all over the world. Due to the importance of forests for biodiversity and the amount of carbon stored in the forests, deforestation has increasingly been regarded a political problem in most corners of the world (Olesen et al. 2018, 59; Humphreys 2013, 72-74). When studying deforestation, it is important to understand how “forests” are defined, as this will have big implications for what is regarded as deforestation. Definitions of forest and deforestation should ideally be the same in every

corner of the world, which would make negotiations, implementation and monitoring more efficient (Schoene et al. 2007, 15). The Amazon region, including Peru, follows the deforestation methodology developed by Hansen et al. (2013). Forests are defined as “*areas with trees above 5m and tree canopy cover above 30% within one Landsat 30m pixels*” (Seifert-Granzin 2016, 21). The minimum mapping unit of a landsat pixel is 0.09 ha. This definition takes into account smaller deforestation events (Otálora, Acosta, and Calmet 2016, 42-43). Peru follow a methodology separating between what was classified as forest and no forests-land in 2000. Deforestation in Peru is thus regarded as “*areas that were classified as forest since 2000 and then converted to non-forest*” (Otálora, Acosta, and Calmet 2016, 28). Most data on deforestation I show in this thesis are official data from Peru, following this methodology, but I will also illustrate how differing definitions of deforestation definitions can result in different deforestation rates in chapter 5.7.2.

Deforestation is primarily regarded as a problem in developing countries. These countries are more dependent than developed countries on resource extraction from forests (Liu, Faure, and Mascini 2018, 21). The definition of deforestation is widely disputed across countries and over time, and the causes of deforestation are also heavily debated (Bhattarai and Hammig 2001, 998; Angelsen 1995; Geist and Lambin 2001). Historically the statistical and satellite data over forest and deforestation rates in different parts of the world show great variation, and we should be critical to the data (Forsyth 2003, 33-34). Even though monitoring technology has developed a lot the last years (Finer et al. 2018), we need to be aware of the fallacies in the data. Angelsen (1995) argues that deforestation as a concept is not politically neutral. Different governments can have interest in blaming specific groups for the deforestation, which causes even more confusion around the concept. In chapter 4.2.4.1 I will discuss problems with the Peruvian definition of deforestation.

In the general deforestation debate, one source of confusion is if selective logging in patches of area should be part of the definition. Most literature separates between deforestation and degradation. Deforestation is understood as “*the complete removal of the forest canopy from an area, while forest degradation is the partial removal of the forest canopy*” (Humphreys 2013, 81). Deforestation and degradation have different causes and different political solutions (Liu, Faure, and Mascini 2018, 21-23). Nonetheless, they are closely related as degradation can be a precursor for deforestation (Geist and Lambin 2001, 17-18; FAO 2015, 21). Monitoring is an important tool for measuring deforestation and identifying pressured areas, but the technology for identifying degradation is more complicated and less developed today (RFN 2018, 50-51;

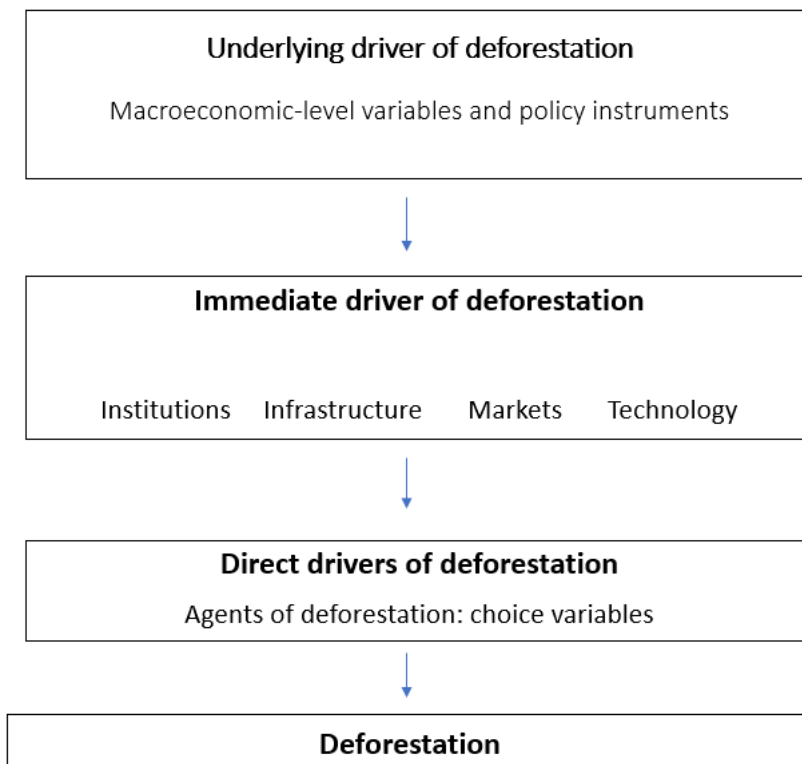
FAO 2015, 21-22). Therefore, I will mainly focus on deforestation in my thesis. Definitions also vary on if deforestation should only be regarded as human-caused land clearing or include natural land-clearing, such as fires, growth or disturbances (Schoene et al. 2007, 3,8). Separating between human and non-human causes of deforestation is complicated, but the monitoring systems in Peru allow for this (Otálora, Acosta, and Calmet 2016, 10).

2.1.1 Causes of deforestation

Identifying the causes of deforestation through monitoring are crucial if we want to find the best policies to hinder deforestation (Romijn et al. 2015; Duchelle, Herold, and de Sassi 2015, 55; Zelli et al. 2014, 17-18). In the literature there are two main stands explaining the causes (I use drivers and causes interchangeably in this thesis) of deforestation. The first one regards population growth and shifting cultivation as the only causes of deforestation, while the other pathway stresses that there are too many and complex variables explaining it, and therefore isolating the impact is almost impossible (Geist and Lambin 2001, 1-2). Busch and Ferretti-Gallon (2017, 6-7, 15-16) have done an extensive meta-analysis of the drivers of deforestation in 121 studies from 1996-2013. They find that deforestation is higher in places with more economic returns to agriculture and easy transportation to the market. They also find that the places with the least deforestation is natural parks and areas where the law is enforced. Amacher, Koskela, and Ollikainen (2009, 281-282) find that the main variables accelerating deforestation are migration, building of infrastructure and insecure ownership rights. Angelsen (1998, 3) presented the poverty-environmental thesis, arguing that deforestation can be reduced when the economy grows. On the other hand, Gibson, McKean, and Ostrom (2000, 2-4) compare different studies that explain the causes of deforestation, and find that the drivers of deforestation are quite contradictory. Most analysis has been done on macro level and has not considered drivers of deforestation on the local level. They argue that local level explanations are crucial, as local institutions can modify the effect of variables that cause deforestation. By comparing 152 subnational cases, Geist and Lambin (2001) find that local variations in economic factors, institutions and national politics are important causes of deforestation.

In sum, the causes of deforestation can be found on many levels, and I think figure 1 shows the depth of the problem well:

Figure 1: Drivers of deforestation



Source figure 1: Amended version from Angelsen and Kaimowitz (1999)

Figure 1 describes underlying, immediate and direct drivers of deforestation. The underlying driver is related to the context where the deforestation is happening. Poverty can be one example of this (see Angelsen 1998). Immediate causes could be variables such as migration, infrastructure or access to the market (Busch and Ferretti-Gallon 2017; Amacher, Koskela, and Ollikainen 2009), which is based on the opportunities and incentives people have to deforest. Lastly, direct drivers of deforestation are related to the actor that deforest, for example farmers or plantation companies (Angelsen and Kaimowitz 1999, 73-74). In chapter four and five I will discuss the causes of deforestation in the context of Peru, and in the regions of San Martin and Loreto.

2.2 Environmental governance

Environmental governance research draws on many theoretical approaches, such as new institutionalism, sociopolitical studies and sociocultural approaches. Common for these is that all agree that managing natural resources is complex arrangement between state and non-state actors, often driven by social and ecological factors (De Castro, Hogenboom, and Baud 2016, 5-6). Lemos and Agrawal (2006, 298-299) defines environmental governance as “*the set of*

regulatory processes, mechanisms and organization through which political actors influence environmental actions and outcomes". This definition indicates that environmental governance is a broad term that involves all interventions aimed at changes in environmental-related incentives, institutions and behaviors.

In my thesis I operationalize environmental governance as institutions, laws and civil society, in line with the idea that environmental governance is relationships between state and non-state actors, national policies and local decision-making structures (Lemos and Agrawal 2006, 298-299). The 1990s marked a paradigm shift for environmental governance in Latin America. Democratization, decentralization, neoliberal market reforms and self-governance became the norm in domestic politics all over Latin America. Following these changes, state, community and market governance became outdated, and a new form of governance; participatory governance, became the trend. Participative governance is characterized by co-management and complex interactions between one or more actors on different levels. Partnership between different actors and national ownership are important factors in this approach (De Castro, Hogenboom, and Baud 2016, 5-7; Angelsen 2017, 238).

The concept of participative governance fits good with Lemos and Agrawal (2006, 310) typology of new ownership types, which I will discuss in chapter 2.4.2. However, some note that the term "participation" has changed meaning, from actual involvement of local groups in decision making, to a compensatory approach where the local groups only are regarded as co-beneficiaries through compensation mechanisms, for example REDD+. The participatory approach was meant to enforce communities, but this has been overshadowed by strengthened states and corporations, whose interests often are new infrastructure or productive activities that can require exploitation of natural resources (De Castro, Hogenboom, and Baud 2016, 20).

2.2.1 Successful environmental governance

De Castro, Hogenboom, and Baud (2016, 12-16) identify three concepts that can contribute to explaining environmental governance in Latin America. These are *1. Perceptions and values*, *2. Social interactions* and *3. Institutional change*. Firstly, perceptions and values over nature vary with different actors; indigenous groups and NGOs often perceive nature as something symbolic, while private companies perceive it as a commodity for sale. Secondly, the political arena in Latin America is huge and many actors are interested in participation and control in environmental governance. Thirdly, participating actors use different strategies to define "the rules of the game" in environmental governance. Some use slogans such as "green growth", while others create coalitions or social movements to enter the political arena. These three

concepts show the dynamic characteristics of environmental governance in Latin America. Many different actors will try to participate using different tools and approaches. (Keohane 1996) introduces the concept of “concern”¹, a concept in aid literature, which is familiar to “perceptions and values” discussed above. Concern is understood as “the interest donors, recipient countries and governments have in protecting the environment”. Throughout the thesis I will use the concern concept to describe if REDD+ has improved focus on environmental governance and deforestation in institutions and civil society in Peru. Capacity in the civil society and state institutions are also important for implementing the policies agreed on and protecting the environment (Keohane 1996, 8-14). I regard concern and capacity as concepts that can contribute in explaining how aid can create institutional stability.

Steinberg (2012, 256-257) argues that institutional stability is crucial for successful environmental governance and sustainable management of forests in developing countries. Three mechanisms that can cause durable institutions and policy are *1. Stable bureaucratic politics*, *2. Pressure from NGOs and non-state actors* or *3. Vertical or horizontal linkages outside the environmental ministry*. Horizontal linkages can be cooperation on environmental issues across ministries or state agencies. A vertical linkage can be support from international donors, foreign organizations or decentralization (Steinberg 2012, 268-275). I will touch upon all these mechanisms in the upcoming chapters, as this is the institutional environment REDD+ aims to affect in order to reduce deforestation.

The first mechanism is bureaucracy, which is a rational form of organization in a state, because it creates a hierarchical structure that would be able to produce good and coordinated solutions (Dryzek 2009, 259-260). Steinberg (2012, 269) argues that environmental bureaucracies such as national parks, ministries and other environmental institutions need consistency in personnel for a policy reform to last. This bureaucratic structure could confront problems that a small group would not be able to confront. On the other hand, Dryzek (2009, 259-260) argues that environmental problems are far too complex to be solved by bureaucratic coordination, because sub-units in environmental policy can work at cross purposes, and there are no uniform environmental policy.

¹ Keohane introduces “the three c’s”; concern, contracting and capacity. I chose to only use concern and capacity, and not contracting. Contracting is based on the actual agreements that is made between donors and recipients in aid, and how this relationship is asymmetrical. I do not focus on this in this thesis and will only use concern and capacity.

The second mechanism proposes the idea that the rise of a political culture (through non-state actors and NGOs) that addresses environmental issues, has room to sanction political leaders and can help implement environmental projects are important for the continuity of environmental policy (Steinberg 2012, 271-273). Lemos and Agrawal (2006, 301) underline that non-state actors can fill the role of the state, mobilize public opinion and create new solutions in environmental governance.

The third mechanism can be split in two dimensions, vertical and horizontal linkages. Both are important to understand how a state structures environmental policies. Jänicke (1997, 18-19) argues that environmental policies and values should be integrated in all departments of a government, and not only the environmental ministry, if a country wishes to confront its environmental problems. Linkages can also be made vertically through decentralization, or upwards through international treaties and international donors (Steinberg 2012, 274-275).

Even though all three arenas (stable bureaucratic politics, NGOs and horizontal or vertical linkages) are important to understand how institutional stability can be obtained, the impact of vertical linkages will be given much attention because REDD+ is regarded as a type of vertical multilevel governance (Forsyth 2009, 113-114). I will discuss linkages both upwards and downwards. REDD+ is today often understood as a mechanism to affect the national policies of a country, and thereby an upward linkage (Korhonen-Kurki et al. 2014, 168). Nevertheless, many developing countries (including Peru) have also decentralized functions and brought the power closer to the people the last decades (Ribot 2002, 3-4). Since Peru adopted a nested approach to REDD+, the symmetry between national and subnational politics are key to understand REDD+ in Peru.

2.2.2 Challenges for environmental governance

A fundamental challenge in the environmental debate is the dilemma of economic growth or conservation. Angelsen (1998, 3) argues that “*environmental thinking starts after breakfast*”. This quote describes the problem of adopting environmental policies in developing countries concerned with reducing poverty and fostering economic growth. People need to have their basic needs covered before they think about conserving the forests. Many theories in comparative politics have contributed to describing the conservation or growth dilemma. Inglehart's theory of postmaterialism assumes that environmental concern is mainly placed in the developed countries, because they have reached a certain level of socio-economic development. Poor countries on the other hand, cannot afford to promote environmental policies before basic needs are covered (Inglehart 1990). The environmental Kuznes curve (EKC) also

stresses that nations will start to confront environmental concerns only after a certain level of economic development (Dunlap and York 2012, 109; Bhattarai and Hammig 2001).

Developing countries have received increasing amounts of climate aid the last decades. Aid towards climate issues increased from US\$2.3 billion in the 1980s to US\$8.4 billion in the 1990s. Between 2008 and 2015, almost US\$19 billion was disbursed only in REDD+ finance globally (Hicks et al. 2008, 48-49; Olesen et al. 2018, 14-15, 113). Aid can constitute a large amount of the environmental budget in a recipient country. One challenge is that the international technical managers who takes on top positions stay only for a limited time, which gives little continuity in personnel. Furthermore, environmental institutions in the developing world are relatively new and do not have the same political weigh as other important ministries. Environmental ministries collapse more easily than developmental and agricultural ministries, because these are more important when a country experiences political and economic change (Steinberg 2012, 266, 269).

Climate change is often regarded as a future problem, because the consequences will be more dramatic in the future. Politicians fight to stay in office for a short term and will therefore try to make decisions that contributes to the short-term wellbeing of the people. This “democratic problem” makes it hard for environmentally concerned politicians to make office and actually create a long-term plan for environmental policy. Governments have little interest implementing policies that does not give them votes, which can give little continuity in terms of environmental policy. Therefore, some argue that the democratic state has problems facing transnational and global issues such as environmental policy (Dryzek 2009, 260-261).

Corruption is another institutional challenge that needs to be addressed. Sundström (2016, 779) argues that corruption can accelerate deforestation because bribery can cause illegal permits and extraction of natural resources. Karsenty and Ongolo (2012, 44) emphasize that governments in fragile states prioritize private agendas and corrupt practices, and therefore do not have the capacity to implement REDD+. Governments in such states are too weak to tackle the drivers of deforestation. Therefore, REDD+ needs to be implemented by actors on a local level.

These economic and institutional factors show some of the challenges that developing countries face when they try to implement environmental policies.

2.3 Proposing solutions: from developmental aid to REDD+

Traditional developmental aid has been aimed at reducing poverty, increasing economic growth and securing basic necessities (Gibson et al. 2005, 3). The ultimate goals of aid, poverty reduction and economic development, are often the same today. However, new varieties of aid have entered the stage, and an important debate from the 1990s has been how environmental aid fits into the broader context of aid (Hicks et al. 2008). Most aid today is known as Official Development Assistance (ODA) (Tarp 2010, 22-23). Since the UN Earth Summit in Rio de Janeiro in 1992, developing countries have argued that the environmental aid should not be taken from the existing development ODA-aid, which is focused at poverty reduction and welfare, but should come in addition to this (Hicks et al. 2008, 2-4). This discussion about types of aid is interrelated to a main challenge for developing countries, should they prioritize economic development or environmental protection? Developed countries have increasingly given environmental aid to confront challenges such as deforestation and climate change, as hindering this is a global interest. On the other hand, economies in developing countries often depend of natural resources such as forests, and forest conservation can hinder economic growth (Hicks et al. 2008, 1-2 ; Dunlap and York 2012, 89-90). The close relationship between economy and environmental protection has led many scholars to search for a middle way, a win-win situation stimulating economic growth while environmental protection is secured (Angelsen 1998, 1-3).

Environmental aid can be aid to water or biodiversity protection, land degradation or aid trying to hinder climate change. Aid to hinder climate change is one of the most growing forms of environmental aid the last decades (Hicks et al. 2008, 34, 53-54). Even though there are many types of environmental aid with different tools and goals, I aim to address one specific type of environmental aid. Reducing Emissions from Deforestation and Degradation (REDD+)² was established under the UN Framework Convention on Climate Change (UNFCCC) in 2005. REDD+ aims to combat climate change through reducing carbon emissions from deforestation and degradation. Since its foundation, REDD+ has been a changing and debated international initiative (Humphreys 2013, 80-81). Angelsen (2017, 237) argues that REDD+ has evolved into a form of result-based aid (RBA). This type of aid has its roots in conditional aid, which was used much in the Structural Adjustments Programs from the 1980s. The main idea of

² In 2005 the name was «Avoided deforestation» (AD), thereafter the name became “Reducing Emissions from Deforestation” (RED), and in 2007 it became REDD. REDD changed to REDD+ after the Cancun agreements in 2010 (Humphreys 2013; Zelli et al. 2014, 20).

conditional aid is that a recipient country gets paid for policy reforms (Fairmann and Ross 1996, 30-31).

REDD+ has changed in many ways since it was founded in 2007. The idea of REDD+ started out only as REDD, without the plus sign. The initial goal of REDD+ was to secure carbon sequestration through reducing deforestation. The plus sign was added to point out that the forests are more than a carbon storage and has many public and private goods, therefore REDD+ would also contribute to lift people out of poverty. This shows that REDD+ does have an important economic dimension, and REDD+ is today considered a win-win situation, conserving the forest while fighting poverty, strengthening indigenous rights and improving governance. Hereafter, I will use REDD and REDD+ interchangeably (Humphreys 2013, 81; Angelsen 2017, 240). In the first years, REDD+ funding was supposed to come from credits sold in a carbon market and could therefore be understood as aid with different funding than normal ODA-aid. However, this carbon market did not work, and scholars find that 90% of the funding has come from ODA budgets (Angelsen 2017, 239-241; Norman and Nakhouda 2014, 2). Between 2008 and 2015, EUR 19,000 million (public funding) were committed to REDD+ activities around the world. Norway was the biggest donor with EUR 2500 million (Olesen et al. 2018, 113, 133). REDD+ has also changed the payment mechanisms. REDD+ was initially a “payment for ecosystem services” system (PES) that wished to pay countries for reducing emissions, but implementation of this has been troublesome and REDD+ has become a mechanism for affecting and improving national environmental policies (Martius et al. 2018, 19; Angelsen 2017, 240).

2.3.1 Implementing REDD+

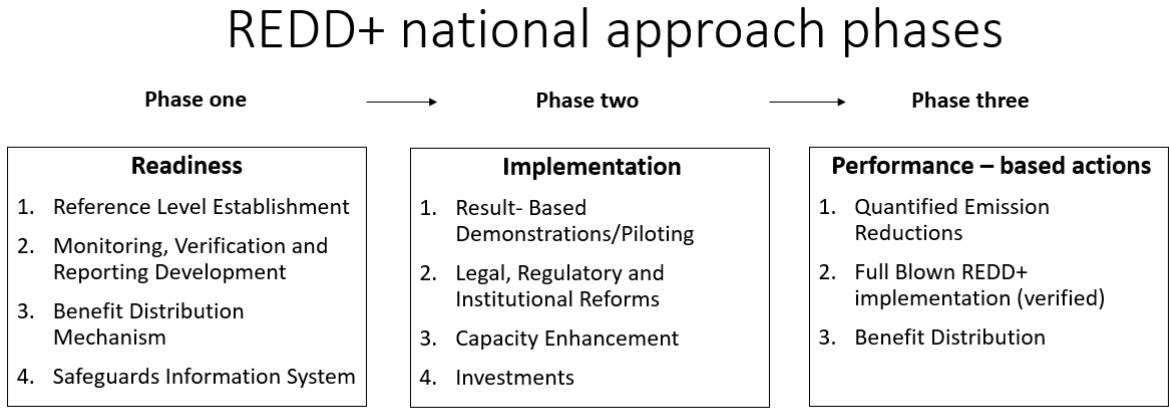
The REDD+ mechanism can be implemented on different levels. A national approach, a subnational approach or a nested approach. The national approach wishes to make more fundamental changes in the national policies to reduce emissions from deforestation. The subnational approach is aimed at countries that have less capacity, and is attractive to private investors that work on a lower level. Private investors can provide financial and human resources that reduce emissions in their jurisdictions, which also could encourage the national implementation. The nested approach is a system where the country starts out with a subnational approach and gradually moves over to a national approach when they are ready. Also, the two can work separately, but harmonizing them over time can be challenging (Angelsen et al. 2008, 32-35; Pedroni et al. 2009, 215-218). Another REDD+ type is the local REDD+ projects, which

is easy to confuse with the subnational approach. The first one is often implemented by NGOs, whereas the latter is implemented by regional or local governments (Duchelle et al. 2018, 5).

Many studies have been done on REDD+ and how it should be implemented. More than 50 countries have adopted national REDD+ strategies, and there are more than 350 local projects worldwide (Angelsen et al. 2018, 205-206). International negotiators in the UNFCCC in 2007 agreed that the overall goal is to adopt a national approach, but that subnational approaches and local REDD+ pilots can contribute to developing REDD+ (Duchelle et al. 2018, 4, 10) . Some findings in the literature indicate that national level policies are more effective than local projects to reduce overall deforestation (Angelsen and Kaimowitz 1999; Busch and Ferretti-Gallon 2017). Correspondingly, scholars argue that local projects often cannot hinder deforestation due to an inability to touch upon issues such as tenure security, which needs to be addressed at a higher level (Angelsen et al. 2018, 205-206). Larson and Ribot (2009, 175) argue that REDD+ will be more legitimate and equitable if it represents local needs in the design. Forsyth (2009, 113-114) agrees that new policies such as REDD+, must foster trust and participation from the different actors involved to be successful.

Guidelines for adopting the national REDD+ approach were created in Cancún, Mexico in 2010 (Minang et al. 2014, 687). They established a three-phased approach for REDD+, shown in Figure 2. The first phase (readiness phase) is characterized by capacity-building in institutions, creating a national REDD+ strategy and preparing tools, such as establishing reference levels and monitoring systems. These programs and tools will prepare the country for the second phase (implementation phase). In the second phase the recipient country will implement its REDD+ strategy and continue capacity-building. Finally, in phase three REDD+ (performance phase) is implemented on a full scale and the country will be paid based on results (Atmadja et al. 2018, 30-31; Olesen et al. 2018, 67-68).

Figure 2: REDD+ national approach phases



Source: Amended version of Minang et al. (2014, 687)

Figure 2 shows the depth and complexity of the REDD+ mechanism. Most countries today are in the first two phases of REDD+ (Atmadja et al. 2018, 30-31). The different activities of REDD+ in the first two phases can be understood as six functions: “planning and coordination; policies, laws and institutions; monitoring, reporting, and verification and audit; financing and investment; benefit sharing; and demonstrations and pilots” (Minang et al. 2014, 691-692).

In this thesis, I will touch upon many of these functions, as all of them affect the environmental governance in Peru. Environmental governance and REDD+ can be closely connected. I follow the idea of Aguilar-Støen, Toni, and Hirsch (2016, 207-208) who argue that: *“The very notion of environmental governance implies that there is some sort of hybridity in terms of actors, and in the mechanisms and practices it involves.[...]By focusing on REDD we pay attention to emergent governance arrangements that include state actors, subnational governments, multilateral institutions, scientists, NGOs and business”*. However, I will mainly address how REDD+ has made changes in institutions, laws and civil society. Understanding the relationship between state and nonstate actors, national policies and local decision-making structures is key for environmental governance (see chapter 2.2.1). REDD+ should take local needs into account to be legitimate (See Larson and Ribot 2009), therefore I will focus on policies, promoted by REDD+ for affecting the local level, such as titling of indigenous communities, direct money transfers (TDCs) to indigenous communities and local REDD+ projects (pilots). My selection of these policies or projects are grounded in CBNRM and decentralization literature. The last decades, important literature such as (Ostrom 1990; Gibson, McKean, and Ostrom 2000; Brosius, Tsing, and Zerner 2005; Agrawal 2012) have stressed the importance of devolving power and letting local communities control their own resources for better forest conservation.

2.3.2 Challenges in aid: The Institutional analysis and development framework (IAD)

Keohane (1996, 5) argues that the challenges found in developmental aid also can be found in environmental aid. Scholars show that the study of forest commons, institutions and governance has a lot to contribute to the study of deforestation (Agrawal 2012, 328-329). Institutions are important for understanding policy outcomes because they can shape goals, strategies and the level of cooperation and conflict between actors (Steinmo, Thelen, and Longstreth 1992, 9-10). The Institutional analysis and development framework is regarded as a fruitful framework for explaining how institutions and human incentives affect natural resource systems (Gibson, McKean, and Ostrom 2000, 9). In developmental aid, we find many actors with different interests and incentives. Gibson et al. (2005, 5-7) argue that by connecting the incentives of different actors to collective action problems, we can more easily understand how to make aid effective. The idea of collective action problems stems back to Mancur Olson's famous quote:

“Unless the number of individuals is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interest” (Olson 1971, 2).

The tragedy of the commons (Hardin 1968) and the prisoner's dilemma (Dawes 1973) are closely related theories which show the challenges in overcoming collective action problems. These theories show how rational individuals can produce outcomes that are not ideal for all parts involved and assume that it is theoretically difficult to find a solution to these problems. In the real world, however, users of natural resources do have the opportunity to change their behavior if they are given the right incentives to do so (Ostrom 1990, 5-6).

Overcoming collective action problems are important for successful aid, and Gibson et al. (2005) find four situations with perverse incentives we need to be aware of. Firstly, perverse incentives can be found in the citizen's daily life, therefore we construct laws and institution to hinder people from breaking the law. Secondly, perverse incentives can be found in the policy process, because bureaucrats do not want to implement economically bad policies. Thirdly, the international system is complex and can create perverse incentives itself. The last situation say that donors and their network can have bad incentives themselves, because it is not always beneficial to produce sustainable projects.

Ownership in the project and sustainability are important for understanding incentives in developmental aid. To make aid efficient, we need to overcome collective action problems and understand the perverse incentives which can be found in different actors (Gibson et al. 2005,

4-6). Ownership consists of four components; “1. *Enunciating demand*, 2. *Making a tangible contributing*, 3. *Obtaining benefits*, and 4. *Sharing responsibility for long term continuation or non-continuation of a project*” (Gibson et al. 2005, 16-18). Perverse incentives can arise if the cooperation between actors is weak, and environmental aid institutions can be important to promote cooperation (Keohane 1996, 9). In other words, relevant actors, for example local communities, need to have ownership in a project through participation, benefits and contributions in the long term if aid is to be successful and sustainable. Nevertheless, Gibson et al. (2005, 17), insist that: “*projects may be sustainable if local (or government) participants may continue it after donor funding ends*”.

2.4 Community-based natural resource management (CBNRM)

Mainstream approaches the last decades find that building capacity and redesigning local institutions are regarded as the key for good governance and natural resources management (Cleaver 2012, 1-2). The vertical transfer of power from the central government to local institutions can mediate the effects of factors that drives deforestation. For example, local institutions can create their own rules, ignore the centralist state’s rules and affect forest conditions (Gibson, McKean, and Ostrom 2000, 3-4). Decentralization typically results in creation of new commons and new property rights (Agrawal and Ostrom 2001, 488-489). Different kinds of ownership, or property rights, do have implications for the environmental policy and deforestation rates in a country. Institutions that create good governance are vital for sustainable development, and well-defined property rights is argued to be important for managing environmental problems (Liu, Faure, and Mascini 2018, 17-18; Prasad 2003; Robinson, Holland, and Naughton-Treves 2014). Throughout the thesis I will have a special emphasis on “titling of indigenous communities” as a policy that is assumed to be beneficial for low deforestation. I understand titling as a policy for creating communal ownership, thereby, titling is connected to ownership rights and monitoring literature I discuss in this subchapter.

2.4.1 The underlying idea: Decentralization

Decentralization has changed the context for environmental policies remarkably the last decades, especially in developing countries (Steinberg and VanDeveer 2012, 46). Hoffmann (2013, 11-14) highlights that the international environment has gone from a multilateral approach to the climate crisis to a transnational approach the last decades. In other words, international environmental governance has gone from a centralized to decentralized approach. This has increased interest in the study of participation, international donors and indigenous groups, as local institutions can be more effective and also have greater capacity to govern their

own forests than states (Agrawal 2012, 314). In chapter 2.3.1 I argued that many REDD+ advocates aim at developing REDD+ at a national level, because this is the best for confronting drivers of deforestation and addressing issues such as land tenure security. In this way, decentralists and REDD+ advocates disagree on how to confront environmental problems. Nevertheless, many developing countries have decentralized forest governance the last three decades, and decentralization is often driven by pressure from local communities, external donors and NGOs (Blackman et al. 2017; Agrawal and Ostrom 2001, 485). Ribot (2002, 3-4) finds that over 60 developing countries have tried to decentralize control over natural resources to local groups and townships, aiming at promoting local democracy and participation.

The state often lacks the capacity to control all the forest under their domain, and therefore many countries choose to decentralize functions to lower levels (Larson 2005, 33). Decentralization can be defined as “the transfer of powers from central government to lower levels in a political-administrative and territorial hierarchy” (Larson 2005, 33). This form of governance can bring equity, accountability, and local people are more likely to respect rules they have a role in making. Democratic decentralization is argued to be an institutionalized form of popular participation, and because the local citizens have more interest and knowledge about their own natural resources, it is positively related to the management of natural resource management (Ribot 2004, 12-13). Others challenge that local governance is “good” governance and that we need to be cautious with the idea that decentralization should lead to better management of resources (Cleaver 2012, 3). Many environmentalist fear that local officials will capture the benefits of decentralization, as local governments lack capacity to implement policy and it can create corrupt practices (Ribot 2004, 14-15). Andersson, Gibson, and Lehoucq (2006, 579-580) add that local politicians have the interest of staying in power, which sometimes means favoring policies that are not beneficial for the management of forests. Transferal of power in decentralization processes requires sufficient funding and human capacity to result in good climate policy. However, even when these criteria are fulfilled, the local politicians need to have an interest and incentives for adopting climate policies. This often depends on if these climate policies give socioeconomic or environmental benefits (Andersson, Gibson, and Lehoucq 2006, 577; Ryan 2014, 3-4).

Despite over 60 decentralization processes in developing countries, little work has been done to understand interactions between different levels of government and how local governments and civil society affects forest resources (Gregersen et al. 2005). Ribot (2002, 1-3) argues that if the decentralization process is based on participation, downward accountability and

democratic principles it can bring benefits to the community. Democratic decentralization includes public participation in the decision-making processes, and also NGOs and private companies need to be accountable to the local authorities (Ribot 2004, 5, 9)

2.4.2 Ownership rights

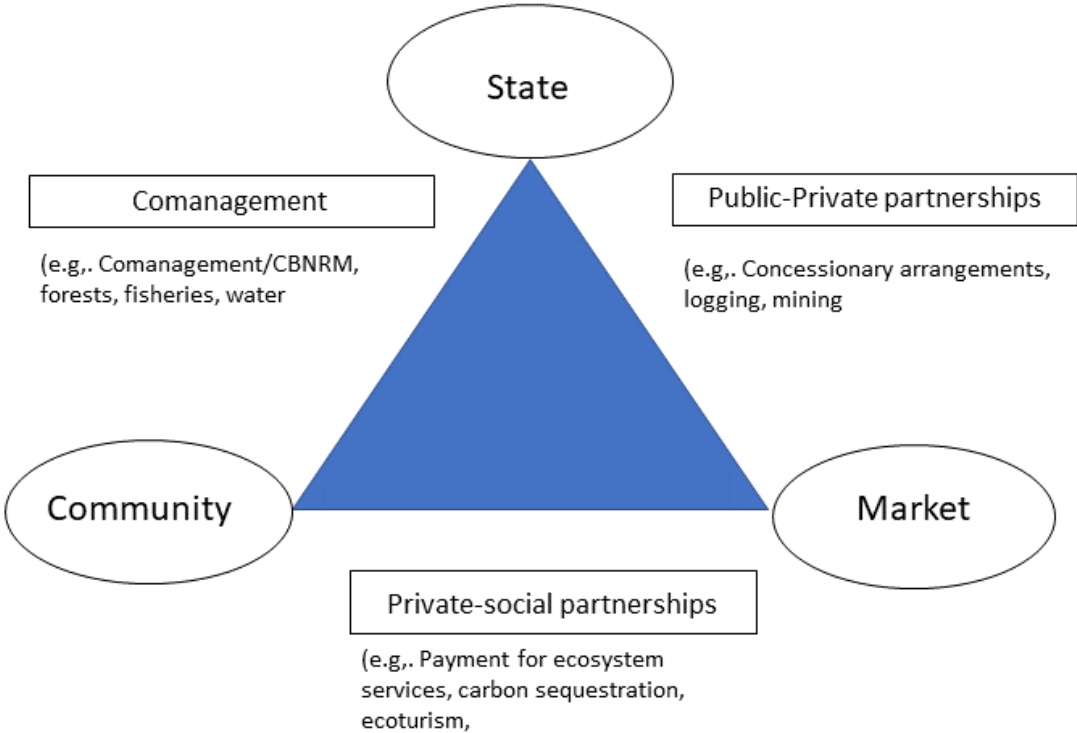
Decentralization can contribute to the construction of new ownership rights (Agrawal and Ostrom 2001). Well defined property rights can hinder deforestation, and good governance in institutions can create the preconditions that secure that the property rights function properly (Liu, Faure, and Mascini 2018, 16-18). A central contributor for understanding governance at different levels is Ostrom (1990). Devolving powers and rights to lower levels may have important effects on natural resource management (Agrawal and Ostrom 2001, 486). Liu, Faure, and Mascini (2018, 3-5) argue that different kinds of ownership result in different kinds of forest governance regimes, which in turn have different implications for the management of forests. These forms of governance can help overcoming collective action problems such as “the tragedy of the commons” (Ostrom 1990; Hardin 1968). At the same time, the different kinds of ownership rights can interact and affect each other, which makes concrete definitions of the ownership rights difficult (Liu, Faure, and Mascini 2018, 2; Ostrom 1990, 14-15; Lemos and Agrawal 2006, 312-313).

The idea that the state is the only actor that can regulate the use natural resources and limit individual’s opportunities to exploit resources can be traced back to Hobbes “Leviathan”. However, many criticized this approach because the state can be ineffective, makes mistakes, and the costs of keeping full information in a state is high (Ostrom 1990, 8-10). The private approach on the other hand, gives individuals self-determination rights over who have access to the resources, how they are treated and who is to solve conflicts over the resources (Liu, Faure, and Mascini 2018, 7-10). Ostrom theorizes a third community-based approach which makes individuals able to avoid the tragedy of the commons and manage resources in a sustainable way. All members of a community have good information about how resources should be treated, they can monitor other members and make sure that no one breaks the laws (Ostrom 1990, 15-18).

Following Ostrom’s pioneering work on governance and the commons, Lemos and Agrawal (2006, 309-314) argue that new forms of environmental governance have developed the last decades. These forms of governance have developed under the neoliberal paradigm and the transnational approach to the climate crisis, and have much in common with what De Castro, Hogenboom, and Baud (2016) call participative governance. Lemos and Agrawal (2006)

separate between three hybrid forms of environmental governance (figure 3), these are: Co-management (cooperation between community and the state), public-private partnerships (state-market), and private-social partnerships (market-community).

Figure 3: Mechanisms and strategies for environmental governance



Source: Lemos and Agrawal (2006, 310)

The traditional forms of governance are often regarded as simplifications (Gibson et al. 2005, 17; Liu, Faure, and Mascini 2018), and Lemos and Agrawal's classification give us a better understanding of environmental governance in developing countries today, as private interests, NGOs and state interests all can interact and affect the local governance and policy making. In the context of the transnational approach to the climate crisis and initiatives such as REDD+, Agrawal (2012, 326-327) insists that NGOs and international aid are important for understanding forest commons and deserve more attention

2.4.3 Community management in Peru: Titling of communities

Before describing community-based natural resource management (CBNRM) I want to clarify one thing. In figure 3 CBNRM is found under the state-community mark. Throughout the thesis I will discuss titled indigenous communities in Peru, and I understand this as CBNRM. The formal title in the community should reduce conflicts over land and resources, because the

community has the legal right to the territory. Titling communal land is regarded a key mechanism in decentralization processes today, especially in Latin America (Larson, Monterroso, and Vigil 2019, 1; Blackman et al. 2017, 4123). CBNRM is understood as key for sustainable management of resources today because the members of the community can inform, monitor and sanction each other if someone breaks the law in the community (Ostrom 1990).

Weakly defined property rights are found in many developing countries and can create social and environmental conflict (Vainio 1998, 20-22). More or less 1/3 of all forests in developing countries are managed by local communities (Blackman et al. 2017, 4123). CBNRM is based on the idea that communities can more effectively conserve and treat their land through traditional use of the land (Brosius, Tsing, and Zerner 2005, 1-2). Communities have greater incentives to protect the environment through their traditional lifestyles than states and corporations, therefore, securing land titles to communities and promoting local institutions are key for keeping deforestation levels low (Cleaver 2012, 2-3). Llanos and Feather (2011, 15) find that where indigenous peoples land rights are recognized, there is less deforestation. Also Blackman et al. (2017), using spatial analysis, find that titling indigenous territories in the lowland Peruvian Amazon is a good policy for keeping deforestation low, at least in the short term. The latter study has been criticized because titling did not give full land rights, and the management opportunities of the communities were regarded as limited. Nor does the study differentiate between different types of land rights (Robinson, Holland, and Naughton-Treves 2017). Even though many countries have sought to devolve powers and secure rights to communities, Larson and Pulhin (2012, 103-104) argue that the rights of the communities are often restricted by the state that limit the areas of the communities, delineate them and impose limits on land use and conservation. This may have implications for the community's business and production opportunities, heavy requirements and bureaucratic procedures might be needed to overcome these obstacles. Forest zoning or classification systems are one state-regulation that can exceed the rights given to a community and restrict their use of the land (Larson and Pulhin 2012, 106).

The last couple of decades there has been almost an international consensus that local institutions, through securing property rights and decentralization, are key for ensuring good environmental outcomes (Cleaver 2012, 1-3). However, some authors disagree with the idea that CBNRM is the way to go to save our forests:

“The focus of conservation must therefore return to the make-it-or-break-it issue of actively protecting parks, a matter that hinges above all on the quality of enforcement. Active protection of parks requires a top-down approach because enforcement is invariably in the hands of police and other armed forces that respond only to the orders from their commanders” (Terborgh 1999, 170).

Correspondingly, some agree that community management does not hold in practice. A main distinction in the literature is between the mainstream institutionalism and the critical institutionalism (Cleaver 2012, 10-12). Following institutionalists such as Ostrom, institutions shall promote incentives, inform, assure people about the behavior of others and sanction those who doesn't follow the rules. This view binds together neoliberal thought, decentralized governance and “ownership”. Today, much policy is constructed out of this school. Critical institutionalists on the other hand, argue that the management on the local levels overlooks complex and changing interactions amongst community members, the role of the state and other service providers (Cleaver 2012, 8-9, 2-3). Critical institutionalists highlight that community-management of forests can bring unexpected outcomes. They criticize mainstream institutionalists for neglecting the role of how local actors respond to new institutions, informal local dynamics and everyday contexts. Institutionalists focus on how institutions form actors and outputs, and neglect that local communities themselves forge social relationships through norms and traditions that can affect the institutions and outcomes (Mehta, Leach, and Scoones 2001, 4; de Koning and Benneker 2013, 49-52).

In this thesis, I aim to follow the idea that securing communal land rights through titling is a policy that can reduce deforestation. But I also want to explain why this is the case. Blackman et al. (2017) only speculate about which mechanisms that can explain that the titled communities have less deforestation than other areas. Through my fieldwork and document-research, I aim to contribute qualitatively to this puzzle. If the titled areas have less deforestation, what mechanisms can explain this phenomenon? I will also compare this with the local REDD+ projects (market-community ownership) and seek to also identify mechanisms in these areas that secure lower deforestation than other areas.

2.4.4 Monitoring

A key variable related to deforestation and CBNRM is monitoring of forests. Institutionalists such as Ostrom argue that communities can monitor themselves and hinder each other from breaking rules (Ostrom 1990, 15-18). Monitoring is helpful for identifying where deforestation

is taking place and identifying drivers of deforestation. Huge advances have been done on technology to monitor forests the last decade, and many countries (including Peru) have the technology to monitor forest near real-time (Finer et al. 2018). How successful a given governance intervention is, depends on the quality of the monitoring system (Rasmussen and Jepsen 2018, 29). Monitoring of forests is important for supporting policies that aim to protect or manage forests sustainably and identify the drivers of forest change (Romijn et al. 2015; Duchelle, Herold, and de Sassi 2015, 55). We can separate between professional and local monitoring. The first one refers to monitoring primarily done by external actors and professionals, while the latter refers to monitoring done by local communities (Danielsen et al. 2009, 41-42). Improved technology the last decades has enabled global monitoring through data satellites and remote sensing techniques; this are often used by states or external actors to identify annual forest loss. Local communities on the other hand, often rely on ground-based monitoring of local forests. The effectiveness of a policy to reduce deforestation may depend on the different kinds of monitoring systems that exist (Rasmussen and Jepsen 2018, 29-30).

Palmer Fry (2011, 181) finds that local monitoring is advantageous over professional monitoring because it lowers costs, improves sense of ownership in projects and enhances the local institutions. Vuohelainen et al. (2012) discover that monitoring and surveillance activities is efficient for reducing deforestation in protected areas in Madre de Dios in Peru. In this study, interviews were used to identify the local drivers of deforestation, something remote sensing techniques could not do. Despite improved technology and satellites for deforestation monitoring, also DeVries et al. (2016, 1) argue that where local communities are involved in monitoring and the creation of rules on governmental level, deforestation was more efficiently reduced. Boissière et al. (2014, 1855, 1873-1874) highlight that community participation in monitoring is important for programs such as REDD+ to be sustainable. REDD+ will be more legitimate by taking the needs of local people into account, and its therefore important to understand local people's interest in contributing to a national monitoring system.

Monitoring can encourage compliance with laws, hinder disincentives and enforce sanctions and provide information that contributes to the implementation of better climate policy (Rasmussen and Jepsen 2018, 29-30). Therefore, monitoring is of interest to all actors involved in a project. The international systems and states want to see if their policies are effective and local people wants control over their resources (Palmer Fry 2011, 181). Monitoring can contribute to information sharing on deforestation, and it may be easier to hold different actors accountable for the deforestation. Even if the forest monitoring technology has improved over

the last years, governments need to intervene in the area where the deforestation occurs in order to stop the deforestation (Finer et al. 2018, 1303). Government-institution building is the key to address this issue. Coordination between departments and agencies is essential to respond to the near-real-time monitoring technology that has been developed the last years (Finer et al. 2018, 1304-1305).

2.5 Summarizing my theoretical framework and REDD+

In this chapter I have shown what conditions are favorable for successful environmental governance, and correspondingly what threatens the environmental governance in a developing country such as Peru. I regard concern and capacity as fruitful for describing how REDD+ aid affects institutional stability. Institutional stability can be constructed on three (or four) arenas. Concern and capacity can contribute to explaining challenges and success in the different arenas. One goal of REDD+ is to intervene in the environmental governance of Peru, and affect central institutions, laws and civil society. REDD+ also develops tools and programs that contribute to reducing deforestation (monitoring, reference levels, safeguards and national REDD+ program). Thereafter, the new environmental governance framework (institutions, laws, civil society and the REDD+ constructed tools) may be improved and the funding from donors contribute to specific policies, such as titling, which is a main focus in this thesis. Following the CBNRM, titling is preferable for low deforestation because the traditional lifestyle of the communities is preferable for managing natural resources, and communities can monitor themselves and sanction people that breaks the laws. Securing land titles to communities is therefore a key policy in decentralization processes around the world. On the other hand, critical institutionalists argue that this is not always true, and communities adapt to the changing context around them. Conservation therefore depends on intervention by the state.

3.0 Method

In this chapter I will explain my method, case selection and experiences from my data-collection in Peru. I am doing a case study of Peru but will also do a subnational comparison of the regions San Martin and Loreto, in order to see if REDD+ affects the regions differently. The study is a before-after study, as I examine the influence of REDD+ on environmental governance and deforestation rates. My data is based on semi-structured interviews through fieldwork in Peru, maps and literature I collected in Peru and secondary literature. I will now repeat my research question and split it into sub-questions.

My research question is; *How does climate aid through REDD+ affect existing environmental governance and deforestation in Peru?*

This research question indicates two dependent variables, environmental governance and deforestation rates. These dependent variables are closely connected, and deforestation can also be understood as an indicator of environmental governance (Bhattarai and Hammig 2004). I will answer the research question through the following two sub-questions, which will be discussed in chapters four and five respectively.

1. *How has REDD+ affected environmental governance and deforestation on the national level in Peru?*
2. *How successful has the implementation of REDD+ been in San Martin and Loreto, and what factors facilitate REDD+ implementation on the regional level?*

The first question will be answered through a case study of Peru in chapter four, while the second question will be answered by a subnational comparison of San Martin and Loreto in chapter five. In chapter six I will summarize my findings and conclude by answering my research question. Now I will present my method and case selection process, before I describe experiences from my fieldwork in Peru.

3.1 Case study

Peru is the third most vulnerable country to consequences from climate change (Llanos and Feather 2011, 58; Che Piu et al. 2016, 21). In response to this vulnerability from climate change, Peru adopted the “nested” approach of REDD+ in 2008, aiming to reduce deforestation rates and improve forest governance (Flores 2018, 17-18). The nested approach allows for more local and regional participation in REDD+ processes, which can contribute to develop REDD+ on the national level later (Duchelle et al. 2018, 5-6). I will address how successful this has been in Peru, as taking local needs into account is regarded as key for successful REDD+

implementation (Larson and Ribot 2009, 175). Norway has increasingly given foreign aid to combat climate change and signed a “Declaration of intent” between Norway, Germany and Peru in 2014. In this declaration (hereafter the DCI), Norway decided to give as much as \$300 million dollars to Peru from 2014 to 2021, depending on the success of Peru to combat deforestation (Regjeringen 2016). This money is funding aimed at improving the Peruvian environmental governance and reducing deforestation through REDD+ in Peru. The DCI is just one of 9 programs related too REDD+ in Peru, but for pragmatic reasons I will only focus on policies promoted by this program, as I have access to good data from it, the DCI is the biggest donor in Peru and supports titling of indigenous communities (MINAM 2016, 12-13; Che Piu et al. 2016, 54-55; MINAM 2018b). Even though REDD+ in Peru has been developed from local to national level since 2008, deforestation rates in Peru have increased remarkably (MINAM 2018a). The consequences climate change can have on Peru, the subnational implantation of REDD+ and increasing deforestation rates makes Peru an interesting case to study.

A case study is defined as *“the intensive (qualitative or quantitative) analysis of a single unit or a small number of units (the cases) where the researcher’s goal is to understand a larger class of similar units (a population of cases)”* (Seawright and Gerring 2008, 296). Case studies are good at evaluating the scope conditions of theories, assessing *whether* or *how* a variable matter for a certain outcome, but can rarely contribute to estimation of *how much* a variable matters. In a perfectly well-controlled before-after study where only one variable changes, case studies can contribute to estimating casual effect, but such perfectly designed studies are hard to find (George and Bennett 2005, 25-26). Agrawal (2012, 331-332), argues that case studies are a good method when analyzing data across levels of analysis, and the study of deforestation and forest commons falls under this category

In addition to a case study of Peru, I also do a paired comparison of two regions that have an experience with REDD+. Peru adopted a nested approach to REDD+ in 2008 and have gradually implemented REDD+ in regional governments (Che Piu and Menton 2014, 28). I have chosen to compare San Martin and Loreto, two Amazon regions in Peru. San Martin has enjoyed somehow successful REDD+ implementation on the local and regional level, while the local REDD+ experience in Loreto failed. The failed local REDD+ project in Loreto did however create demands for institutional reforms nationally, and REDD+ has developed to fit the local context in Loreto better. The selection of these two regions are discussed more in chapter 3.2.

The study of subnational units has become increasingly important in the age of decentralization. It is an important tool for increasing the number of observations and strengthens the capacity to code cases and make valid causal inferences (Snyder 2001, 93). Case studies are closely related to paired comparisons but differ in the ability to control for variables. Two or more cases allow for more analytical control, depth and control of relevant variables (Gisselquist 2014, 477-478). Paired comparison is preferable because it can correct faulty generalizations from single cases, it's good for theory building and it is detailed enough to discover unmeasured variables. It is also a good method when assessing the influence of institutions (Katzenstein in Tarrow 2010, 245-246). The study of subnational units can also make us avoid what Rokkan et al. (1970, 49) called "whole nation bias", the idea that studies who look at only national level can miss subnational variation (Snyder 2001, 94). Another advantage of within-nation comparison is that it is easier to control for historical, ecological and socioeconomic dimensions, and this can help to show how variation in political institutions shapes policy choices. However, even within nations there are variation on historical, ecological and socioeconomic dimensions (Snyder 2001, 96). Following Gibson, McKean, and Ostrom (2000, 21-22), the study of local communities can help understanding what causes variation in the condition of forest use.

As I am interested in the impact of REDD+ on environmental governance and deforestation levels in Peru, my research design also draw inspiration from a before- after design. REDD+ implementation will be the independent variable of interest, and I will see how environmental governance and deforestation levels were before and after REDD+ was implemented. The Ministry of the Environment (MINAM) was created in 2008, and made Peru a member of the REDD+ community soon after. The REDD+ readiness phase (phase one) started in Peru in 2009. The implementation phase of REDD+ (phase two) started officially in 2016 (Flores 2018, 17-18; MINAM 2018b, 20-21, 23-24). A challenge with the before-after design is that I also need to keep control over other variables that changes both before and after REDD+ was implemented (George and Bennett 2005, 166-167).

3.2 Case selection of subnational units

Before my fieldwork, most of my work with the thesis was related to identifying variables and theory, so that I had a good theoretical understanding of deforestation, environmental governance and REDD+. When I arrived in Peru on the 17th of October 2018, I had not yet decided what REDD+ project or what regions that would be interesting to investigate. My goal was to do a comparative study of two subnational units, ideally at a low jurisdictional level, and

the regions should be related to decentralization, REDD+ and deforestation. My population consists of 4 regions; San Martin, Loreto, Ucayali and Madre de Dios, which forms 78% of the Peruvian Amazon. All received decentralized power in the forest sector from 2009/2010 (Che Piu and García 2011, 30-31; DAR 2012, 31). Many regions have tried to adopt REDD+ in their regional government since 2009 (Che Piu and García 2011, 44), but the four I mentioned have decentralized forestry governance, REDD+ activity and cover almost all of the Peruvian Amazon. To further decide regions out of these four, I used the deforestation database from Peru, Geobosques, (MINAM 2018a) that has deforestation trends from 2001-2017 in different regions of Peru (data on regional, provincial and district level), which inspired my case selection. Deforestation data show that San Martin has been the region with the most deforestation in this period, but the trend reversed in 2009. Loreto on the other hand, has experienced increasing deforestation rates the last years, and is the only region in the Peruvian Amazon with rates over the Peruvian Amazon average (MINAM 2016, 100-102). Choosing case on the dependent variable (in my case environmental governance and deforestation levels) is problematic because of selection bias. Nevertheless, contrasting two cases that varies on the dependent variables can give analytical leverage and hinder selection bias (Collier and Mahoney 1996, 74, 89-90). I complemented data on deforestation with information on the different regions and REDD+ projects when I arrived in Lima, and thereafter chose project and regions to study.

I went to Peru on fieldwork between the 17th of October and the 17th of December 2018. I first spent three weeks in Lima, thereafter traveled one month in the regions San Martin and Loreto, and thereafter spent my last week in Lima. During the first three weeks of my fieldwork I practiced my Spanish, planned my interviews, did background interviews and a few interviews in the capital of Peru, Lima. Loyle (2016, 930) states that a research design can change when the researcher gathers local information in the place he or she studies. The advantage of this is that the people who live there most likely have better knowledge of the context. I met with several people for background interviews in Lima. I anonymize them here, as I did not ask them to be a part of the project. I think of them as informal conversations/meetings to map the terrain for environmental governance in Peru. My first interviews in Peru also helped me understand the context and choose regions.

The dataset on deforestation (MINAM 2018a), background interviews and interviews form the basis for my case selection. I chose to compare the regions San Martin and Loreto. San Martin has historically been the region with the most deforestation in Peru (Kowler et al. 2016, 7-8),

and the region with the most REDD+ advances together with Made de Dios (Burneo et al. 2014, 3). The deforestation in the region is related to building of infrastructure from the 1960s which has made the region subject to migration (Valqui, Feather, and Llanos 2015, 95-96). Furthermore, San Martin has been called “the green region” because of the goals to do sustainable production and protect the rainforest the last decade (Kowler et al. 2016, 39-40). Loreto on the other hand, is a less developed region in terms of REDD+ development. The region is a much bigger and inaccessible region than San Martin and has the most indigenous communities in Peru (Dourojeanni 2013, 9,12). Table 1 shows some main differences between the two regions, while figure 4 shows historical trends of deforestation in the two regions.

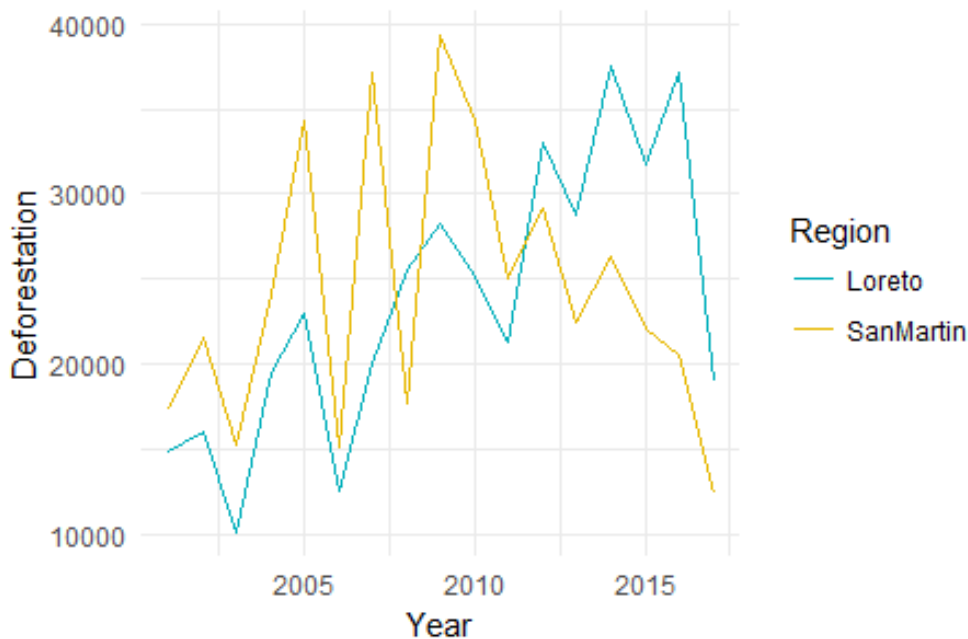
Table 1: Differences (white) and similarities (grey) between San Martin and Loreto

Region	Loreto	San Martin	Comment
Decentralized forest sector 2009/2010	Yes	Yes	
Infrastructure	Inaccessible, few roads	Accessible, a lot of road building from the 1960s	
Forest area 2017	35,093,228 ha.	3,378,417 ha	
Population	883,510	813,381	
Indigenous communities titled/recognized/not recognized and total number indigenous communities	670 titled 382 recognized but not titled 109 not recognized or titled. Total: 1161	30 titled. 71 recognized but not titled. 4 not recognized or titled. Total: 104	1656/2434 nationally
Local REDD+ projects.	1	3	The government of Peru recognizes the existence of 8 early REDD+ projects today ³ .
Early REDD+ experience	Poor, REDD+ regional government table not yet installed in 2011. Attempt of local REDD+ project caused fear for REDD+.	Good, REDD+ regional government table installed 2009. Pilot region since 2012, mainly developed by regional government, civil society organizations and NGOs.	
Causes of deforestation	Direct drivers: Agriculture, cattle ranching, illegal activities. Underlying: poverty, migration, weak governance. Threats: industries (Cacao, palm oil, oil).	Direct drivers: agriculture, cattle ranching. Illegal activities. Underlying: Poverty, migration. Threats: land trafficking, industries (palm oil).	
Deforestation trend	Increasing	Decreasing	

Sources table 1: Decentralized: DAR (2012, 31), Infrastructure: Kowler et al. (2016, 9); Dourojeanni (2013, 12) Area: MINAM (2018a), Population: Citypopulation (2017), Indigenous communities: Soria and Tipula (2018), Local REDD+: see footnote 2 above, REDD+ development: (Che Piu and García 2011, 44-45; Kowler et al. 2016, 41-42) Causes: Interviewees. Deforestation: MINAM (2018a)

³ Che Piu and García (2011) finds 35 local REDD+ projects, Burneo et al. (2014) finds 30 directly or indirectly related to REDD+ readiness processes. Zelli et al. (2014, 37-38) also argue about uncertainty about the number of REDD projects. During my fieldwork in Peru I could only receive official documents on 8 projects from the government. My case selection on REDD+ projects is therefore based on these 8 projects, but I do not deny that it exists more private REDD+ projects in Peru.

Figure 4: Deforestation in San Martin and Loreto 2001-2017.



Source: MINAM (2018a). Constructed in R.

The regions Madre de Dios and Ucayali could have been interesting regions to compare with San Martin, as they have more developed REDD+ programs than Loreto (Madre de Dios was named pilot region of REDD+ together with San Martin in 2011) (Che Piu and Menton 2014, 52-53). However, early in the process I was warned against going to Madre de Dios because of security issues and decided therefore not to go there. Both Madre de Dios and Ucayali do have their own challenges concerning deforestation and environmental governance, where drivers of deforestation have increasingly been related to illegal mining, illegal forestry and land trafficking (Valqui, Feather, and Llanos 2015, 108; Kowler et al. 2016, 11-13). Also, corruption and institutional weakness characterize these regions (Kowler et al. 2016, 2). For example, a leader and members of the regional government of Ucayali were denounced for corruption as late as December 2018 (Praeli 2018). My choice of Loreto on the other hand, is related to an unsuccessful development of REDD+ in the regional government (in contrast to San Martin), and the great number of indigenous communities, which can help us understand an important aspect of environmental governance in the context of Peru. As noted in chapter 2.4.3, CBNRM is argued to be preferable for low deforestation. I can examine if indigenous communities have less deforestation than other areas, and if it I find this, what mechanisms can explain this? An advantage with the subnational comparison is that I can see if this is the case in San Martin as well.

3.3 Fieldwork and interviews

I did semi-structured interviews in Peru’s capital Lima, in Tarapoto and Moyobamba in the region San Martin and in Iquitos in Loreto. Two months of fieldwork resulted in a total of 18 interviews with different key informants, mainly expert interviews. I received most of my interviews through snowballing; some from the background interviews and most from my official interviews. I also got a few interviewees through people I met. I tried to interview a wide specter of actors; local NGOs, international NGOs, the government, regional governments and indigenous organizations. I interviewed these actors because I wanted to get a general knowledge of the environmental governance on different levels in Peru. Local and international NGOs are important organizations for lobbying environmental governance and implementing REDD+ (Burneo et al. 2014, 4). Indigenous organizations have historically been critical of REDD+ because they believe REDD+ can harm their rights and steal their land (Llanos and Feather 2011, 6). Regional governments are important in the context of decentralized governance and the national government is important as most policy is made in Lima. Interviews can give in-depth details and perspective on a research question. However, conducting interviews also raises a set of ethical considerations and responsibilities on behalf of the interviewees, the research community and myself (Brounéus 2011, 130-131). Interviews are good for triangulating other data, such as secondary sources, which ensures that my study is more valid and accurate (Starr 2014, 241).

Table 2 sums up who I interviewed, their occupation and what part of the country I interviewed them.

Tabell 2: Interviews during fieldwork.

Place	Name	Occupation	Organization/Institution	Focus of the interview
Lima	Ricardo Pérez Bailon Rocio Vásquez Claudia Zuñinga	Advisors in DAR (Derechos, Ambiente y Recursos Naturales) Peru.	DAR. Local NGO.	Understanding REDD+ in general.
	Sandra Ríos	Advisor in Instituto del bien Común (IBC), specialist on forests.	IBC Nacional office. Local NGO.	REDD+, monitoring, general.
	Ermeto Tuesta,	Advisor and expert on titling for IBC, Lima.	IBC national office. Local NGO.	Monitoring, titling.

	Dave Loayza	Engineer on forests in the National Service on Forest and Wildlife (SERFOR).	Ministry of the Environment, SERFOR.	REDD+ and titling in general.
	Jorge Padilla	Technical advisor in the forests and climate direction, Ministry of the Environment (MINAM).	MINAM, forest and climate change department.	REDD+ and titling in general.
	Harlem Mariño	Independent expert on climate change and forests.	Independent.	Redd+ and titling in general.
San Martin	Gustavo Montoya Gamarra	Leader Parque Nacional Cordillera Azul, SERNANP (Natural Service of Natural Protected Areas).	MINAM. SERNANP regional.	SERNANP, CIMA, (Centro de Investigación y manejo de Areas Naturales) Cordillera Azul
	Pedro Flores	Coordinator for the NGO CIMA; Cordillera Azul National Park	International NGO.	CIMA, local REDD+ project.
	Ivonne Paico Vera	SERNANP, leader Alto Mayo Protection Forest	MINAM. SERNANP regional office.	Alto Mayo Protection Forest, SERNANP, REDD+.
	David Tuctu	Amazonist, Biologist	Independent.	Decentralization, deforestation, territorial planning
	Shila Vela Delgado	Expert on REDD+ safeguards	Regional Environmental Authority (ARA), San Martin.	REDD+ on a regional and national level, REDD+ safeguards.
	Anonymous			
	Anonymous			
Loreto	Luis Felipe Vela	Director for conservation and biological diversity, Regional Environmental office in Loreto.	ARA Loreto.	Environmental governance Loreto, TDCs, REDD+.
	Freddy Vela	Biologist in Instituto del Bien Común, Loreto.	IBC regional office. Local NGO.	Titling, decentralization, context in Loreto.
	Rolando Rodriguez	Expert on monitoring in the technical team of ORPIO (Organización Regional de los Pueblos Indígenas del Oriente)	Regional Indigenous Organization.	Monitoring, indigenous organizations perspective of REDD+ and deforestation.
	Diandra Torres	Coordinator for DAR in Loreto	DAR regional office. Local NGO.	Titling in Loreto, REDD+.
	David Urquiza	Expert on geographic information in IBC Loreto.	IBC regional office. Local NGO.	Monitoring, deforestation definition.
	Anonymous			

Note: See page vii for abbreviations.

3.3.1 Ethical considerations

All interviewees were asked to sign a document form (see appendix A) to decide if they wanted to be anonymous, length of how long I could store the data and if I could use an audio recorder under the interview. Most interviewees accepted my proposals, but some decided to remain anonymous. One person also did not want to be recorded with audio player. My topic can be related to certain sensitive subjects, such as corruption and illegal activities. During my interviews I consciously tried to avoid talking about the most sensitive themes because of security reasons. If the interviewees themselves came with points related to these subjects, I let them answer as usual, but I did not ask follow-up question related to this due to the sensitivity of these topics. These subjects have not been a main part of my thesis, but I will comment on them in the next chapters as well, as these factors are important to understand environmental governance in Peru. However, my goal has been to understand environmental governance, deforestation and REDD+ in general, which need not be sensitive themes. Therefore, I will use the names of the persons interviewed in the thesis. This will make my thesis more transparent, replicable and testable, which is preferable for good social science (King, Keohane, and Verba 1994, 31). My interview guide and project proposal have also been accepted by the Norwegian Centre for Scientific Data (NSD). I changed my interview guide during the fieldwork, adapting the questions to the person I was interviewing. In San Martin I asked more about REDD+, in Loreto more about titling of indigenous communities and in Lima about both. I did touch upon most themes in all interviews. My interview guide (translated to English) can be found in appendix B. The version attached is an extended version.

3.3.2 Challenges in the interviews and the data collection

Most interviews during my trip were successful, but my first interview in Lima was not what I expected. I planned to do a normal interview with one person, following my interview guide. When I showed up, there were three persons there ready to do a presentation about REDD+. I did manage to ask some questions during the presentation, but a group interview and a 1-hour presentation were not what I was prepared for. Nevertheless, this interview helped me decide that I wanted to compare Loreto and San Martin. During the interviews, I acted as having little knowledge about the topic. There were two reasons for this: language barriers and the concept of REDD+, which is a difficult concept. Leech (2002, 665-666) argues that this strategy of interviewing can reduce the risk of losing information during the interview, but on the other hand, the interviewees can have the impression that I lack basic knowledge or understanding of the subject. The latter situation can be negative for the interview situation, but I always tried to

ask more complicated follow-up questions which gave the impression that I had some knowledge about the subject.

Another challenge was speaking Spanish in Peru. Most of my interviews were conducted in Spanish, which is my third language. I therefore decided to have a quite rigid interview guide, to make sure that the interviewees responded to everything I wanted. I prepared a lot of questions in my interview guide (appendix B) so that I would be prepared to ask about anything with correct grammar in Spanish. My Spanish also improved during the fieldwork, and I mastered the last interviews better than the first ones. I also want to point out that looking for and reading a lot of Spanish sources have been challenging and time consuming.

3.3.3 Reliability and validity

Reliability and validity are important to evaluate the quality of empirical social research, such as interviews (Yin 2014, 45). Validity refers to measuring what we think we are measuring, while reliability refers to producing the same measure every time you collect the data (King, Keohane, and Verba 1994, 31). I felt that most people gave me the same type of answers. This gives me confidence that the respondents understood the concepts in the same way, which makes the interviewees reliable. Nonetheless, REDD+ is a difficult and multidimensional concept, and during some interviews I had to specify which type of REDD+ (local, subnational, national) I was talking about. The multidimensionality of the concept can give it weak validity. This is discussed further in chapter 4.2.2.

The concept of deforestation needs a special emphasis as well. As I discussed in chapter 2.1, there is much uncertainty related to measuring and monitoring deforestation. The Peruvian NGO Instituto del Bien Común (IBC) shows that deforestation trends in Loreto are decreasing between 2011-2015. The official data from MINAM in the same period show that deforestation in Loreto is increasing. I will show and discuss this more in chapter 5.7.2. This is an important finding, as we need to be aware of how deforestation/forests are defined and what methodologies actors are using when discussing deforestation. Because of the conceptual challenges with the deforestation concept, I regard it as a concept with weak reliability. Researchers studying deforestation need to be transparent over what methodology they are following, otherwise it can be challenging to get the same result when monitoring deforestation (see chapter 2.1). However, deforestation is reliable if researchers follow the same methodologies, which is also preferable for making negotiations and monitoring more efficient around the world (Schoene et al. 2007, 15). I also repeat from chapter 2.1.1 that Angelsen (1995) argues that deforestation is not a politically neutral concept, and different groups can blame

each other for the deforestation. Manipulating the definition is one way of doing this, which is why we need to be aware of the methodologies used. In this thesis I will mainly use data from Geobosques (MINAM), and they follow the methodology of Hansen et al. (2013), which is widely known in deforestation literature.

3.3.4 Results from the fieldwork and interviews

My goal was to do interviews with the government, regional governments, NGOs, indigenous peoples and civil society organizations. I managed to get an interview with most of these actors but could not do an interview with the biggest indigenous organization in Peru, “Interethnic Association for the Development of the Peruvian Rainforest” (AIDESEP). They did not respond on mail and rejected me on the phone (I tried to get in touch with them long before my fieldwork). I also tried to get access to the University of Lima library, but I was rejected access by the local administration as I’m not a student there. I did however get some contacts from the university, but never managed to get a meeting with them. More time on my fieldwork could have helped me get a meeting with AIDESEP and the local university. It could also have been interesting to do interviews with other ministries in the government, such as the Ministry of Infrastructure or Ministry of Economy and Finance. However, I was in Peru only for two months, and Lima even less, so reaching out and interviewing every actor was challenging.

The interviews gave me in-depth knowledge of REDD+ in Peru from the perspective of different actors. The fieldwork also gave me other types of material which have been useful for my thesis. The local NGO IBC gave me access to a lot of good maps over Peru. These maps included information on deforestation over time, deforestation in different types of areas, territories pressured by for example mining or palm oil concessions, overlapping areas and much more. Some of these maps can be seen in the upcoming chapters. Many interviewees also gave me books related to their work. Without my fieldwork I would not have received this material, which I think is very important for understanding the context of REDD+, deforestation and environmental governance in Peru. Yin (2014, 122-123) argues that it is important to gather other sources of evidence than interviews on the fieldwork, if not, valuable information from the fieldwork can be lost. The other types of data can collaborate with the interviews. This can also be a source of triangulation, which increases the validity of the data.

Even though interviewing was challenging, my fieldwork was successful for collecting the data I needed, and I feel much more able to answer my research question after my fieldwork. Understanding REDD+ was hard before my fieldwork, but through my fieldwork I have gained knowledge of REDD+ in the context of Peru, which I would not have gained through secondary

sources. As shown in figure 2, REDD+ is a very complex set of arrangements on different levels. The technical dimensions of REDD+ are still hard to understand and evaluate, but during my fieldwork I understood that titling of communities is one concrete policy that is important for reducing deforestation and is linked to REDD+ (for example through the DCI⁴). Before my fieldwork I was very interested in different ownership rights and how this affects deforestation. Early in the fieldwork I understood that titling of communities and zoning processes are key to understand ownership in Peru, which have big implications for the environmental governance and deforestation. REDD+ has multiple dimensions and I will discuss many of them, but I have a special emphasis on titling of indigenous communities as this is a key community ownership category in the context of REDD+ in Peru, and it is also theoretically relevant to CBNRM (see chapter 2.4.3). This also allows me to discuss challenges from the national to local level.

⁴ Declaration of Intent between Norway, Germany and Peru

4.0 REDD+ on the national level

The national REDD+ approach is expected to make the biggest structural changes in environmental governance in a country (Duchelle et al. 2018, 6). REDD+ activities in the first two phases can be understood as “planning and coordination, policies, laws and institutions, monitoring, financing, benefit sharing and pilots (Minang et al. 2014, 691-692). This is a complicated set of activities with many actors on different levels, which was confirmed through my interviews. I will discuss how REDD+ affects the existing environmental governance, operationalized as institutions, laws and civil society. In addition, I will explain how the four pillars of REDD+ (see figure 2) have intervened and affected the existing environmental governance in Peru. An important remark is that most environmental institutions, laws and civil society existed before REDD+ came to Peru. The four pillars are new contributions by REDD+ to improve environmental governance and reduce deforestation.

I have created one sub-question to my research question I answer in this chapter:

“How has REDD+ affected environmental governance and deforestation on the national level in Peru?”

I will answer the environmental governance dimension by discussing how REDD+ has managed to promote institutional stability in different arenas. Also, I identify perverse incentives in the aid chain from international to local level, and discuss the challenges for adopting a successful environmental governance. Regarding deforestation I follow the idea that CBNRM is key for keeping deforestation low. Whereas REDD+ is mainly a mechanism for promoting national policies, mainstream approaches today opt for CBNRM. I will discuss how REDD+ has promoted this form of natural resource management, and what challenges CBNRM faces in Peru.

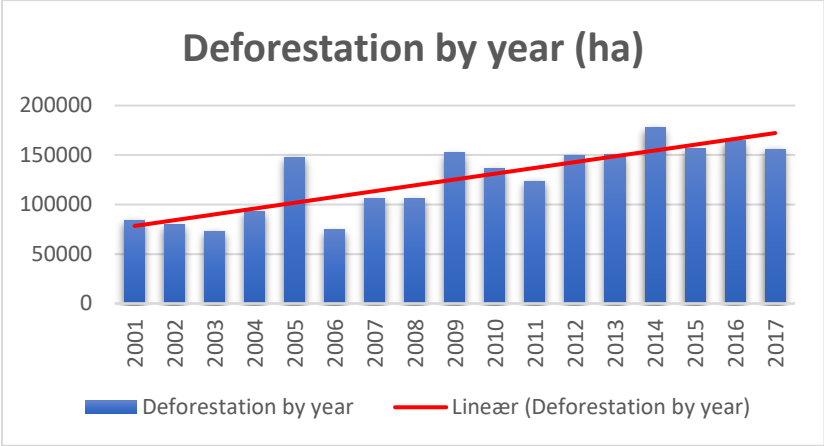
This chapter is structured as follows. I will first go through the development of Peru the last decades and link indicators to the increased deforestation (see 4.1). I do this to present to context where REDD+ is implemented, politically, socially and economically. After that I explain the national REDD+ implementation and some conceptual challenges related to the REDD+ concept in Peru (4.2.2). Thereafter this chapter is divided into two parts, where I answer the sub-question presented earlier. In the first part I will discuss how REDD+ has affected environmental governance (4.2.3-4.2.5), and in the second I will discuss to what extent REDD+ has contributed to reducing deforestation in Peru (4.3). I also seek to discover mechanisms that

can explain why indigenous communities have less deforestation than other areas, complementing Blackman et al. (2017).

4.1 Peru in development

Peru is a large country in South America with a lot of natural resources, and economic growth is highly dependent on Peru’s natural resources. Earlier, most growth came from the coastal areas, but we can see a trend where economic activity and deforestation are increasing in the Amazon. Deforestation rates increased from approximately 80,000 hectares per year from 2000-2004, to 164,000 hectares in 2016 (Savedoff 2018, 31-32; Che Piu et al. 2016, 23-24). In figure 5 we see the deforestation trend in Peru from 2001-2017.

Figure 5: Deforestation in the Peruvian Amazon.



Source: MINAM (2018a)

As argued in chapter 2.1.1, deforestation can be connected to various economic and social indicators. Some find that population growth is closely connected to deforestation (Geist and Lambin 2001, 55). Others emphasize a close connection between deforestation and high commodity prices (Busch and Ferretti-Gallon 2017). In addition, the poverty-environment thesis is based on the idea that the environment is conserved through economic growth (Angelsen 1998, 3). I will not discuss these contributions to deforestation literature in depth, but they can contribute to explain the context where REDD+ aims to reduce deforestation in Peru. In table 3 I present indicators of the economic-social development in Peru since 1990. The choice of indicators is grounded in deforestation literature discussed in chapter 2.1.1. As we see in table 3, the Peruvian economy has grown significantly the last years, and high commodity prices have contributed to this. At the same time, the population has grown

remarkably while poverty have been reduced. This forms the context where REDD+ aims to improve environmental governance and reduce deforestation.

Table 3: Key characteristics of Peru from 1990

Indicator	Economic Growth (annual in percent)	Agriculture commodity prices (nominal in 2010 dollars)	Population (in millions)	Gini (Inequality)	Poverty (in percent)
Year					
1990	-5	55	21.83	***	****
1995	***	69	***	***	***
2000	2.7	49	25.91	49.1	54.8 (year 2001)
2005	6.2	62	27.61	50.4	55.6
2010	8.3	100	29.37	45.5	30.8
2015	3.2	88	31.37	43.4	21.8
2017	2.5	87	32.16	43.3	***

Sources table 3: Economic Growth and population: The World Bank (2017b), Agriculture commodity prices: The World Bank (2019) Gini: The World Bank (2017a), Poverty: (INEI 2011, 39; 2017a, 8). Poverty in year 2001 is from INEI (2011). I could not find data before this. The rest of the poverty numbers are from INEI (2017a).

*** = no data.

The development of Peru the last decades is reflected in these indicators. The 1990s marked a period of political and economic reform in Peru. Neoliberal ideas, privatization and an export led market economy fostered economic growth. Under this neoliberal state, the Ministry of Economy and Finance enjoyed a lot of power, and the state was mainly focused at the interests of domestic and international corporations (Thorp and Paredes 2010, 170-171; Crabtree and Durand 2017, 76-78,102-103). In response to the centralist clientistic state led by Alberto Fujimori in the 1990s, Peruvians elected Alejandro Toledo to the presidency in 2001. Main policies in his campaign were more participatory processes for an historically very unequal Peru in terms of economy, participation and influence. As we see in table 3, poverty levels and GINI were high in year 2000. Decentralization became a main policy to confront this, and was implemented in 2001 by Toledo (Salgado 2006, 47-49; Crabtree and Durand 2017, 131).

The success of decentralization has been limited, which is also the general impression I have from my interviews. A lot of functions have been transferred to subnational governments, such as titling of indigenous communities, ecological and economical zoning (ZEE) and the ability to create new ownership rights (Kowler et al. 2016, 15-17). However, financial resources to fulfil the new responsibilities have not been sufficient, and cases of corruption on the regional level have also been widespread (Crabtree and Durand 2017, 150-151). Trust in institutions in Peru is among the lowest in Latin America, which also can be connected to the widespread

corruption in the country (Crabtree and Durand 2017, 103). A national survey from 2017 shows that only 11.3% have confidence in the regional governments, and only 8.1% have confidence in the national congress (INEI 2017b). However, decentralization can have different impact on different regions, and, decentralized forest governance was implemented as late as 2009 in the study regions (DAR 2012, 31). This will be further discussed in chapter five, where I focus on San Martin and Loreto.

Alan Garcia continued the development of Peru through neoliberal policies and export led growth in his second presidential period (2006-2011). As we see in table 3, commodity prices grew from US\$62 in 2005 to US\$100 in 2010. Granting of concessions to private companies in the Amazon increased hugely in this period. This also resulted in few benefits for the local communities and indigenous people, and the law on free, prior and informed consultation was broken. Rights were broken, and economic interest prioritized (Crabtree and Durand 2017, 152-153). According to figure 5, deforestation in Peru grew constantly in this period as well.

Economic growth boomed from -5% in 1990 to 8.3% in 2010 but has declined to 2.5% since then. Especially mining has boomed and contributed to a massive economic growth in Peru from the 1990s. This resource extraction has also caused massive social conflict, which in turn pressured for more environmental regulation and monitoring (Ticci and Escobal 2015, 105-107). Thorp and Paredes (2010, 204) argue that conflict over natural resource extraction first came on the agenda with the indigenous peoples protests in 2009. The forests of Peru covers 54% of the national territory and is the hub for numerous legal and illegal economic activities, such as agricultural production on industrial and small scale, drug trafficking, illegal mining and illegal forestry (Che Piu et al. 2016, 13-15). Many of the people I interviewed also emphasize that the policy in Peru itself are drivers of deforestation. Peru is growing on export, which may have big consequences for the environment (DAR 2018). With this contextual discussion in mind, I will now discuss how REDD+ has affected the existing environmental governance framework in Peru.

4.2 REDD+ in Peru

Peru adopted the nested approach to REDD+ in 2008. Civil society organizations and private sector organizations enjoy most of the REDD+ knowledge in this approach (Che Piu and Menton 2014, 28). Peru has REDD+ projects on three different levels. The national level, the subnational level and the local (or project) level. The advantage of the nested approach is that implementation on different levels can learn from each other and contribute to a full-scale implementation on the national level. However, harmonizing them over time can be a challenge

because different levels can use different monitoring systems or reference levels Zelli et al. (2014, 29-30, 37-38).

4.2.1 National REDD+ approach in Peru

In Peru we find at least 9 programs associated with REDD+. These programs are implemented by different actors and have different funding sources, but all are related to improving environmental governance or reducing deforestation. The Ministry of the Environment (MINAM) is the main responsible for all of them (MINAM 2016, 13). One of the programs and funding sources for REDD+ in Peru is the “Declaration of Intent” (DCI) between Norway, Peru and Germany from 2014. The DCI aims to contribute to all three phases of the national implementation of REDD+ in Peru (MINAM 2018b, 10; 2016, 12). Peru had already started its REDD+ readiness phase when the agreement was signed, but the DCI jumped in to become a main donor in 2014, facilitating the continued work with REDD+ in Peru. Since 2014, Norway is regarded the potential biggest international donor in Peru, depending on how well Peru can reduce deforestation. Norway has given US\$10 million for the readiness phase, can give up to US\$ 40 million for the implementation phase and up to US\$250 million for the payment phase (Che Piu et al. 2016, 54-55). The policies I focus on in the rest of the thesis are funded through the DCI (apart from the local REDD+ projects). I find it easier to focus on one REDD+ program, as more would make the thesis even more complex. Norway is one of the biggest donors today and funds titling of indigenous communities, which makes it relevant for CBNRM.

4.2.2 Debate on the concept of REDD+ in Peru

REDD+ is a multilevel phenomenon, with projects from local to national scale, and some decisions are also taken on the global level, such as the REDD+ safeguards (Martius et al. 2018, 23). The complexity of the mechanism can therefore result in different understandings of it, which may result in conflicts and misunderstandings between relevant actors. Aguilar-Støen, Toni, and Hirsch (2016, 206-207) argue that the concept of REDD+ is so broad and vague that different actors can interpret it in ways that fits their interests. As highlighted in the theoretical chapter, Keohane (1996, 9) insists that cooperation between relevant aid-institutions are important for aid to be effective and avoid perverse incentives. If REDD+ is easily misunderstood and can be interpreted according to the goals of different actors, this is a weakness in REDD+ aid. I will now present two examples related to this. 1. Various actors understand REDD+ as a difficult concept or has different understandings of it, 2. REDD+ advocates disagree over how money should be spent, and actors have different expectations.

Many people understand the concept of REDD differently, which indicates that the concept has weak reliability. The concept has many dimensions, and the lack of clarity in the concept can therefore be negative for the efficiency of the mechanism. REDD+ is being implemented all over Peru, on different levels, but even experts have trouble explaining it. Few respondents asked me to point out what type of REDD+ I was asking about. That said, I did ask many respondents to differentiate and explain about different types of REDD+. As a general note, I think most people understood REDD+ as what was close to them: in Lima, the national approach, in the regions; the subnational approach and with the local projects; the specific project they worked on. Aguilar-Støen, Toni, and Hirsch (2016, 208) argue that the concept of REDD+ has been “black boxed”, namely that those engaged in REDD+ policy don’t consider it necessary to discuss what REDD+ actually means. My findings support this idea, as the experts I interviewed generally had differing understandings of the concept and were more concerned with actual policies or programs they were involved in.

In Loreto, some experts didn’t even know what REDD+ was, or understood it as a vague concept. Urquiza (interview 2018), expert on monitoring for IBC in Loreto, emphasized that REDD+ is very technical and hard to understand for most people, even for the experts. Urquiza mentions the REDD+ safeguards system as especially hard to understand. In San Martin, most interviewees knew something about the concept and had something to say about it. Delgado (interview 2018) from the Regional Environmental Authority in San Martin said REDD+ is complex and therefore hard to measure the impact on environmental governance in Peru. Loayza (interview 2018) from the National Service of Forests and Wildlife in Lima, argued that REDD+ in Peru is only “*an initiative for the pictures*”. He insists that buying carbon credits needs to be obligatory for all organizations if REDD+ is to have an impact on reducing deforestation. Loayza was referring to the local REDD+ projects, which surprised me, because most interviewees referred to the national implementation of REDD+, and not the local REDD+ pilots, when I asked similar questions. However, the impact of the pilots will be discussed more thoroughly in chapter 5.

During fieldwork I found that people on different levels understand the PES (payment for ecosystem services) mechanism differently. This fits with the idea of Angelsen (2017, 240) that REDD+ was originally meant as a PES system that pay groups for reducing deforestation, but has evolved into a mechanism promoting non-conditioned activities, such as technical assistance. Ivonne Vera (interview 2018), chief of the Alto Mayo Protection Forest, says that some people surrounding the local REDD+ project expect to be payed directly for the project.

However, the NGO Conservation International (CI) and the National Service of Protected Natural Areas⁵ do not offer direct payments. Vera believes that the money can be misused if they transfer money directly to the people. The situation is similar in the other local REDD+ project, Cordillera Azul National Park (interview 2018, Flores; Montoya). Instead of paying directly to the affected communities, they offer technical assistance and help the communities with sustainable production of coffee and other crops. Padilla (interview 2018) from MINAM argues that REDD+ projects are dependent on NGOs for implementation, because REDD+ implementation is too difficult for communities themselves.

On the national level we find a contraction regarding REDD+. Important contributors in REDD+ development such as Forsyth (2009) and Larson and Ribot (2009) reason that REDD+ need to too allow for local community participation in order to be legitimate and successful. Decentralization and CBNRM theories claim that local management is the way to go for reducing deforestation (see chapter 2.4). Delgado (interview 2018) emphasizes that most money remain at the top and channeling the money to the regions is a very bureaucratic process. Padilla (interview 2018) argues that a lot of money is used on designing projects and rarely reaches the local level. An anonymous source agree that the money stay at governmental level and is mainly used at REDD+ workshops with different stakeholders. On the other hand, there are various concerns related to paying the lower jurisdictional levels. One of my interviewees (anonymous 2018), fear for corruption in the conditional cash transfers to indigenous communities (TDC) policy, which is a policy that pays communities directly for conserving their forest. Vera (interview 2018) expresses concern to paying the communities directly in the local REDD+ projects and Padilla (interview 2018) adds that there is a risk of corruption through the decentralization process. Therefore, strict follow-up is necessary to fight this. A factor related to this is the level of environmental consciousness in Peru. Vera (interview 2018) argues that some people, such as migrants from the Andes, need environmental education and technical assistance to hinder them from deforesting. The CBNRM theory says that communities themselves know how to live sustainable in the forest and can monitor and sanction eachother if someone breaks the law. As shown here, some of my interviewees expresses concern to paying directly to local or regional level, because perverse incentives and corruption can arise.

⁵ CI manages the buffer zone of the park while SERNANP manages the park. This will be discussed more in chapter 5.3.1

4.2.3 REDD+ and environmental governance

In the next part of this chapter I will answer the sub-question: “*how has REDD+ affected environmental governance and deforestation on the national level in Peru?*”. The question has two dimensions, environmental governance and deforestation. I will first discuss how REDD+ has affected environmental governance in institutions, laws, and civil society. These form the environment where REDD+ aim to reduce deforestation. Capacity building in these areas continue in the first two phases of REDD+ (Olesen et al. 2018, 67-68). Those arenas existed before REDD+ came to Peru in 2008, but it is important to discuss the existing framework to understand if REDD+ has affected environmental institutions, laws and the civil society in new directions. Furthermore, I discuss how Peru has developed its REDD+ readiness phase and the four pillars⁶ of REDD+, which is concrete interventions by REDD+ to affect environmental governance and reduce deforestation.

I have a special emphasis on two pillars; the monitoring system Geobosques and the National Strategy of REDD+ in Peru (ENBCC). Both are theoretically relevant to CBNRM. Monitoring is important to identify deforestation and hinder people from deforesting. The DCI is now in the implementation phase (corresponding to the REDD+ implementation phase), supports the ENBCC program and seeks to fund and implement policies that may reduce deforestation (MINAM 2018b, 9). I have chosen to focus on titling of communities and conditional cash transfers to indigenous communities (TDCs), in line with the idea that CBNRM is key for reducing deforestation. With the theory of CBNRM in mind, I investigate if titled communities have less deforestation than other areas in Peru, and if so, I complement Blackman et al. (2017) by identifying which mechanisms can explain that indigenous communities have less deforestation than other areas (see chapter 2.4.3).

4.2.3.1 Institutions

The main institutions charged with REDD+ and forest responsibilities in Peru are the Ministry of the Environment (MINAM) and the Ministry of Agriculture and Irrigation (MINAGRI), with MINAM being the leading actor (Che Piu et al. 2016, 14-15; Zelli et al. 2014, 38-40). MINAM has numerous responsibilities regarding land use planning and forest conservation. It is responsible for the Regional Environmental Authorities (ARAs), who manages natural resources and conservation at the regional level. A main program for MINAM is the National Program for Forest Conservation (PNCB), which aims to conserve 54 million ha of forests and

⁶ 1. REDD+ safeguards, 2. Monitoring, verification and reporting, 3. National Strategy of Forests and Climate Change (regarded the REDD+ national strategy) and 4. Reference level establishment.

promote sustainable development. MINAM is also responsible for the territorial planning through the Ecological and Economic Zoning (ZEE) (Kowler et al. 2016, 17-19). An important institution under MINAM is the National Service of Natural Protected Areas (SERNANP), which is responsible for the establishment, administration and monitoring of the natural protected areas (ANPs) (Zelli et al. 2014, 97-98).

MINAGRI has other key responsibilities regarding forests and land use. This department has the authority to change classification of lands based on soil studies. The ability to change classifications of land is highly controversial but is required by law to title land. Some argue that the classification system is highly sensitive and can be manipulated (Kowler et al. 2016, 23). An important institution under MINAGRI is The National Forestry and Wildlife Service (SERFOR), which was created in 2014. SERFOR is today a key player for environmental governance, formulating the norms for authorization of forestry concessions (called BPPs). Permanent Production Forests (BPPs) are areas with primary forest that are made available for private usage, preferable for producing forest products. SERFOR is also responsible for the new National Forestry and Wildlife Management System and developed the New Forests and Wildlife Law adopted in 2015 (Kowler et al. 2016, 22; Zelli et al. 2014, 50). Some of the responsibilities of MINAGRI and SERFOR have been transferred to subnational governments, which will be discussed in chapter five (Kowler et al. 2016, 22).

In my theoretical chapter I argued that horizontal linkages between ministries is important for institutional stability and environmental governance. MINAM is a newly established ministry in Peru (2008). This is unfavorable for successful environmental governance because it has less influence than established ministries, and MINAM is therefore more prone to collapse. As argued in chapter 4.1, the Ministry Finance and Economy has historically enjoyed the most power in Peru, while the Ministry of Energy and Mines also enjoys a lot of power due to mining being key for economic growth in Peru. An anonymous interviewee (2018) argues that politics are dominated by the industries that have the most money. These are oil, forestry, mining and palm oil, which are causing the deforestation. Peru builds its economy on export of natural resources. Mining and fossil fuel were 2.4% of the total economy in 2000, increased to 18.1% of the total incomes of the country in 2007. In 2014, it was reduced to 6.8% of the total economy. Extractive industries in Peru account for between 60 and 70% of the total exports, where mineral resources are the most common products (EITI 2016, 11). Programs aimed at supporting indigenous groups and the environment on the other hand, have less money and less influence. Public spending on environmental functions increased from 0.5% in 2002 to 2.1% in

2012, as a percentage of GDP (Yalta 2015, 52). The trend is positive, and funding from REDD+ has contributed to this development. Che Piu et al. (2016, 50-52) find that climate aid for conserving forests between 2006 and 2015 was US\$613 million. On the other hand, estimates for economic activities are much higher. \$132 million are invested in palm oil expansion, \$4600 million in infrastructure and energy and \$8900 million in fossil fuels. Activities such as illegal mining and logging (which are connected to high commodity prices, see table 3) are also expanding in the Amazon area and creates over \$1700 million per year.

Since MINAMs formation in 2008, it has tried to coordinate forest decisions with MINAGRI and the Ministry of Finance and Economy (Che Piu et al. 2016, 14-15). Some of my interviewees (interview Loayza 2018; Mariño 2018, Luis Vela 2018) emphasize the importance of including other state departments into the same plans, for example The Ministry of Transport and Communication, The Ministry of Education and the Health sector. Mariño (interview 2018) argues that inclusion of other ministries is important for confronting the causes of deforestation. This can be The Ministry of Energy and Mines, The Ministry of Foreign Trade and Tourism and the ones already mentioned. In chapter 2.2.1 I argued that institutional stability can be created through bureaucratic stability. (Dryzek 2009) emphasizes that environmental problems are too complex to be solved by bureaucracies, because the subunits can work at different purposes. The number of ministries mentioned by my interviewees, and the number of actors I mention through this thesis illustrates that it is challenging to create one uniform environmental governance in Peru.

Increased pressure and funding from REDD+ donors such as the DCI have increased concern and capacity of environmental governance in Peru. Padilla (interview 2018) highlights that the president and the recently elected government held a meeting just after the election in December 2018, where the subject was how MINAGRI and MINAM would handle the deforestation in Peru. This high-level meeting on deforestation and environmental issues would not have been possible a few years ago, but the funding from REDD+ has increased environmental consciousness in Peru and made this meeting possible. Such events on state-level may increase horizontal linkages outside MINAM, but as I will show in chapter 5.7.3, economic interests in the Amazon are increasing, causing challenges for titling and other conservation policies.

Freddy Vela (interview 2018) argues that the even the two most influential departments in terms of environmental governance, MINAM and MINAGRI, needs to talk the same language and cooperate. For example, MINAGRI grants Permanent Production Forests (BPP) for private or public usage in the forest, while MINAM is responsible for zoning the forest into different

production and conservation categories (Fernandini and Sousa 2015, 48, 17). Economic and ecological zoning (ZEE) is a policy for hindering overlapping of rights, but indigenous communities (recognized but not titled communities) are overlapping with 56 production forests, only in the Loreto region (Tuesta and Cáceres 2018). Torres (interview 2018) emphasizes that it does not matter if you have ZEE, because if the state has an economic interest, they will prioritize this interest and not the zoning results. The zoning results are not binding nor finished in Peru. ZEE is therefore not effective to hinder overlapping land rights.

To summarize, REDD+ has affected the capacity of the Peruvian state through more funding in the environmental ministry and attempts on coordination between ministries. My findings indicate that horizontal linkages are weak in Peru, and coordination between ministries is not sufficient to create a uniform environmental policy. REDD+ has mostly increased concern on environmental issues in MINAM, but apart from this, concern on the environment remains poor.

4.2.3.2 Laws

In 2010, 18.68% of the forests in Peru (12,786,480 ha) were regarded as private land, and the rest (55.660.330 ha) was regarded as public land. However, the constitution regards all natural resources as cultural heritage, and both public and private land are therefore owned by the state (Che Piu and Menton 2014, 28). Titles and concessions are only given for a limited amount of time. Private land tenure is only allowed in areas designated for agricultural production. Land that is defined as agricultural land, but is not in use, can be occupied by settlers. If these settlers use this land for one year, they can obtain a legal title for the land. This law promotes agricultural activity that causes deforestation (Zelli et al. 2014, 59-60). This is confirmed by findings on my fieldwork. Tuctu (interview 2018) insists that when migrants arrive in a new area, they must work and produce something to obtain a title. In this way, the law of Peru promotes agricultural production that causes deforestation.

I will now summarize some important laws related to environmental governance and REDD+. Conflict over laws have also created events such as “*The Baguazo*”, which marks a critical juncture for environmental governance in Peru.

Territorial planning (OT) is regarded as key to determine how different types of land should be categorized (Kowler et al. 2016, 20). The OT is implemented through a process called Economic and Ecological Zoning (ZEE). ZEE is important because it should prevent conflicts related to overlapping titles, guide natural resource management and improve people’s knowledge on the best use of land in a given territory (Fernandini and Sousa 2015, 17-18). The

ZEE became a law in 1997 through the *Land use law of natural resources* (N*26821). This policy is a main tool for zoning different types of land to production or conservation categories, which is necessary to avoid overlapping of territories (Barrantes et al. 2016, 16-17). Subnational governments have been responsible for implementing ZEE since 2002 (Gustafsson 2017, 1147).

The Amazon region generally still lacks zoning, even though the processes were initiated in the 1990s. This makes monitoring and control of illegal deforestation much more difficult (Hajek et al. 2017, 103). Rolando Rodriguez (interview 2018) from ORPIO argues that ZEE should be a cornerstone in environmental governance, but the persons zoning an area can be corrupt and define an area as production area, when it should have been defined conservation area. Tuesta (interview 2018), expert on titling from IBC Lima, highlights that ZEE is good on paper but does not work properly. If you zone an area for conservation but suddenly find gold there, it is the national interest to extract the gold, and the area will be given a mining concession. Only MINAM would argue for conservation. Concern of environmental policies are almost solely in the hands of MINAM, and there is no agreement surrounding important policies such as ZEE. ZEE is only referential until today (Fernandini and Sousa 2015, 17), and economic interests often trump conservation. In opposition to the weak ZEE, subnational governments and civil society organizations have pushed for an improved ZEE from 2013, which would circumscribe the decisions of private interests and the Ministry of Mining (Gustafsson 2017, 1147).

The Law of Decentralization and Law of Regional Governments (N*27867) were approved in 2002-2003 and have been important for devolving functions to the regional governments (Crabtree and Durand 2017, 140). Forestry powers were not transferred before 2009 (DAR 2012, 31). This will be discussed more in chapter 5.

The Forest and Wildlife Law (N*27308) of 1975 was reformed to “The New Forest and Wildlife law” in 2011 (Zelli et al. 2014, 49). Flores (2018, 8) argues that international pressure through the Peru-US free Trade Agreement (which included a goal of improving environmental governance) facilitated the implementation of the new law in 2011. Indigenous mobilization also had a big part in this. The interethnic Association for the Development of the Peruvian Rainforest (AIDSEP) criticized the creation of the new law for not meeting the requirements of the law on free, prior and informed consent (Che Piu and Menton 2014, 23). To accelerate the processes of implementing the new law, periods of consultation and prior consent had been rushed. This caused a series of protests and confrontations between indigenous groups and the government in 2009. Over 30 persons were killed, and in the end the consultation processes of the law were restarted. This event is called the “*Baguazo*” and the indigenous pressure

contributed to the approval of the New Forest and Wildlife Law in 2011. Since then, the law has been revised four times, before it was approved in 2015. (Zelli et al. 2014, 48-49; Monterroso et al. 2017, 18-19). The law has been criticized for only respecting the land rights of those indigenous in progress of receiving a land title or those already titled. The New Wildlife Law of 2011 allows for logging concessions or other land rights to be established in the territories of indigenous peoples that have not claimed a title (RFN 2018, 50).

The Baguazo (2009) and REDD+ implementation (2008) happened almost at the same time. I understand the *Baguazo* a confounding variable affecting indigenous rights and focus on land tenure in Peru the following years. In chapter 5 I will argue that indigenous mobilization and fear of REDD+ in the early REDD+ years contributed to securing land rights and titling of communities for indigenous peoples in later REDD+ programs. However, the *Baguazo* also contributed to increase concern of the rights of indigenous peoples (Monterroso et al. 2017, 18). The *Baguazo* contributed not only to the passing of the New Wildlife Law of 2011, but also The Law of Prior Consultation of Indigenous or Original Peoples (N*29785) in 2011. The latter ensured indigenous peoples rights to free prior and informed consent, which means that indigenous peoples have to be informed and can participate in new administrative or legislative actions that affects them (Monterroso et al. 2017, 18). This law follows principles found in the ILO Convention 169 and the UN declaration on the Rights of Indigenous Peoples (Zelli et al. 2014, 50).

Most laws presented here were first adopted before REDD+ implementation started in 2008, but some have been reformed after that as well. Isolating the impact of REDD+ on those laws is difficult, but REDD+ may have contributed to the development of the Law of Prior and Informed consent for Indigenous people. Despite implementation of new laws that aim to improve environmental governance, social conflicts over natural resources in communal land continue to emerge (Monterroso et al. 2017, 18). Elites at the national and local level often form partnership with domestic business groups that gain from forest exploitation. These coalitions are powerful, and forest protection laws are rarely enforced (Flores 2018, 8). Economic interest in the Amazon has increased remarkably the last decades. The proportion of the Peruvian Amazon designated for oil and gas prospecting increased from 15% to 72% between 1999 and 2009 (Finer and Orta-Martínez 2010). Mining concessions grew from 50 in 1978 to 2700 in 2015, and 17 million hectare has been classified as production forests (Monterroso et al. 2017, 19). A growing threat is the cultivation of palm oil, which covered approximately 15,000 ha in 2000, 57,000 ha in 2012 and 77,000 ha in 2014 (Barrantes et al. 2016, 39; Che Piu et al. 2016,

24). Many of these activities, especially production forests, are overlapping with the lands of indigenous communities, uncontacted as well as contacted communities (Tuesta and Cáceres 2018) and are causing environmental conflict. The Ministry of Finance and Economy and other departments have also passed laws that have weakened environmental governance, incentivizes foreign investment and facilitated mining activities (Monterroso et al. 2017, 19-20).

REDD+ has not had an immediate effect on the laws of Peru. What we can draw from this chapter is that “business as usual” is typical in Peru today. Most laws identified here were introduced before REDD+ came, and REDD+ has not affected them remarkably. One lesson from this chapter is that the *Baguazo* contributed to indigenous mobilization. The *Baguazo* may have contributed to create a “window of opportunity” for titling policies in the aftermath. Nevertheless, the increased economic activities and conflicts with indigenous communities will sooner or later have to be handled by REDD+ advocates. Titling of communities is a main policy in the DCI and other REDD+ funded programs, but the granting of Permanent Production Forests (see chapter 4.2.3.1) and other economic activities trunks the titling processes. ZEE is a policy for hindering overlapping of rights, but REDD+ has not improved this law in any way. Sandra Ríos (interview 2018), advisor from IBC in Lima highlights that Peru has a very good legal framework to face their environmental problems, the problem is that these laws are rarely enforced.

4.2.3.3 Civil society

The REDD+ roundtables are one important arena where different civil society organizations, NGOs, the government, regional governments and indigenous organizations can share experiences and develop REDD+ in Peru (Kowler et al. 2016, 41-42). The national REDD+ group focuses on capacity-building, sharing knowledge and promoting the REDD+ national program (Che Piu and Menton 2014, 47-48). The NGOs “Law, Environment and Natural Resources” (DAR) and Conservation International (CI), whom I interviewed during fieldwork, are some of the main actors in the national REDD+ roundtable (Zelli et al. 2014, 43). NGOs and private organizations have been essential for REDD+ development and capacity building in the regions. Nevertheless, there is huge regional variation in the success of the regional REDD+ roundtables, and the process of developing REDD+ have in general been slow (Kowler et al. 2016, 41-42). I will discuss this in chapter 5.

The main criticism of REDD+ has come from AIDSESEP. They believe there are many controversies with REDD+. Firstly because developed countries themselves do not promise to reduce their own emissions (Che Piu and Menton 2014, 47-48). Secondly, AIDSESEP argue that

REDD+ policies and programs undermine the rights of indigenous communities and can lead to conflict over land (Llanos and Feather 2011, 6-8). Lastly is the appearance of so-called “carbon cowboys” that trick indigenous peoples and grab land (Flores 2018, 19-20). The relationship between the state and indigenous peoples has historically been troublesome. As late as 2009, president Garcia called the indigenous peoples “second-class citizens” because they deprive Peru from their natural resources (Flores 2018, 12). As argued in chapter 2.2.1, Pressure from non-state actors and NGOs is important for creating a good environmental governance because they can sanction political leaders and contribute with capacity-building. In the case of Peru, NGOs and indigenous organizations have been important for designing REDD+ and criticizing it, both on a national and regional level.

The criticism on REDD+ from AIDSESEP contributed to the new Law on Prior and Informed consultation in 2011, the development of regional REDD+ indigenous roundtables and focus on titling of indigenous communities (AIDSESEP 2011). This will be further discussed in chapter five, as it is a good example of how REDD+ takes local needs into account. Hence, the civil society mobilization in Peru contributes to involve more actors in the development of REDD+.

4.2.4 REDD+ phase one in Peru: the readiness phase.

REDD+ phase one in Peru started in 2009 and ended in 2017 (Flores 2018, 14). In addition to the capacity-building in institutions, laws and civil society, the institutional goals in the first phase are developing tools and programs that may contribute to reducing deforestation (Minang et al. 2014, 687). In Peru this means the establishment of 1. Forest reference levels, 2. A Monitoring system, 3. National Plan for Forests and Climate Change (ENBCC) and 4. Safeguard information systems (MINAM 2016, 84). Completing these meant that Peru could move on to phase two in 2017/18. I now discuss the four pillars of REDD+ in Peru, because they are direct REDD+ innovations that can affect the existing environmental governance framework in Peru.

4.2.4.1 Reference level establishment

Peru finished a reference level of deforestation from 2001-2014 in 2015. The reference level shows the historical trends of deforestation, as well as proposed level from 2015-2020. The reference level has been created for each region separately and the Amazon region as a whole (Otálora, Acosta, and Calmet 2016, 23-24). The reference level for REDD+ in Peru, follows the definition of forests and deforestation presented in chapter 2.1: “*areas with trees above 5m and tree canopy cover above 30% within one Landsat 30m pixels*” (Seifert-Granzin 2016, 21).

This is a narrow definition of deforestation, and by using Landsat pixels down to 0.09 hectares, the definition includes small deforestation events. However, the definition excludes non-human deforestation such as river meandering. Non-human deforestation is not a big part of deforestation in Peru (3.46% of the total deforestation in the reference level period), but in the context of climate change it could become a bigger threat in the future (Otálora, Acosta, and Calmet 2016, 43, 11-12). Weaknesses in the reference level are that it does not consider other types of forests than the Amazon basin, there is no definition on degradation and the reference level is not compatible with the reference level from the local REDD+ projects (group interview DAR 2018). Urquiza (interview 2018) expert on monitoring, insists that plantations are regarded as forest by the government, if they remove a primary forest and grow a plantation forest it is still counted as forest. He adds that it is important to understand the biomass level in the forest, as some types of forest have more carbon stored and higher value than other types forests.

Loayza (interview 2018) points out that MINAM understands illegal logging as deforestation. But he argues that this is not deforestation, illegal logging is selective logging, more specifically degradation. Urquiza (interview 2018) says that the understanding of deforestation is different in different institutions, and a commonly accepted understanding of the concept is important to measure deforestation. Also, the reference level report (Otálora, Acosta, and Calmet 2016, 42-43) mentions three different definitions of a forest, used by different actors and for different purposes. The one I have presented is regarded the official for REDD+ purposes, but other definitions have other purposes. As discussed in chapter 2.1, conceptual consistency on forests is important for negotiations over forests and precise monitoring of the forest (Schoene et al. 2007, 15), but this remains a challenge in Peru. This conceptual fragility is a challenge for the various institutions and civil society groups concerned with environmental governance, which weakens coordination between sectors and levels.

4.2.4.2 REDD+ Safeguards

Safeguard information system (SIS) is another contribution by REDD+ aimed at improving environmental governance in Peru. Guidelines for these safeguards were created at the UNFCCC in Cancún in 2010. The goal of the SIS is to secure that REDD+ also considers social dimensions, such as poverty, good governance, participation and indigenous and local rights. The SIS should function as a platform where information about REDD is shared between actors on different levels, and secure that benefits are shared fairly (Zelli et al. 2014, 20-21, 120-121). So far, Peru has developed a roadmap on how to implement the safeguards (Flores 2018, 26),

but still lacks establishing an actual system for the safeguards. Delgado (interview 2018), expert on REDD+ safeguards in San Martin, argues that it is hard to implement a safeguards system on the regional level when it has not yet been developed on the national level. She also notes that this system is difficult to understand, a point also brought up by Urquiza (interview 2018).

4.2.4.3 Monitoring system

Peru created the monitoring system Geobosques in 2016. Monitoring is necessary to identify where deforestation happens and how widespread it is (see 2.4.4). Geobosques is a state led monitoring based on satellite pictures, showing annual forest loss from 2001- 2017 in different areas of Peru. Geobosques also has a tool called “early warnings”, which is an alert system that can be used by the people to notify the state about deforestation locally. My impression from the interviews is that Geobosques is a step in the right direction for identifying and controlling the deforestation (interview 2018, Padilla; Torres; Montoya), as it can stop illegal activities and invasions from migrants. However, Rodriguez (interview 2018) argues that Geobosques is not designed for communities at the local level. The communities do not have phones or internet and are not able to use the functions Geobosques offer. Geobosques is a vertical linkage to increase cooperation between levels, but is not sufficiently developed to incorporate the indigenous communities. Furthermore, Ostrom (1990) would argue that communities should be able to monitor themselves and sanction those that breaks the rules. The development of a state-led monitoring system indicates that communities in Peru might need intervention by the state to hinder deforestation. Rodriguez (interview 2018) says that monitoring can hinder invasions or illegal logging, which is external activities for the community. Local monitoring is theoretically most effective to hinder deforestation (see chapter 2.4.4), but this is not sufficient in a country with much illegal activities and migration

Urquiza (interview 2018) insists that monitoring not necessarily ends up in actual intervention by the government. He adds that an “early warning” can be other things than deforestation, which is a weakness in the system. This comes back to the concept of deforestation, which is defined differently by different state and civil society actors. To be able to monitor deforestation, a first step is to understand deforestation. Mariño (interview 2018) points out that monitoring data needs to be shared between sectors and levels, which is another challenge for monitoring in Peru. To sum up this point, my interviewees in general emphasize that Geobosques and state led monitoring are a first step to confront deforestation. Geobosques can be a tool for improving vertical and horizontal linkages, as information on deforestation can be used to hold different actors accountable. Nevertheless, local monitoring through phones,

drones, GPS and other tools is needed, but teaching and paying for it remain a challenge. Also, even if “early warnings” work, the government needs to intervene, something they rarely do (interview Padilla 2018; Urquiza 2018). The quality of conservation may depend on enforcement (see 2.4.3), top-down approaches are therefore essential for fighting deforestation. The implications of this is that even if deforestation is identified at the local level in Peru, hindering it depends on the quality of the state to intervene. This contradicts the CBNRM theorists, who would expect that communities can monitor themselves.

4.2.4.4 National Strategy of REDD+ in Peru

The National strategy of REDD+ in Peru (ENBCC) was finished in 2016 and aims to plan and create policies that protects the forest in Peru (MINAM 2016, 84). The DCI is a part of the ENBCC, and will help to implement policies for developing REDD+ (MINAM 2018b, 9). The goal of the ENBCC is to reduce greenhouse gas emissions with 30% in the forest sector until 2030 and reduce the vulnerability of the forests (MINAM 2016, 109-110). The ENBCC is a good transition point to the next subchapter because the ENBCC elaborates the policies that should reduce deforestation in Peru. These policies are mainly adopted in the implementation phase⁷, and most likely we will not see results in terms of reduced deforestation before they are implemented. Nevertheless, we can discuss the theoretical relevance of the policies, the historical trajectories and their obstacles in the context of Peru.

4.2.5 REDD+ phase two in Peru: The implementation phase

Phase two started in 2017, and during my fieldwork I was invited to participate in the opening meeting of the DCI phase two, which is a part of the REDD+ phase two. This meeting included key actors from regional governments, indigenous groups, different ministries and the civil society. I also received access to the official implementation plan of the DCI phase two (MINAM 2018b, 9). Among the 6 goals of the DCI, we find:

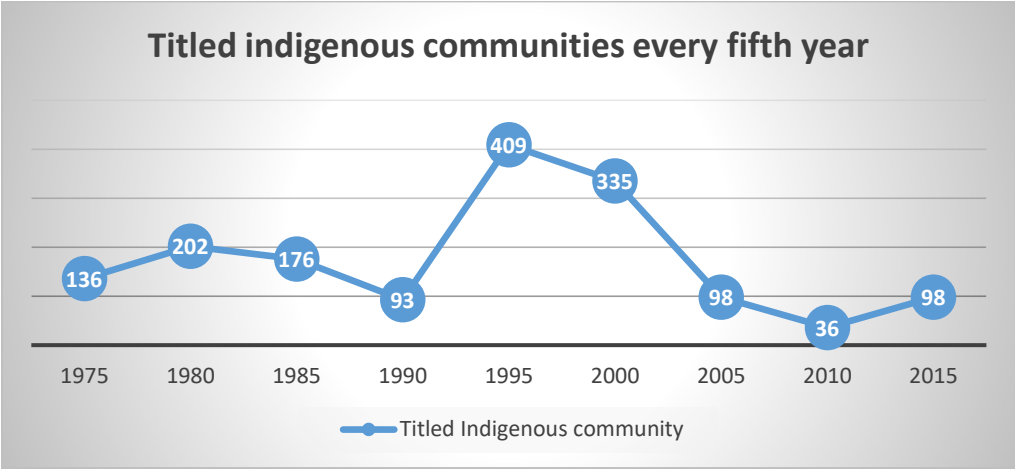
1. Title 5 million hectares of land for mainly indigenous communities.
2. Communities in 2 million hectares of land should receive direct payments for conserving their forest (TDCs).
3. Reduce 50% of the remaining forests without land categorization, and these lands should avoid being converted to plantations (Own translation, MINAM 2018b, 22-23).

Decisions regarding REDD+ are taken on different levels, from the global to the local level, but the policies are implemented at the local level (Aguilar-Støen, Toni, and Hirsch 2016, 206-207).

⁷ REDD+ phase two.

Among the policies DCI is promoting in Peru we find forestry zoning (ZF)⁸, titling of indigenous communities and conditional cash transfers to indigenous communities (TDCs) (MINAM 2018b). In line with the theory of CBNRM titling is understood as a policy that can reduce deforestation. Institutionalists such as Ostrom assume that the community can inform, monitor and sanction each other if someone breaks the law. This is a way of overcoming collective action problems and manage the natural resources sustainably (see chapter 2.4.2). Figure 6 shows the history of titling in Peru:

Figure 6: Titled indigenous communities every five year.



Source: Smith and Tipula (2017, 25)

According to the IBC in 2017, there exists a total of 2434 indigenous communities in Peru. 1656 of these are titled, 585 are recognized and 193 are neither recognized nor titled (Soria and Tipula 2018). Figure 6 stops in 2015, but I gathered new data on titling from the DCI, who contributed to the titling of 132 territories between 2014 and 2017. The DCI wish to title 68 more territories between 2018-2020, while all titling projects in Peru combined aim to title 641 indigenous communities in this period (MINAM 2018b, 156-158). According to figure 6, titling of communities had big downturn after the millennium shift, but the trend reversed after year 2010. REDD+ was implemented in 2008, which illustrates that focus on titling increased after this. In the next chapter, I will illustrate how a local REDD+ experience in Loreto can have improved the focus on titling in Peru.

The conditional cash transfers (TDCs) also need explaining, as they illustrate the economic dimension of the deforestation problem. The initiative started already in 2010, and the DCI funded it from 2014. REDD+ is regarded as a win-win mechanism conserving the environment

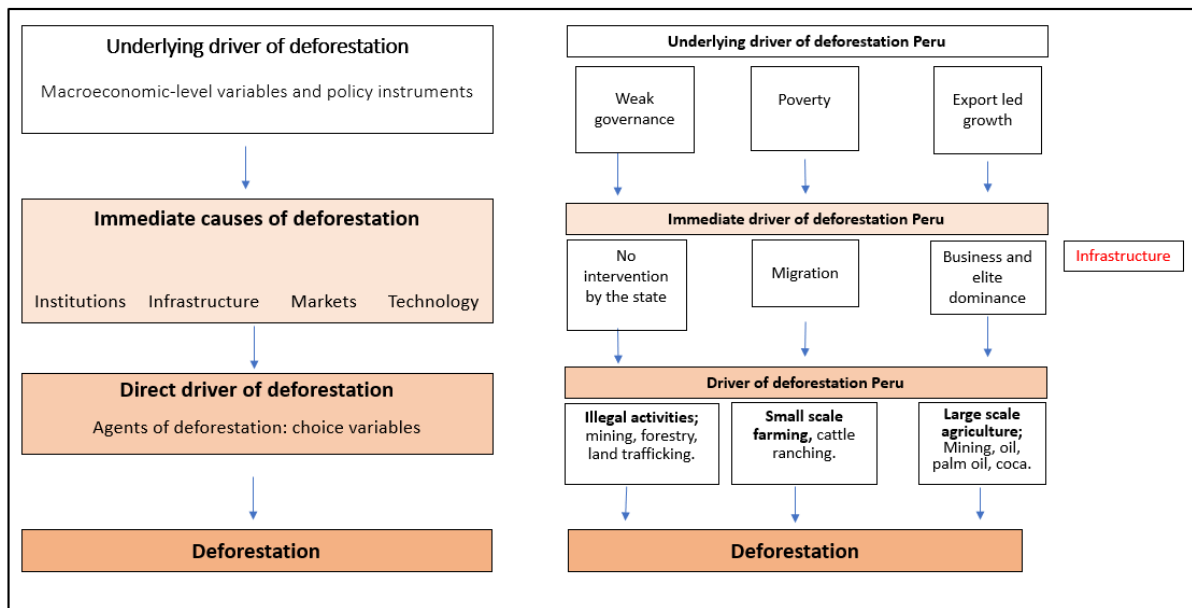
⁸ Not the same as ZEE.

while the economy should grow (see chapter 2.3). The TDCs is a public-communal ownership policy that aims to pay titled communities directly for conserving the forests. 188 indigenous communities are incorporated in the TDC mechanism until now, covering 1,800,000 ha of forest under protection. MINAM is the lead authority, but the cash transfer is done by the regional governments (Fischenich 2018; MINAM 2018b, 74). The policy is a part of decentralization and the transferal of power makes the communities themselves responsible for conserving their forest.

4.3 Deforestation in Peru

The first step to hinder deforestation is to identify the drivers of deforestation. In a study comparing 41 REDD+ countries, the OECD regards Peru as the country with the most drivers and risks of deforestation in the sample. The drivers and risks variable includes the following indicators; Deforestation is understood as agricultural expansion (commercial agriculture), subsistence agriculture, mining, infrastructure and urban expansion. Degradation is regarded as timber/logging, uncontrolled fires, livestock grazing and fuelwood. Share of agriculture in annual GDP is also a part of the variable (Olesen et al. 2018, 82-83, 236-237). Understanding drivers of deforestation are regarded as complex, because deforestation can occur through numerous interrelated causes on different levels (Geist and Lambin 2001). Figure 7 gives an overview over the causes of deforestation in Peru, and I also added figure 2 from chapter 2.1.1 to show how I defined the deforestation categories. However, these causal chains are simplified, and deforestation is occurring through a set of interrelated causes. For example, migration can lead to both small scale farming and illegal activities. Weak governance may also be an underlying cause of the immediate causes- migration, and business and elite dominance. I make no attempt to isolate the impact in any of these chains but understand deforestation as a phenomenon with conjunctural causality (Ragin 1987, 23-25), where many causes, or combination of causes, lead to the same phenomena: deforestation.

Figure 7: Drivers of deforestation in Peru.



Sources figure 7: Left figure: Angelsen and Kaimowitz (1999). Right figure: (interviews 2018; MINAM (2016, 45). Selfmade

Infrastructure is marked in red in the figure because it has an important place in the Peruvian debate on deforestation. Oliveira et al. (2007) finds that 75% of all forest damage occurs within 20km of a road. MINAM and MINAGRI, differs in their understanding of infrastructure as a driver of deforestation. MINAM argues that infrastructure causes 0.3% of all deforestation in Peru (regards it as a direct driver) (MINAM 2016, 45), whereas SERFOR (institution under MINAGRI) argues it is causing 62% of all deforestation (regards it as an immediate driver) (SERFOR 2015, 16). I learned this during my group interview with DAR, and later found the sources (group interview DAR 2018). This is yet another example of the lack of coordination between relevant state departments in Peru. If different departments Peru have different understanding of the causes of deforestation, the policies to confront it will also be according to the different drivers. Disagreement on causes of deforestation is not new, also Angelsen (1995) argues that different governments can blame different groups for the deforestation.

The main direct drivers of deforestation between 2001 and 2014 in the Peruvian Amazon are agriculture (both small scale to large scale) (51.6%) and cattle ranching (39.9%). Coca plantations, illegal logging and mining are other direct drivers (MINAM 2016, 45). Data from Geobosques show that deforestation on larger areas (deforestation in areas from 1-5, 5-50, 50-500 and 500> ha) has been increasing from 2001 until today, while small areas (<1ha) are also constantly increasing. Deforestation on areas between 5-50 ha has grown the most (MINAM

2018a). These findings indicate that small scale farming is the biggest driver, but deforestation in medium and larger areas is increasing, following the increased economic activity in the Peruvian Amazon.

The main agricultural crops are coffee (25.4%) and cultivated pastures (25.2%) followed by cacao, plantains, maize, yuca and other cultivations, all around 5-8% of the total area cultivated (Summers and Ríos 2017, 42). Big plantations have historically not been a threat to the forests of Peru, but 2009 marks an important change in this regard. The regional government of Loreto granted a big palm oil concession of 7000 hectare to a business called the Romero group, which has opened up for many more palm oil concessions in Peru. In 2014 there were 77000 hectares occupied by palm oil (Summers and Ríos 2017, 42-43; Che Piu et al. 2016, 24). Illegal logging, coca plantations and illegal mining are regarded as other important direct drivers of deforestation. OSINFOR finds that 40-60% of timber production is illegal, and 859,000 cubic meters of illegal timber was extracted between 2009 and 2014 (Interpol 2019, 12; Che Piu et al. 2016, 24) Most of my interviewees hold that small-scale farming is the main driver, and large-scale industries and illegal activities are other drivers. Loayza (interview 2018) adds that land trafficking (which I understand as an immediate cause) is increasingly becoming a problem in San Martin. Ríos (interview 2018) also mentioned this driver as an increasing threat. Land trafficking can be defined as “the usurpation, illegal appropriation and commerce of lands” (Shanee and Shanee 2016, 3-4). This form of deforestation is related to high levels of immigration and poor governance intervention (Shanee and Shanee 2016, 1-2).

4.3.1 Where does deforestation happen?

Peru the fourth largest tropical forest in the world (Zelli et al. 2014, 1). Following the definition of deforestation and forests presented in chapter 2.1, the forest area in Peru is approximately 78 million hectares. 69 million ha were defined as forest in 2016. Five point six million ha were defined as non-forest in 2000 and 1.8 million ha were defined as water areas. This means that approximately 1.65 million hectares were deforested between 2000 and 2014. (MINAM 2018a; 2016, 37).

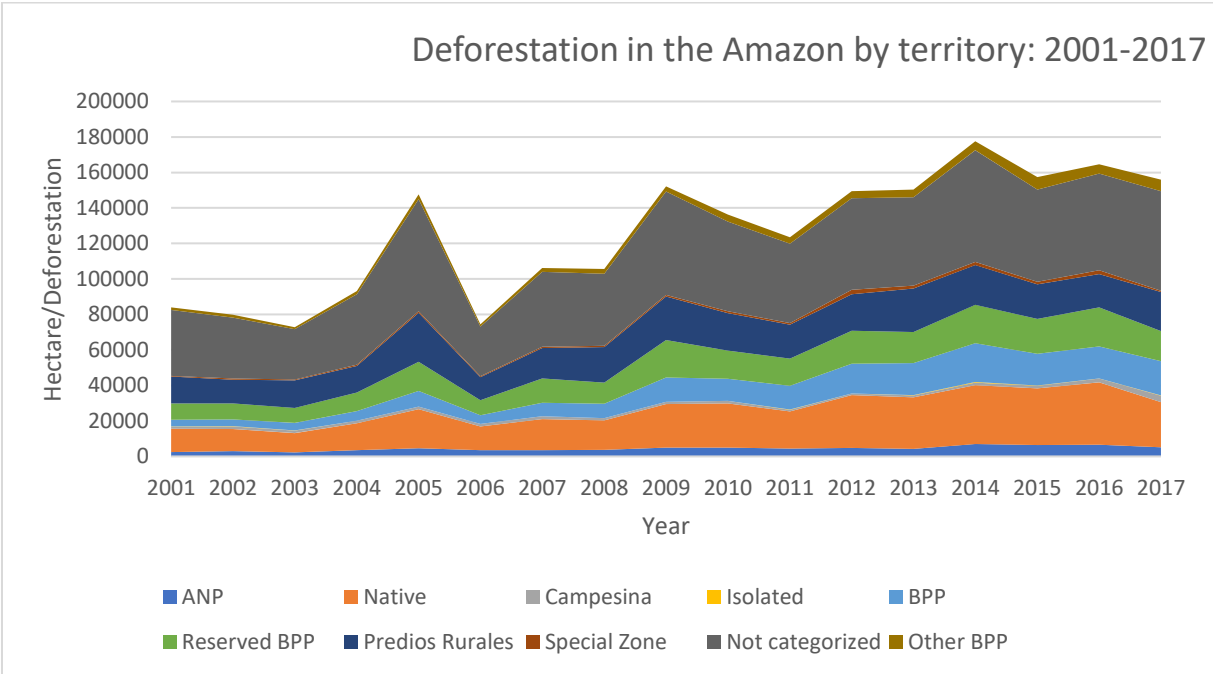
In Peru there exists two types of areas that protect the forests from deforestation. Those are natural protected areas and indigenous territories. 74% of the deforestation between 2001 and 2015 happened outside those two areas according to the IBC (Summers and Ríos 2017, 42; Soria and Ríos 2016a). Table 4 shows deforestation in different types of areas with different ownership rights between 2000 and 2017, and figure 8 shows much deforestation we find in the different areas per year.

Table 4: Deforestation in territories considered as forest year in 2000

Territory	Amount forest per territory (ha)	% of total forest (ha)	Deforestation From 2000-2017 (total ha).	% deforested of own territory	% of total deforestation
Protected Natural Area	18,548,573	27.05 %	74,801	0.4%	3.51 %
BPP Forest concession	7,753,598	11.31 %	198,298	2.5%	9.31 %
BPP other type	2,380,846	3.47 %	56,576	2.37%	2.66 %
Titled campesino	673,634	0.98 %	25,444	3.7%	1.19 %
Indigenous communities					
Isolated Indigenous peoples	1,686,245	2.46 %	1648	0.09%	0.08 %
Titled native Indigenous communities	12,753,699	18.60 %	376,203	2.9%	17.66 %
Non-categorized land	13,266,055	19.34 %	793,993	5.9%	37.27 %
Predios Rurales (Private area)	823,934	1.20 %	329,401	39.4%	15.46 %
Reserved area for BPP	7,654,856	11.16 %	255,734	3.3%	12.01 %
Special Zone	3,038,443	4.43 %	18,089	0.59%	0.85 %
Total Area of the Amazon forest (only forest)	68,579,883	100.00 %	2,130,187	3.10%	100.00 %

Source: Amended table from MINAM (2018a).

Figure 8: Annual deforestation in the Peruvian Amazon per territory.



Source: MINAM (2018a).

From table 4 we see that 37% of deforestation in Peru occurs in non-categorized areas. The second most deforested area are the indigenous communities with 17% of the deforestation, closely followed by “*predios rurales*” (private rural areas) (15%), reserved area for production forests (BPPs) (12%) and forest concession (BPPs) (9%). The National protected areas (ANPs) are the areas with the least deforestation (apart from the isolated communities), with an area of 18,545,573 hectares and just 3.5% deforested between 2000 and 2017. The total area of the native indigenous peoples is 12,753,699 hectares, while the *predios rurales* are only 823,934 hectares. The *predios rurales* (private areas) have deforested 39% of their own area, while indigenous communities have deforested 2.9% of their area. This is no surprise, as *predios rurales* are defined as areas for agricultural production in rural areas (Deza and Glidemeister 2015, 63). The same is not found for the BPPs which are territories designed for forest production. The BPPs are private or public area, depending on the size, and are defined as forest concessions, non-timber concession, ecotourism concession or conservation concession (Fernandini and Sousa 2015, 48). Indigenous communities (2.9%) have a much lower deforestation rate than the private areas, but actually higher than BPPs (2.37% of own area deforested). AIDSESEP is however critical to these numbers, because the actor that has the right to live in a community not necessarily is the actor that deforests. The numbers do not show the real use by indigenous communities (Che Piu et al. 2016, 74; Valqui, Feather, and Llanos 2015, 31). 55% of forest concessions (BPPs) are found to harvest timber illegally outside their own boundaries, which can harm indigenous lands (Finer et al. 2014, 4). Nevertheless, the most important point here is that indigenous communities have less deforestation than non-categorized land, and a goal of the DCI is to reduce non-categorized land through titling of indigenous communities. This gives strength to the CBNRM theory, as transferring power to communities is a policy to keep deforestation low on the national level in Peru.

Titled indigenous communities (1656 communities) compromise of 14,589,604 hectares of the Peruvian Amazon, and 778 communities remains to be titled (Soria and Tipula 2018). Tuesta (interview 2018) says that indigenous peoples need economic income, and will use the forests just like other people. As we will see in chapter 5, the indigenous peoples in San Martin are deforesting a lot, in contrast to indigenous people in Loreto. Tuesta (interview 2018) argues that working with the communities through technical assistance and “management plans” are key to reduce deforestation. This can be done through various policies, such as the local REDD+ projects, the TDCs or NGO’s working directly with the communities (for example IBC). I will discuss this more in chapter 5. Nonetheless, as table 4 show, deforestation in Peru does occur

in indigenous areas, but the deforestation rate is low compared to other areas. In this way, titling of indigenous communities may be a policy to reduce deforestation.

37% of the deforested area is found non-categorized land. Therefore, as most of my interviewees argued, categorizing land and titling indigenous territories are key to reducing deforestation. Blackman et al. (2017) also find that giving titles to communities is good for forest conservation in Peru. Nonetheless, they do not examine the causal mechanisms that can explain this. *Why does these areas have less deforestation than other areas?* Case studies can contribute to identifying casual mechanisms, and during my fieldwork I sought to discover the mechanisms that can explain this relationship. I found three mechanisms; legal, social and protective. Torres (interview 2018) from DAR Loreto points out that rights are a key legal mechanism. If one has a title, no one else can use the territory. In her own words “*no one else can use my kitchen*”. The second mechanism is a social one. indigenous communities are more careful with the forests because of their sustainable lifestyles. Furthermore, Loyaza (interview 2018) from SERFOR agrees that when an area receives a title, the area gets a “value”, not necessarily economic, but also cultural or ecological. With this value, people will be motivated to take care of their titled area. Tuesta (interview 2018) emphasizes a third mechanism (protective mechanism). When a community is titled, it also functions as a “buffer” against deforestation in other areas, for example National Protected areas. The rights given to the community hinders invasions/migration that could have caused deforestation in these areas, because the legal title hinders migrants from crossing the community. Therefore, migrants will not reach the national parks.

The CBNRM assume that indigenous peoples have low deforestation rates because they live traditionally and monitor other members of the community. I found that titled indigenous communities have low deforestation compared to other areas nationally in Peru. REDD+ has increased the focus on titling since 2009, and the DCI has been one international agreement that chooses to promote this. This indicates that titling can reduce deforestation in the Peruvian Amazon, and REDD+ therefore contributes to reduce deforestation, or may contribute to reducing deforestation in the future.

4.4 Summarizing chapter four

In this chapter I have answered “*how has REDD+ affected environmental governance and deforestation on the national level in Peru?*”? The first dimension of the question has been answered through understanding how REDD+ has affected the existing environmental governance framework. I argue that REDD+ has not affected institutions and laws very much.

Environmental issues are mainly in the hands of MINAM, and the horizontal linkages outside this department are not concerned with environmental governance. REDD+ has contributed with funding and increased concern on environmental issues, but this has not resulted in new directions for other ministries than MINAM. Investments in extractive industries are still huge, which is worrying for the Amazon regions. REDD+ has not affected laws either, and laws such as the ZEE need to be enforced in order to solve conflicts over land. The main contribution of REDD+ has been engaging the civil society and indigenous groups, which will become clearer in chapter 5. Civil society engagement has been a main factor for successful REDD+ development in San Martin, while indigenous protests in Loreto contributed to a focus on indigenous rights, creation of REDD+ roundtables and titling of territories.

In the readiness phase Peru has completed the development of the four pillars, which are concrete REDD+ interventions to improve environmental governance in Peru. The monitoring system Geobosques can improve horizontal and vertical linkages and hold different actors accountable for the deforestation, which potentially can put pressure on actors responsible for the deforestation. Peru has also made a reference level, safeguards system and national REDD+ program. The definition of deforestation is still discussed among different actors, and degradation and other types of forests are still not included in the definition. The National REDD+ program promotes titling and TDCs, which are in line with the ideas of CBNRM, and can contribute to reduce deforestation.

The second dimension of the sub-question relates to how REDD+ has affected deforestation. Geobosques is one innovation that can contribute to control deforestation and hold different actors accountable. Geobosques is a state led monitoring system, and the system is often not useful at the local level because of lack of resources and knowledge. Peru is characterized with illegal logging, land trafficking and illegal mining as drivers of deforestation, and this requires intervention by the state to hinder. Top-down approach and intervention by the government is often necessary for hindering deforestation in this context (see 2.4.3-2.4.4). However, my impression from some of the interviewees is that the government rarely intervenes in Peru. REDD+ advocates also aim to create a common definition of deforestation in Peru, which is important for improving monitoring and negotiations over policy. Securing property rights are a key for keeping deforestation low according to CBNRM, which has been a central policy for REDD+ in Peru. In general, we see that titling has increased since REDD+ was implemented in 2008, and accelerated even more with the coming of the DCI in 2014. The DCI also funds the TDC mechanism, that incentivizes sustainable production in the communities. This should

make conservation a win-win situation, in line with the goal of REDD+. At the national level, indigenous communities have lower deforestation than most other territories, and much lower than non-categorized territories. This strengthens the CBNRM theory. I also complemented Blackman et al. (2017) by analyzing mechanisms that can explain that these territories has low deforestation. People do not want to invade other people's territory because the state has greater incentive to intervene in categorized areas (legal mechanism). Secondly, indigenous people are more careful with their territories because of their traditional lifestyles (social mechanism). Lastly, the indigenous communities functions as a buffer to other weakly protected areas (protective mechanism).

Nevertheless, deforestation and economic activity in the Peruvian Amazon are increasing. Horizontal linages outside MINAM are poor, and the Ministry of Energy and Mines and the Ministry of Agriculture are not sufficiently concerned with protecting the forests. On the other hand, the context of Peru as a developing country that grows on exports needs to be stressed. Peru had negative growth rates and high poverty in the 1990s, but natural resources have made Peru grow and reduce poverty the last two decades.

5.0 The nested REDD+ approach: REDD+ experiences in San Martin and Loreto

In this chapter I will answer my research question by using the experience of local REDD+ projects in San Martin and Loreto as starting points. Following Larson and Ribot (2009) and Forsyth (2009), REDD+ needs to foster participation and take local needs into the design to be legitimate, which can advance REDD+ development on the subnational and national level. This idea of bringing politics closer to the people is closely connected to decentralization. Numerous developing countries have decentralized forest governance during the last decades (among them Peru) (Blackman et al. 2017; Ribot 2002, 3-4), attempting to bring policy closer to the people. The transformation to decentralized governance during the last decades has increased interest of participation, indigenous groups and international donors, as local institutions can be more effective and have greater capacity to govern their forests (see 2.4). Decentralization has been important for the REDD+ implementation (Zelli et al. 2014, 60-61), as REDD+ also has been developed in regional governments in Peru. However, the success of the REDD+ implementation varies in San Martin and Loreto. I argue that the different experience of the local REDD+ projects has been important for explaining the continued REDD+ development in the regions and the national REDD+ activities. The local actors responses to the local REDD+ projects have made the national REDD+ approach promote different policies and activities in the two regions. In this chapter, I will answer the second sub-question of my research question:

“How successful has the implementation of REDD+ been in San Martin and Loreto, and what factors facilitate REDD+ implementation on the regional level?”

This chapter is structured as follows. First, I explain the political – social context in San Martin and Loreto (see 5.1). I will explore how successful the decentralization process has been, because this is important for understanding the context where REDD+ is implemented (5.2). Thereafter I present two successful local REDD+ projects in San Martin, and one failed project in Loreto (5.3-5.5). Furthermore, I discuss how the local REDD+ projects have contributed to REDD+ development in the two regions (5.6), with a special emphasis on how the national REDD+ approach has taken local needs into account and supported with titling and TDCs. After that I will discuss how REDD+ has affected deforestation in the two regions (5.7). Throughout the analysis I will identify factors that facilitate REDD+ implementation and summarize at the end of the chapter (5.8).

5.1 Comparing the regions

5.1.1 San Martin

San Martin has an area of 5 125 300 hectares (3.9% of Peru) and around 3.378.417 (65%) of San Martin is forests (GORESAM 2018, 23; MINAM 2018a). San Martin is regarded as the most deforested region in Peru. The problem of deforestation in San Martin has its roots in building of infrastructure and big waves of migration from the 1960s. The population of San Martin increased from ca. 200.000 in 1970 to around 800.000 in 2010 (Sandoval, Porras, and Schneider 2015, 17-20). 22.000 (3.2%) of the inhabitants are regarded as indigenous peoples (GORESAM 2018, 24). The economy in San Martin grew with 6.5% annually between 2008 and 2015, and agriculture is the main revenue, accounting for around 25% of yearly revenue (SERFOR 2017, 10-11). Cultivation of palm oil has increasingly contributed to the growing economy in San Martin, and palm oil cultivation is regarded a growing threat to the forests in Peru (Crabtree and Durand 2017, 148). However, as in most Amazon regions, there are still a lot of people living in poverty in San Martin. The poverty levels fell from 66.9% in 2001 to 31.1% in 2010 (INEI 2011). Thirty point one percent of the population lived in poverty in 2014, while 6.6% lives in extreme poverty in 2014 (GORESAM 2018, 38). In chapter 4.1 I showed that few Peruvians have faith in the national congress or regional governments. However, San Martin is an outlier, because a survey from 2014 says that 76% of the interviewed people believes the government is honest (Crabtree and Durand 2017, 148).

5.1.2 Loreto

Loreto is the largest region in Peru, covers 28.7% (approximately 35 million ha) of the national territory and 50.9% of the Peruvian Amazon. Land that lacks categorization is primarily found in Loreto, and the region will therefore be a target for the DCI who aims to reduce uncategorized land (Zamora and Monterroso 2019, 2; Che Piu and Menton 2014, 5). At the same time, Loreto is a very inaccessible region with few roads (Dourojeanni 2013, 12). Approximately 900,000 people inhabits the region and Loreto has the second lowest population density in Peru (Citypopulation 2017; Zamora and Monterroso 2019, 2). 32%⁹ of the people in Loreto are indigenous peoples, which makes it the region with the most indigenous peoples in Peru (Dourojeanni 2013, 9). Poverty levels in Loreto fell from 70% in 2001 to 49.1% in 2010 (INEI 2011). Loreto is poorer than the national average. 56% lives in poverty and 27.3% in extreme poverty. The indigenous peoples are regarded as especially poor (Dourojeanni 2013, 10).

⁹ A national survey in 2007 says that only 12% is indigenous people, but this source is regarded as a very strict counting. (Dourojeanni 2013, 9)

5.2 Decentralized environmental governance

Peru has historically been a centralist state with most power concentrated in Lima (Zelli et al. 2014, 60-61). To respond to this, Peru started a decentralization process in 2001, and functions have been transferred evenly the following years after. The forestry responsibilities have mainly been transferred to subnational governments from 2010 (DAR 2012, 31). However, the resources to fulfill these responsibilities have not been sufficient (Kowler et al. 2016, 15-17). Institutions, laws and civil society are important for understanding the environment in which REDD+ will reduce deforestation. Decentralization in Peru has resulted in the establishment of Regional Environmental Authorities (ARAs), transferred functions such as the responsibility to grants titles, ZEE and conditional cash transfers (TDCs) (Kowler et al. 2016, 16-17; Fischenich 2018) and engaged the civil societies in the regions. Policies such as titling, ZEE and TDCs are regarded as key for reducing deforestation, but the regions have challenges related to implementing these policies. ZEE is very important for understanding overlapping land rights and reducing deforestation (see chapter 4.3.2.2). I will discuss it because of its connection to titling, even though ZEE is no REDD+ supported policy. These policies will be discussed here as they form part of the decentralizing process, and are central in, or related to REDD+ implementation.

5.2.1 Environmental governance in San Martin

San Martin has been one of few regions with a successful decentralization process (Crabtree and Durand 2017, 148). The region established a Regional Environmental Authority (ARA) in 2010, and most powers regarding the environment are placed in this institution (Kowler et al. 2016, 15-16). The regional government in San Martin (GORES) has received the following powers: *1. authority to grant rights over land and different types of concessions. 2. Authorization of land-use change. 3. Approval of forest management plans. 4. compliance with the national government over forestry policy* (Kowler et al. 2016, 16-17). After decentralization San Martin created a new type of ownership in the region, called “Regional Conservation and Ecosystem Recuperation Zones (ZOCRES) (Kowler et al. 2016, 23). Agrawal and Ostrom (2001) argued that decentralization can create new types of ownership, and ZOCRES are one example of this. Even as many functions have been transferred, the regional government receives little financial support from the national government for forest protection. San Martin received 3.4 million US\$ in 2015, while the national government had approximately 100 million US\$ to spend on four forest conservation programs (Che Piu et al. 2016, 37-40).

In San Martin there are 104 indigenous communities. Only 33 of these are titled, 71 are recognized but not titled and 3 have not been recognized or titled (see table 1). In the titling agency we find one example of lack of coordination. Kowler et al. (2016, 19, 27) argue that The Regional Directorate of Agriculture of San Martin (DRASM), that is responsible for titling, granted titles to indigenous communities inside national park buffer zones and regional conservation areas. However, giving titles to communities in such zones are not allowed, because they are already defined as conservation areas. The miscommunication and use of different databases in ARA and DRASM caused the overlaps, which show coordination problems in the regional government. ARA has tried to coordinate actions to avoid such conflicts but overlapping of territories is still a problem in San Martin.

ZEE is meant to hinder overlapping of titles, and San Martin actually completed ZEE in 2006. Nevertheless, the results of the ZEE is not binding for the territory, and many sectors rarely use it in policy making (Kowler et al. 2016, 27-28). ZEE shows that 64.42% of the territory in San Martin should be conserved (Sandoval, Porras, and Schneider 2015, 19). The completion of ZEE was important for claiming ZOCRES in San Martin, which has contributed to conserving forest (Kowler et al. 2016, 23). Nonetheless, Tuesta (interview 2018) insists that you need a policy for hinder overlapping of rights. 70 communities In San Martin are recognized and cannot get a title because they are overlapping with other areas. Tuctu (interview 2018) points out that ZEE is not a binding law because it does not fit the interests of the groups that control the territory, and the resources of the territory usually ends up in Lima.

ZEE was regarded as important for zoning land and fighting deforestation by some of my interviewees. I therefore find it interesting that ZEE is not incorporated in REDD+ in Peru. A goal of ZEE is to categorize land into production, protection, special treatment, recovery or urban land (Gustafsson 2017, 1152). The DCI promotes another form of zoning in San Martin, called the Forestry Zoning (ZF), which MINAGRI has implemented since 2016. The goal of this zoning is to find the best agricultural use of the land and categorize it. The land can be categorized as protection areas, zones for recuperating land, zones for special treatment and three zones of permanent production (quite similar categories as ZEE) (MINAM 2018b, 107; SERFOR 2017, 5, 41). Padilla (interview 2018) argues that since most deforestation happen in land without rights, ZF is important to assign rights to territory and categorize land.

I will not describe ZEE and ZF further, but I want to point out that I find it curious that Peru has two different zoning processes going on at the same time, implemented by different institutions. In my group interview with DAR (interview 2018) they emphasize that ZF and

ZEE can “work together” and do territorial planning, but on the other hand, it can be challenging that you have two institutions working with different tools for categorizing land. Disorder and overlapping land rights are a problem when you want to reduce deforestation. Barrantes et al. (2016, 18-20) say that Peru lacks a unified understanding of territorial planning, and this creates a lot of confusion and frustration for people from local to national level. Che Piu and Menton (2014, 5) add that sectors compete over land so that they can extract natural resources.

Tuctu (interview 2018) argues that there are 9 laws in Peru talking about decentralization, but Peru is still “Lima-centered”, meaning that Lima controls everything. The political system of Peru does not consider the size of the territories, and the Amazon regions have few people in congress and little influence. Therefore, the forests are not protected. He emphasizes that decentralization is important for reducing deforestation, but that the state need to transfer sufficient resources. The policies identified here illustrate that the success of decentralization of forestry responsibilities in San Martin has been modest. ZEE has been completed, new types of ownership that conserves the forests have emerged, but conflict over land and titling remains a challenge.

5.2.2 Environmental governance in Loreto

Loreto received forest capacities together with other Amazon regions in 2010. Among the transferred functions we find surveillance, verification and granting of rights (DAR 2012, 31; Zelli et al. 2014, 60-61). Loreto also received the power to regulate forest concession in 2014 (Fernandini and Sousa 2015, 45). Loreto created a Regional Environmental Authority in 2015, and all earlier programs and environmental institutions were redirected to the newly established ARA. This includes management of the Regional Conservation Areas , a new type of ownership (Che Piu et al. 2016, 70-71). I focus mainly on the titling processes and ZEE here as well, in thread with the idea that CBNRM is preferable for conserving forests.

Loreto has a total of 1161 native indigenous communities. 670 of these are recognized and titled, 382 are recognized but not titled and 109 are not recognized or titled. The total area titled is 6,659,345 ha (Soria and Tipula 2018). Many actors are involved in the titling processes in Loreto, but The Regional Agrarian and Territorial Authority (DISAFILPA) is the main institution (Deza and Glidemeister 2015, 132-133). Torres (interview 2018) argues that titling processes are not faster after decentralization because the regional government does not have the capacity or the budget to title communities. Support from NGOs is therefore important for titling areas. Urquiza (interview 2018) says that the DCI has facilitated the titling processes because of more money and international pressure. Monterroso et al. (2017, 20-22) show that

new community title issues in Loreto dropped from 265 between 1990 and 1999 to 80 between 2000 and 2009. In the context of decentralization, recognizing indigenous land has not been a political priority in Loreto. After NGO and indigenous organization mobilization, a law was passed in 2013 to secure that titling was supervised by a national authority, which shows that the civil society in some contexts can pressure the central government in Peru. Today, an institution under MINAGRI is responsible for supervising this process and creating a registry of native communities. Although there is of challenges related to responsibilities in titling, the procedures for titling in Loreto have improved the last few years, mainly through pressure from NGOs and REDD+ projects as the DCI. Data I received during fieldwork shows that money from the DCI contributed to titling of 98 indigenous territories in Loreto Between 2014 and 2017 (MINAM 2018b, 156). The vertical linkages through decentralization process in Loreto did not contribute to more titling due to lack of resources, but after REDD+ arrived, concern and funding for titling indigenous territories have improved. I therefore argue that vertical linkages through REDD+ has been positive for titling in Loreto.

However, the increased economic activity in Loreto creates obstacles for titling there. There are 223 areas overlapping with indigenous communities (recognized but not titled) in Loreto. 156 of those are overlapping with state area¹⁰, 0 with regional areas¹¹ and 67 overlaps with communal area¹². 25% of the overlaps are with BPPs assigned by the Peruvian state; 23% are overlapping with ANPs and 9 % with fossil fuel areas. In addition, IBC finds 26 overlapping areas with indigenous communities that are (not recognized nor titled), and 9 of those overlaps are with BPPs (Tuesta and Cáceres 2018).

Map 1 illustrates the problem of indigenous people (recognized but not titled) overlapping with other indigenous communities. The black triangles are indigenous communities waiting for a title, the yellow areas are titled indigenous communities, the green stripes are national parks, and the purple dots are deforestation. The map illustrates just a small piece of the Amazon, but as discussed above, there exist in total 249 indigenous communities in the Peruvian Amazon that overlaps with other areas. The territory that overlaps the most with indigenous communities are production forests (BPPs) and not indigenous communities as shown in the map. The black triangles (indigenous people waiting for a title) would need to migrate from their territories in

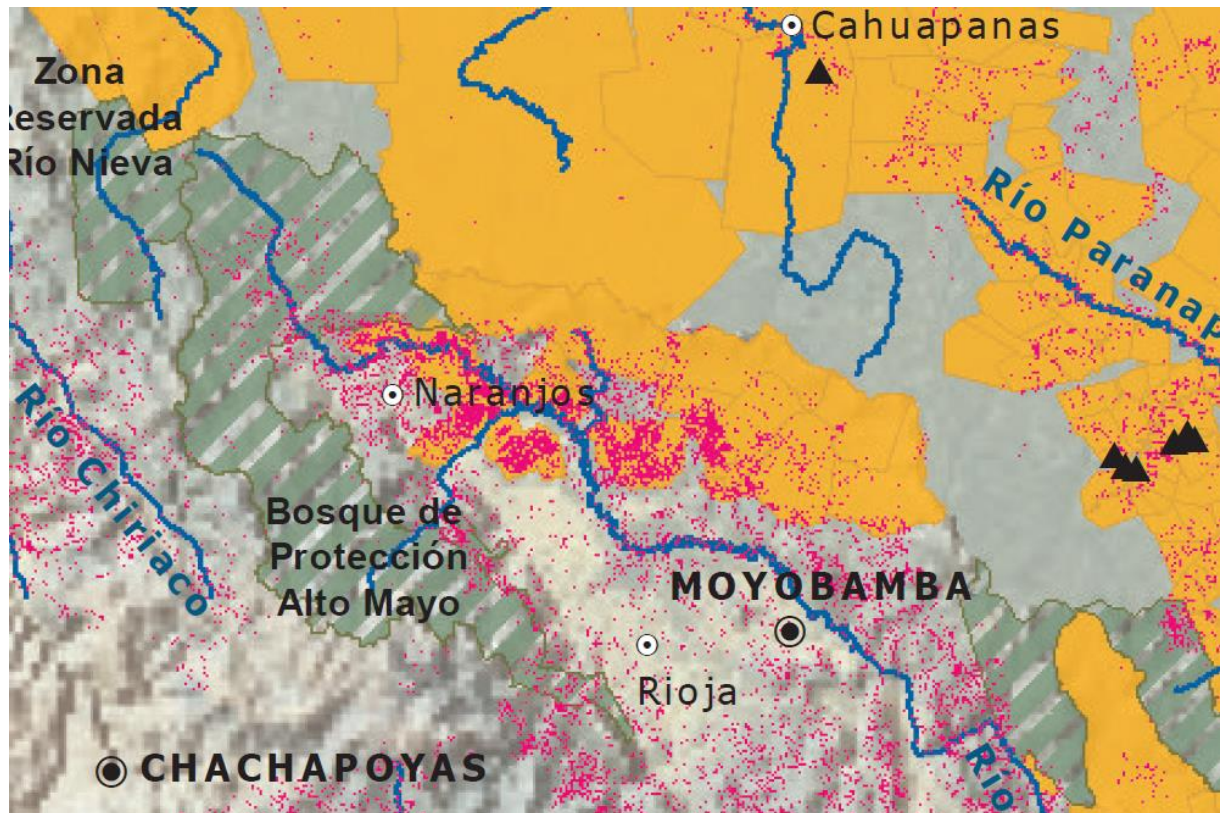
¹⁰ State area can be Production Forests (BPPs), National Protected Areas (ANPs), fossil fuel concessions, forestry concessions and other types of territories.

¹¹ Regional area can be Regional Conservation Areas (ACR)

¹² Overlapping communal lands can be for example recognized indigenous people overlapping with titled indigenous communities, see map 1.

order to be titled, which could cause deforestation. In the situation they are now, they would have no incentive to not deforest because they do not have formal rights in the territory. Likewise, the titled indigenous community need to monitor and cooperate with the indigenous people in their own area, in order to halt deforestation and manage their natural resources.

Map 1: Overlapping land rights



Source: Soria and Ríos (2014). With permission from IBC.

Tuesta (interview 2018), argues that a problem for titling today is that the many projects that aim at titling indigenous communities, including the DCI, all choose to title the “easy” areas. By “easy” areas he means the areas that do not have an overlap with another area. Referring to the data above, it remains to title 491 communities in Loreto, but 249 of them overlap with state or communal areas. It’s a question of time until there is no more land to title because of overlaps. ZEE is regarded as a cornerstone for hindering overlapping land rights and zoning land in different categories. Territorial planning through ZEE was started in Loreto in 2008, and by 2013 78% of the total area had been zoned (Barrantes et al. 2016, 22-24). Torres (interview 2018) argues that it doesn’t matter if you have ZEE, because if the state wants to promote an activity, they will override the ZEE. ZEE is only referential and not a binding law (Kowler et al. 2016, 20-21).

Luis Vela (interview 2018) from ARA Loreto argues that the decentralization process has been positive because the regional government can develop their own forest-policy in the region. Also, an anonymous interviewee (interview 2018) agrees that decentralization has been positive in some ways, decentralization caused the establishment of a Regional Environmental Authority in 2015 and Regional Conservation Areas (ACR). In my theory chapter I argued that the decentralization process could allow for the creation of new types of rights (Agrawal and Ostrom 2001, 488-489), and the ACRs in Loreto are one example of this. Multiple functions have been transferred vertically from the central to the regional government, but financial resources have not been transferred. In 2011, 780 people in the national government administered approximately 10,000,000 hectares of land. They had PEN 37,000,000 (Peruvian soles) to administer this area. In Loreto on the other hand, 87 persons administered 36,000,000 ha, with the budget of PEN 3,647,000. This means that the national authority had 3.73 PEN per ha, while the regional authority in Loreto had PEN 0.10 per ha. Following the same logic, SM has PEN 0.30 per ha (DAR 2012, 31-32). My impression from the interviews is that the situation has not changed recently. Rodriguez (interview 2018) says that the decentralization process has caused more bureaucracy and corruption, which stops development in the forest sector. An anonymous interview (2018) also points out lack of coordination between the regional and national government, which can blame each other for not taking responsibility. In this way, the decentralization process has made it harder to hold different levels of governance accountable. These findings indicate that the vertical linkages through decentralization are weak in Loreto. GOREL lacks resources and ZEE is not finished. We have seen the creation of new property rights such as the Regional Conservation Areas, and the regional government has put focus on communal land titling, but there are a lot of challenges related to overlaps of territories. Vertical linkages through the DCI and REDD+ have nonetheless been key for titling in Loreto. In chapter 5.4 I show how the local REDD+ experience in Loreto resulted in demand for land tenure, and this is something the national REDD+ project has answered through the DCI. This is preferable for low deforestation, but as I will discuss in chapter 5.6, deforestation in Loreto is increasing.

5.3 Two successful local REDD+ projects in San Martin

The civil society developed local REDD+ projects in San Martin already in 2008. I investigated two projects in San Martin during my fieldwork, both started in 2008 and are placed around national parks. The NGO “Conservation International” (CI) and the National Service for Natural Protected Areas (SERNANP) have one REDD+ project around the Alto Mayo

Protection Forest (BPAM), and the NGO “Centre for investigation and Management” (CIMA) and SERNANP have one REDD+ project around Parque Nacional Cordillera Azul (PNCA) (Sandoval, Porras, and Schneider 2015, 21). The goal of both is to reduce carbon emissions from deforestation and promote sustainable production in the areas they operate (CI 2015, 6-7; CIMA 2012, 10).

The funding source for these projects comes from carbon markets, rather than ODA aid that funds the national REDD+ mechanism (CI 2018, 42-43; CIMA 2012, 80-81). The largest indigenous organization in Peru, AIDSESEP, is critical to the idea that a carbon market is the funding mechanism in local REDD+ projects. AIDSESEP believe that REDD should not help the developed countries meet their own carbon reduction goals. Developed countries should reduce their emissions in their own countries and not other countries (Che Piu and Menton 2014, 50). AIDSESEP adds that the payments communities receive from the REDD+ project would never be able to compete with the money the communities could earn through selling natural resources and minerals (Llanos and Feather 2011, 49). REDD+ funding has changed since the start of REDD+ (see 2.3.1). Most REDD+ projects today are funded through Official Development Assistance (ODA) aid, such as the DCI. BPAM and PNCA are outliers in this regard, as they are funded through a carbon market. They are community-market partnerships, and form interesting examples of new forms of participatory governance (see 2.4.2). BPAM and PNCA are also part of the success story of REDD+ development in San Martin, as the NGOs CI and CIMA have contributed to the REDD+ development on the regional level. I will now explain these community-market projects, which have effectively reduced deforestation in highly pressured areas in San Martin. Vera (interview 2018) says that the REDD+ project was placed in Alto Mayo because there are many challenges there and the cooperation with CI has been good over time. Vera insists that it is good to have the same persons working with the same project over time. Referring to my theoretical chapter (chapter 2.3.1), working in the same place without change of personnel is preferable for successful environmental governance. Ríos (interview 2018) argues that the local REDD+ projects were placed in San Martin because of land trafficking, which is increasingly threatening territories in San Martin. To stop land trafficking, one needs police and enforcement according to Loayza (interview 2018). He also adds that the success story behind the local projects is their ability to do surveillance, monitor, promote sustainable activities and cooperate with important institutions.

5.3.1 Alto Mayo Protection forest

Alto Mayo Protection Forest (BPAM) is a REDD+ Project in the northern San Martin, managed by the NGO CI and SERNANP. The project started in 2008 and lasts till 2028 (Zelli et al. 2014, 73-74; CI 2015, 13). SERNANP is managing the national park, and CI is working with the communities inside the park and around the park (hereafter the buffer zone) (Pedro Gamboa in CI 2018, 7-8). The park covers 182,000 hectares of forest in a very biodiverse area of San Martin. Alto Mayo was established as a National protected Forest in 1987 because of its valuable forests. Nonetheless, mainly because of migration from the Andes to the Amazon, the Alto Mayo area has been invaded by settlers since the construction of a highway there in 1975 (CI 2015, 6-7). Coffee production is the main crop in the area (also a direct driver of deforestation in Peru), but the coffee plantations have produced coffee in a very unsustainable way, causing deforestation. Therefore, CI has sought to create “conservation agreements” between communities and the head office of the park, the goal of these agreements is to increase productivity and produce sustainable coffee (CI 2018, 7-8). Funding for the project mainly comes from the REDD+ carbon market (CI 2018, 42-43). Deforestation rates in the park increased until 2008, but the trend reversed in the park and the buffer zone after the REDD+ project started in 2009 (MINAM 2018a).

Concern on the environmental issue is important for successful aid (see chapter 2.3.1). According to Vera (interview 2018), REDD+ is a good mechanism for reducing deforestation because it makes people conscious about the forests and its value. She regards sustainable production through “conservation agreements” and better monitoring as important mechanisms for reducing deforestation. The “conservation agreements” are a deal between SERNANP and leaders of the families in Alto Mayo, where they agree to do sustainable production of for example coffee. The communities there also do local monitoring and can notify SERNANP if there is deforestation happening. Since they started the REDD+ project, concern of forests has increased. CI has taken local needs into account through the conservation agreements, which has made REDD+ more legitimate for the people in the area, this fits with the idea of (Larson and Ribot 2009; Forsyth 2009). Furthermore, CI is accountable to the regional government, and cooperates with the regional SERNANP office on the REDD+ project. Successful decentralization depends on that NGOs are accountable to the regional government, which CI seems to be in San Martin. This is a good example of a project that has reduced deforestation through pressure from NGOs. However, people in BPAM who do not have conservation agreements remain more skeptical to REDD+ (interview Vera 2018).

5.3.2 Parque Nacional Cordillera Azul

The REDD+ project Parque Nacional Cordillera Azul (PNCA) is based in a national park that stretches between four regions of Peru, San Martín, Loreto, Ucayali and Huanuco. The REDD project started in 2008 and last till 2028, but revenue from carbon credit sales can fund the project even further. The park area is 135,196,385 ha, while the buffer zone is 230,341,475 ha. In contrast to BPAM, no people live inside the park (CIMA 2018, 12-14). The buffer zone is the land that surrounds the national park, including all of the communities that may be affected by the project (CIMA 2012, 25) The park buffer zone is managed by the NGO CIMA, after obtaining a full management contract with SERNANP in 2008. The park is funded through carbon credits obtained by avoiding deforestation, and CIMA is distributing this money for park activities (Kowler et al. 2016, 81-82). Some of the main threats to deforestation in the area are illegal logging, land trafficking and immigration (Kowler et al. 2016, 81-82). CIMA themselves mention that people lack land tenure in the buffer zone (CIMA 2018, 18-19).

Pedro Flores, coordinator for CIMA (interview 2018) highlights that CIMA works with the communities in the buffer zone through four programs. 1. Life quality plans 2. Strengthening productive organization. 3. Environmental education. 4. Environmental management. I will not go through these in depth, but these are programs to help the communities to do sustainable production and conserve the forest. Flores insists that CIMA only helps them form the programs through technical assistance, and the communities themselves implement the programs. Gustavo Montoya (interview 2018) from The National Service of Protected Areas (SERNANP) says that CIMA does the monitoring. CIMA gives the monitoring information to local communities and the government to show where the deforestation occurs. SERNANP also has a lot of surveillance points for controlling the park and intervening in deforestation events. Nonetheless, Montoya argues that handling invasions requires a lot of logistics because of the big distances in the park.

According to the data of (MINAM 2018a), deforestation has actually increased in the national park PNCA, mainly due to a big leap of deforestation in 2015, while the buffer zone where CIMA work has reduced deforestation a little bit since the REDD+ project started. Montoya (interview 2018) notes that the park was subject to a big invasion by settlers a few years ago. Following the data on MINAM, I assume 2015 is this year. Deforestation has annually been on around 300 hectares between 2001 and 2014, but increased to 2000 hectares in 2015. Also 2016 marks an unusual high deforestation year with 900 hectares deforested.

5.4 The failure of a local REDD+ project in Loreto

BPAM and PNCA are regarded as local REDD+ projects. These build capacity and knowledge on the local level, and can contribute to implement REDD+ on the subnational and national level. These have been successful in San Martin, especially after the local communities adapted to them. These projects are examples of successful community- market partnerships, coming with the transnational approach to the climate crisis. In Loreto on the other hand, REDD+ had a reverse effect. An attempted local REDD+ project caused a lot of skepticism towards REDD+ projects, especially among the indigenous peoples. The attempted project and the subsequent criticism have received international attention (de Jong, Torres, and Vega 2014, 65), and also contributed to developing REDD+ in Peru.

5.4.1 The carbon cowboys

The term “carbon cowboy” refers to *“entrepreneurs who try to make deals with indigenous or other forest dwellers, to capture benefits from carbon rights of carbon rich resources that the forest dwellers hold or are entitled to. Once the carbon cowboys have signed those deals, they will offer the carbon credits to possible investors”* (de Jong, Torres, and Vega 2014, 64-65). This has become a global fear related to REDD+ implementation, and one of the best examples we find in Loreto in 2010, the early REDD+ days of Peru. Indigenous peoples in Brazil, Bolivia and Colombia have had similar experiences with carbon cowboys (Aguilar-Støen, Toni, and Hirsch 2016, 225). I will shortly summarize the situation in Loreto, which illustrates the phenomenon well. Initially, an Australian entrepreneur representing the carbon company Sustainable Carbon Resourced Limited (SCRL), tried to sign a contract with The Regional Government of Loreto (GOREL) for a forest carbon project, but was rejected (Llanos and Feather 2011, 42-43). Thereafter, the entrepreneur tried to strike an English written contract between the Matsés indigenous community in Loreto and SCRL for selling carbon credits (de Jong, Torres, and Vega 2014, 63-64). The contract, a “joint venture”, emphasized that profits would be divided 50% between the Matsés and SCRL, the contract would be governed by English law, SCRL should be in charge of the administration of the forest and the Matsés would have restrictions on resource use. The contract could only be terminated after a mutual consent and had no given termination point (Llanos and Feather 2011, 42-45). As emphasized in chapter 2.2.2, cooperation is important for successful environmental aid. This example shows how perverse incentives rose from the proposed REDD+ project. The local communities need to have ownership in the project through participation and contributions if the aid is to be successful. The perverse incentives in this project created a lot of skepticism towards REDD+

among the indigenous communities, because the indigenous people were not included sufficiently in the process of creating the contract. As I have discussed in chapter 4.2.2, REDD+ is a vague concept and can mean a lot to different people on various levels. This early REDD+ experience in Loreto made indigenous people skeptical to REDD+ in general, which harms the legitimacy of REDD+.

This case resulted in the indigenous organizations AIDSESEP and “Coordination of Indigenous Organizations of the Amazon Basin” (COICA) organizing a REDD+ workshop in Iquitos for handling and criticizing the situation. The REDD+ workshop resulted in the creation of the Iquitos Declaration; “*There is no REDD+ without territory*” (de Jong, Torres, and Vega 2014, 72). In this declaration, AIDSESEP and COICA expressed concerns related to the development of REDD+ and how such projects can trick indigenous people and steal land. They therefore demanded titling of indigenous territories, enactment of the Indigenous law for free, prior and informed consent, establishment of indigenous REDD+ roundtables and an indigenous REDD+ program (AIDSESEP 2011).

An anonymous source (interview 2018) emphasizes that the experience with the carbon cowboys and the Matsésés can be part of the explanation for why REDD+ development in Loreto has been poor. Indigenous peoples are skeptical to be tricked by REDD+ projects and carbon cowboys. de Jong, Torres, and Vega (2014, 64-65, 79-80) argue that this case demonstrates weaknesses of REDD+ in remote locations of the Amazon, as it can be misused in locations with poor political and institutional stability, corruption and lack of rule of law. They emphasize that REDD+ needs to find tools that allow for implementation in those areas to be successful. Montoya (interview 2018) points out important mechanisms that facilitates REDD+ implementation. He argues that communication and language towards indigenous peoples are key in Peru. REDD+ advocates and the beneficiaries need to talk the same language in order for REDD+ to be implemented. The carbon cowboys are a good example of this, unless the indigenous peoples are sufficiently incorporated in the process of making the agreement, they will not regard it as legitimate.

This case shows that REDD+ is actually trying to adapt to the local contexts. The criticism from AIDSESEP and COICA resulted in the creation of REDD+ indigenous roundtables, more focus on titling of communities and strengthened focus on the law of free, prior and informed consent. Titling of indigenous communities and TDCs are two policies incorporated in the DCI agreement from 2014, as I have shown in chapter 4.2.5.

5.5 What have we learned from the local REDD+ projects?

BPAM and PNCA in San Martin are examples of new forms of governance, coming with the development of REDD+ in Peru. Apart from the PNCA park which had a big leap of deforestation in 2015, the local projects have reduced deforestation through working with the communities surrounding the park. Loayza (interview 2018) mentions four mechanisms that can explain some of the local project's success. *1. Surveillance and control 2. Monitoring. 3. Productive activities. 4. Institutional stability.* Both CIMA and CI are accountable and legitimate in the regional and national government, which is important when decentralizing powers (see 2.4.1). CI and CIMA work directly with some of the communities in the buffer zones, and develops local monitoring system, which also is fruitful for the controlling the territory. I identified a “protective” mechanism in chapter 4.3.1, and the NGOs ability to work with communities around the national parks functions in the same way. The work in the buffer zone hinders deforestation through surveillance and local monitoring. Local monitoring is also important for the legitimacy of REDD+ (see 2.4.4). In addition, they handle the economic dimension of the conservation problem through sustainable production agreements, and the communities affected by this cooperate, which are important for successful aid (see 2.3.2). Lastly, consistency in personnel is important for institutional stability (see 2.2,1), which also fits good with the local REDD+ projects in San Martin.

These projects can be regarded as new forms of participatory governance, or what Lemos & Agrawal name community-market partnerships (see 2.4.2). The state did not have enough capacity to control the forest here, but after REDD+ funded NGOs came to the two parks in 2008, the management and conservation of the parks and surrounding areas have improved. They are examples where pressure from NGOs cause institutional stability.

Following the theories of CBNRM (see 2.4.3), communities can monitor themselves and sanction other members if someone breaks the law. The approach of the NGOs in these two areas is that the people here need to be educated in how to live in the forest (Interview Vera 2018; Flores 2018). CBNRM does therefore not hold for these areas, as the NGOs believe that they need to give the technical assistance to teach people how to conserve and produce sustainably. On the other hand, the local projects cannot give the communities land titles, as these needs to be done on a higher level (interview Padilla 2018). The people there would therefore not have a legal incentive to stop deforesting, because they don't have rights in the area and their areas could be subject to migration. Another argument is that many of the people surrounding the park area are also migrants and people who have arrived after the construction

of roads in San Martin. They do not have the same traditional lifestyles as the indigenous people. The theory of CMNRM says that securing titles and traditional lifestyle are important for keeping deforestation low (see chapter 2.4.3).

There is also an economic challenge related to the local REDD+ projects. Loayza (interview 2018) mentions that funding for these projects are dependent on carbon markets, and the price of carbon credits are therefore very important. He questions if this funding source is sustainable in the long run. Also (Llanos and Feather 2011, 7) are skeptical towards channeling money through these carbon markets, as prices can fluctuate. The message of the SCRL to the Matséses in Loreto was that SLRC would sell the carbon credits, manage surplus, and that it would generate more income and be more sustainable than logging (de Jong, Torres, and Vega 2014, 67-70). The economic insecurity of aid projects is also emphasized in my theory chapter (see 2.2.2). Gibson et al. (2005, 17) argue that ownership in a project through participation, contributions and benefits is important for the sustainability of a project. There is definitely a challenge with this in the local REDD+ projects, as the long-term funding of the projects is dependent on highly insecure carbon markets. BPAM and PNCA have managed to find funding sources so far, but the contracts with BPAM and PNCA only last until 2028. The Matséses on the other hand, had little incentive to believe the REDD+ project would give them benefits, and they were not included sufficiently in the project proposal. This caused fear for similar types of REDD+ projects in the Amazon. On the other hand, the attempted local REDD+ project in Loreto has contributed to improvement in the national REDD+ program in Peru. Titling of indigenous communities, new REDD+ institutions and the law on prior, informed consent were strengthened. Even as this specific Loreto experience with REDD+ was based on perverse incentives, it contributed to a situation where non-state actors such as indigenous organizations could pressure the state to take their local needs into account in REDD+ development. Larson and Ribot (2009) and Forsyth (2009) argued that REDD+ needs to take local needs into account to be legitimate, and this situation in Loreto is an example where this occurred. Participation is therefore a factor that facilitates REDD+ implementation.

5.6 Regional and national REDD+ development in the regions

5.6.1 REDD+ development in San Martin

San Martin has worked with the development of REDD+ since 2009. An early goal was that San Martin should be regarded a pilot region, and thereby provide knowledge and experiences to the national REDD+ development (Sandoval, Porras, and Schneider 2015, 23,26). Delagdo (interview 2018) from ARA San Martin says that San Martin is regarded as a pioneer region on

REDD+ in Peru, and that the development of REDD+ there can function as a model on the national level. However, she emphasizes that it is important to separate between the national REDD+ implementation and the local projects BPAM and PNCA.

The core agency for forest and REDD+ in San Martin is the Regional Department of Natural Resources and Environmental Governance (GRN). ARA San Martin was created as a subdivision of the GRN after decentralization, and ARA houses the REDD+ roundtable, which is a key forum for incorporating actors in REDD+ strategies (Zelli et al. 2014, 62-63, 66). All decisions regarding REDD are formulated in the REDD+ roundtable and proposed to the regional government. Meetings in the roundtable are held monthly, and includes civil society actors, indigenous groups and interested actors. The roundtable also coordinates REDD+ work with regional government offices, agricultural corporations and park authorities (Murray et al. 2015, 63-66; Zelli et al. 2014). REDD+ work is divided into three committees, who are heavily chaired by NGOs. CI and CIMA, which implements the local REDD+ projects BPAM and PNCA, are part of all three committees (Zelli et al. 2014, 66). These NGOs therefore have a lot of influence in REDD+ development in San Martin.

The nested REDD+ approach in Peru implies that the local REDD+ projects and regional governments will contribute to the development of REDD+ on the national level. San Martin follows the guidelines from MINAM to establish its own regional baseline level of carbon emissions (Che Piu and Menton 2014, 52-53). This reference level is established and financed by NGOs (Zelli et al. 2014, 66). The reason for this is that NGOs have interests in building reference levels for their own local REDD+ projects, and can therefore also help to do this on the regional level. However, actors on different levels operate with different methodologies, and there are few attempts to coordinate the actions, which has been a subject of discussion in the regional roundtable meetings (Che Piu and Menton 2014, 52). Padilla (interview 2018) also argues that the reference levels made in the local projects are not compatible with the national implementation reference level. They work with the NGOs in San Martin to make them compatible, but they are not compatible today. This multilevel interaction in REDD+ is an attempt to increase vertical linkages on environmental issues in Peru, but since the reference levels are not compatible across levels, it's a weak linkage

ARA San Martin and CI decided to develop a REDD+ safeguards system (SIS) in 2012, based on international guidelines for SIS systems. The idea of the SIS system is to secure that the development of a REDD+ system on the national level takes into account human rights, poverty challenges and the biodiversity protection (Sandoval, Porras, and Schneider 2015, 23-24). One

of the biggest achievements of this process has been to create a regional committee on safeguards in 2014. This committee consist of actors from indigenous people, the civil society and the private sector. The development of this SIS system has strengthened the civil society coordination, and functions as a model for other regions and the development of REDD+ on the national level (Sandoval, Porras, and Schneider 2015, 35-37, 47-48). San Martin has made progress on the SIS systems, but Delgado (interview 2018) says that the safeguards are hard to understand, and it's difficult to implement them if you don't have a national system for it.

The literature on REDD+ in San Martin focuses mainly on the reference level system and the SIS system in San Martin. In addition, San Martin can use the Geobosques monitoring system that has been developed on the national level. Padilla (interview 2018) says that they want the local projects in San Martin to use the deforestation information and monitoring system that Geobosques offer, as it is good to have the same monitoring system in all of Peru. This follows the ideas highlighted in chapter 2.1: Schoene et al. (2007) emphasize that definitions of forest and deforestation should be the same all over the world, as this would make implementation and monitoring more efficient.

San Martin contributes to the national REDD+ approach, especially in terms of developing a SIS system. However, the reference levels are still not compatible with the national approach, which show poor vertical linkages in the REDD development. The NGOs CI and CIMA (discussed in 5.3) are central members of the REDD+ roundtable in San Martin and contributed to the development of the REDD+. Their work in the local REDD+ projects have contributed with capacity building and increasing concern on forests, from the local to national level. My impression from the interviews is that experts promote these projects as successful cases of REDD+ which can be used as models for REDD+. However, Padilla (interview 2018) insists that the local REDD+ projects are placed in specific areas, and REDD needs to cover the whole Peruvian Amazon in order to reduce deforestation on the national level. Nonetheless, I argue that they have contributed to improving environmental governance in San Martin, which we will also see through reduced deforestation rates in chapter 5.7.

5.6.2 REDD+ development in Loreto

Loreto is not a pilot region for REDD+ like San Martin, nor have NGOs contributed to developing REDD in the same way. At the same time, REDD+ development in Loreto illustrates an interesting side of REDD+ development in Peru, mainly because of the high amounts of indigenous people in the region. The early carbon cowboys experience created fear for REDD+ projects among indigenous peoples in Loreto. In turn, this created demands for the

enactment of the law of prior and informed consent, REDD+ indigenous roundtables, an indigenous REDD+ program and titling of territories (AIDSESEP 2011, 2). Shortly summarized, REDD+ in Loreto is mainly a case of REDD+ adapting to the demands of indigenous people. Before I return to this, I will shortly describe other REDD+ developments in the region.

Loreto has not established a formal REDD+ program, but civil society actors, the regional government, local university and SERNANP have met sporadically to discuss REDD+ related themes (Che Piu and García 2011, 44-45). Torres (interview 2018) argues there is no plan for REDD+ in Loreto, and insists that the model in San Martin is not a model to follow for other regions, because there are no concrete projects to follow. On the other hand, Loreto is a part of the national REDD+ implementation, and the DCI is funding initiatives like titling and the TDCs in Loreto. As I emphasized in the theory chapter (2.1), the policies through the national REDD+ program are regarded as the best way to actually reduce deforestation.

MINAM is also trying to use the Geobosques early warning system in Loreto, and educates communities and the Regional Government in Loreto in how to use this function (MINAM 2017, 74). Rodriguez (interview 2018) argues that Geobosques is not a program meant for those who actually live in the forest. The communities do not have a phone or internet, and Geobosques is not designed for them. This can be understood as a vertical linkage, as the national government transfers a function to the lower level. Monitoring theory say that community-based monitoring is the best form of monitoring, and the effectiveness of a policy to reduce deforestation can depend of the monitoring systems (see chapter 2.4.4), but it seems like the monitoring system in Loreto can be too complex for the people that should use it, and REDD should take the local needs into account in order for Geobosques to function correctly.

Indigenous REDD roundtables are one of the newer civil society projects contributing to REDD development in Peru. The carbon cowboys experience in Loreto was a main factor for the establishment of these roundtables (DAR 2012, 39). Indigenous roundtables were established in San Martin in 2011 and in 2013 in Loreto. The idea of these tables is to promote the interests and rights of indigenous peoples in the national REDD development (Zelli et al. 2014, 57-58). Indigenous people also demanded an indigenous REDD+ program, whose goals are to secure that indigenous peoples are included in REDD+ processes, support sustainable production and secure access to natural resources for indigenous communities (López and Mesía 2014, 11). The establishment of new REDD+ indigenous institutions and programs has been important for REDD+ development on the national level. I remind you of the goals of the DCI, presented in chapter 4.2.5: *1. Titling of 5 million hectare for mainly indigenous communities, 2. paying*

communities for conservation through direct transfers (TDCs) and 3. reduce land without categorization by 50%. These goals are in line with the ideas of CBNRM highlighted in chapter 2.4.3. The first and third goal promotes titling, which may keep deforestation low, and is one way of decentralizing functions and letting the communities monitor themselves. In chapter 4.3.1, I identified that social, legal and protective mechanisms are what makes indigenous territory preferable for keeping deforestation low. However, the second goal of the DCI highlights the importance of the economic dimension. If the indigenous people are to reduce deforestation, they need other sources of revenue. REDD+ is regarded as a win-win mechanism, conserving the forest while being economically beneficial. The TDCs is one example of this in Peru. The indigenous REDD+ program (RIA) is also a part of the second goal. RIA promotes surveillance activities, life plans, and securing land rights for indigenous peoples (MINAM 2018b, 109).

The Conditional Cash transfers (TDCs) are a state-community partnership (see chapter 2.4.2) as the state is paying directly to the communities (only titled communities) for conserving their forest. This policy falls under the category of CBNRM, assuming that communities themselves can reduce deforestation through monitoring and sanctioning each other in their community. Vera (interview 2018) is skeptical to the TDCs because if one groups receives it, other people will wonder why they are not receiving money. Everyone will therefore believe they receive money for conserving, which is not the case. As highlighted earlier, the communities related to the local REDD+ projects in San Martin do not receive payments for conserving, only technical assistance (see chapter 5.3.1 and 5.3.2). Vera (interview 2018) emphasizes that she believes the government need to promote environmental consciousness and sustainable production in order to reduce deforestation (which is what they do in the local REDD+ projects in San Martin). The TDCs cannot do this because they are only money transfers. Only when the people have changed mentality towards sustainable production and environmental concerns, the TDCs would be a good policy according to Vera. However, an anonymous interviewee (interview 2018) argues that the TDCs have been successful in San Martin, apart from some challenges with corruption.

In Loreto on the other hand, Luis Vela (interview 2018) regards the TDCs as a very successful policy in Loreto. He also says that *“You can’t reward people that deforests, like in San Martin”*. In San Martin there comes a lot of money and projects, but a lot of the region is already deforested. I argue that it is more likely that the TDCs can be more successful in Loreto, as the indigenous people there do not deforest much, and fits better with the theories of CBNRM. The

region has less infrastructure and less migration than San Martin, and indigenous people have kept their traditional lifestyles. In San Martin, indigenous people are actually a main actor deforesting (will be discussed in chapter 5.7.1). When indigenous communities in Loreto have their territories titled, they have both the social, legal and protective mechanisms I identified in chapter 4.3.1, and this contribute to explaining why some indigenous people have less deforestation. Padilla (interview 2018) highlights that titles are necessary but not sufficient for reducing deforestation. Sustainable production on the other hand, can be the sufficient factor for reducing deforestation. This economic dimension is important to keep in mind because everyone needs an income. The TDCs incentivizes to produce sustainably, because they will not get payments if they cut down their trees. In chapter 2.4.1 I argued that success of decentralization often depends on if climate policies give socioeconomic benefits. TDCs are one example of this.

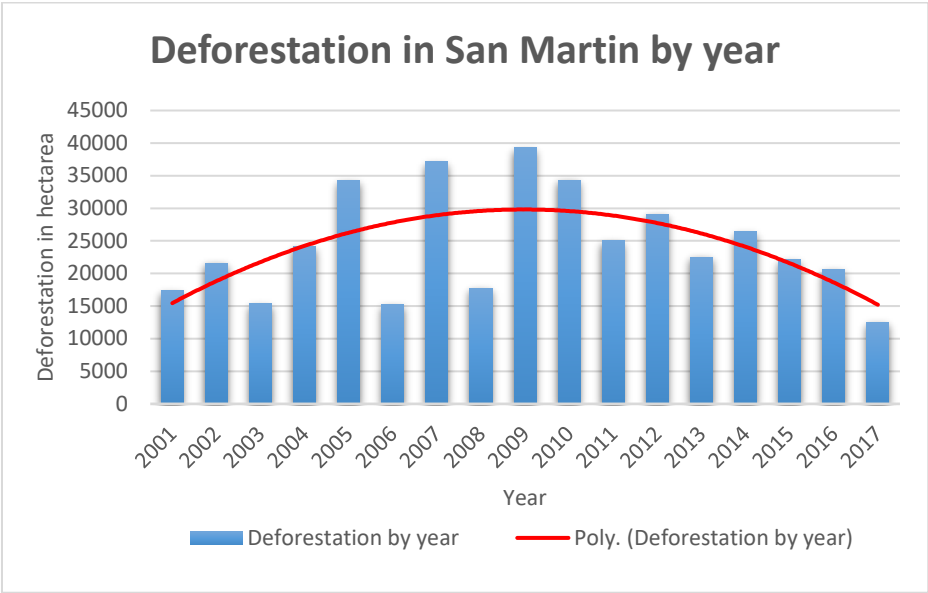
I think the discussion about the TDCs and local REDD+ projects illustrates an important point. San Martin is an agricultural region with deforestation driven by much migration, illegal activities such as land trafficking and relatively few titled indigenous communities. The local REDD+ projects, private-community ownership, have tried to work with the communities. They believe they need to change the mentality of the people in order to reduce deforestation. The TDCs on the other hand, pays communities directly for conserving, but the response to this policy in San Martin was mixed, partly because they don't have control over what the people do, and in general, everyone (including indigenous people) in San Martin deforests. In Loreto, a large region with much uncategorized land and more indigenous people, people are skeptical towards local REDD+ projects and being managed by someone else. After the carbon cowboys experience, there was a huge demand for titling of territory, and the DCI is contributing to this. The TDCs are also arguably more successful in Loreto, because the indigenous people here want to manage their own resources, and the conditions in Loreto are favorable for CBNRM.

5.7 Deforestation in the regions

5.7.1 Deforestation in San Martin

San Martin has been the region with the most deforestation in Peru the last decades (MINAM 2016, 40). Figure 9 shows deforestation in San Martin between 2001 and 2017. The trend show that deforestation increased until 2009 and has gradually been reduced after that. San Martin has done many institutional changes to confront the deforestation problem. Among them is the adoption of REDD+ from 2009, which can contribute to explain why deforestation in San Martin is reduced.

Figure 9: Deforestation in San Martin 2001-2017



Source: MINAM (2018a).

The deforestation in San Martin is mainly due to agricultural expansion and road building from the 1960s. The development of the region has made it one of Peru’s main agricultural regions, where rice, bananas and coffee are the main crops. The main challenges related to deforestation today are deforestation caused by industries (especially palm oil) and deforestation in indigenous lands (Valqui, Feather, and Llanos 2015, 95-100). Another immediate driver of deforestation in San Martin is land trafficking. This form of deforestation is related to high levels of immigration and poor governance intervention (Shanee and Shanee 2016). Loayza (interview 2018) agrees that land trafficking is a problem in San Martin. He argues that the land traffickers are organized mafia, and therefore police and enforcement is needed to stop this driver of deforestation. This driver requires very different policies, as it is illegal, connected to corruption and can be violent (Shanee and Shanee 2016). Such examples show how diverse policies Peru needs to confront in order to reduce deforestation. Coordination among different ministries is important to respond to the “early warning” system that Geobosues offer, and top-down intervention is important to confront illegal activities (see 2.5.3 and 2.5.4).

Contrary to the theory about community-based natural resources management, titled indigenous communities in San Martin are deforesting quite a lot. Three indigenous communities in San Martin (Huascayacu, Shimpuyacu and Alto Mayo) have very high rates of deforestation from 2000 to 2015. The Huascayacu deforested 56%, Shimpuyacu deforested 39% and Alto Mayo deforested 38% of their own territory in this period. Remarkably, the total area deforested in these 15 years, is six times higher than the total area deforested before year 2000 (Ríos et al.

2017, 68-69). Three factors contributed to the high deforestation rates in these three areas. *1. Construction of roads close to the communities in the 1970s, 2. Immigration and the establishment of settlements and 3. A policy which gave each member of the community an individual lot of 70 hectare.* These individual lots are again rented to local businessmen, who use it for rice plantations or coffee production. These three factors are regarded as the causes of the unusual high deforestation in these indigenous communities (Valqui, Feather, and Llanos 2015, 100-101). Tuesta (interview 2018) agrees that migration and renting of areas are the causes of deforestation in indigenous lands in San Martin. These findings coincide well with the ideas of the critical institutionalists (see chapter 2.4.3). Critical institutionalists argue that community- management can bring unexpected outcomes because of changing interactions between community members and the state. The example of the Huascayu, Shumpiyacu and Alto Mayo indigenous communities show that in certain contexts, indigenous people also deforests.

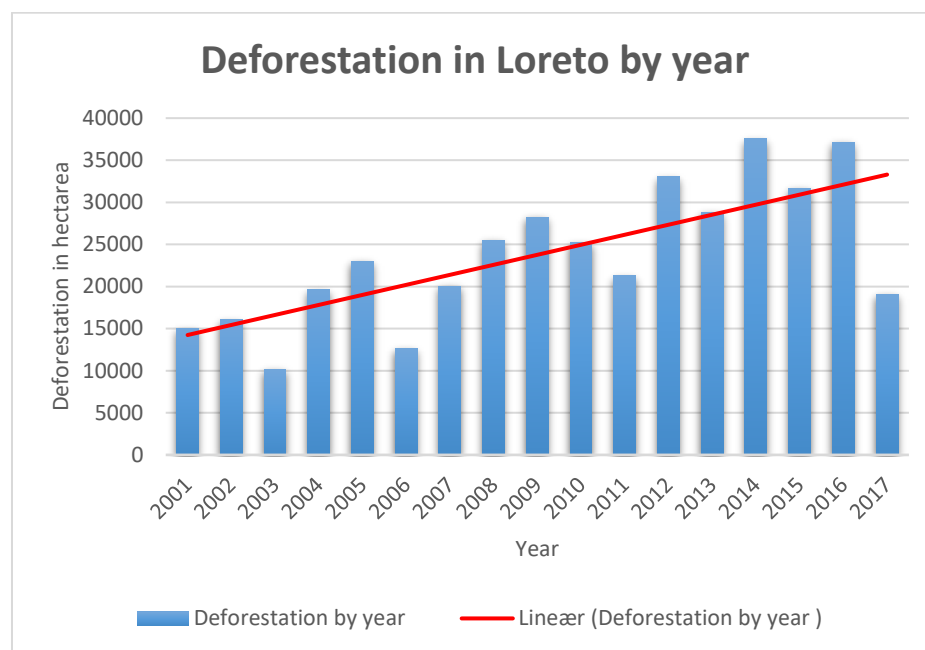
My findings on the national level show that titling indigenous communities is a policy for reducing deforestation. However, by looking at the subnational level I find that this does not hold for all regions of Peru. This shows the strength of the subnational comparison, and that what is true on the national level can vary on lower levels.

5.7.2 Deforestation in Loreto

Loreto is the second most deforested region in Peru after 2000, only after San Martin. Figure 10 shows the deforestation in Loreto between 2000 and 2015. The deforestation drivers are a combination of agriculture, migration and illegal activities. Agroindustries (e.g large scale palm oil, cacao and oil projects) has shown interest in the large region the last years, which has increased concern for the forest in Loreto (Che Piu et al. 2016, 64-65; MINAM 2016, 42). Numbers from MINAM show that deforestation in the region is increasing, and the last years deforestation in Loreto grew over the Amazon average. Historically, 70% of deforestation has been in areas under 5 HA, but from 2007 deforestation has increased in areas from 50-500 ha and 500> ha. This shows the increased deforestation caused by larger industries (MINAM 2016, 101,158). Another cause for concern is that studies in Loreto show that there exists seven projects which aim to construct new roads in the Amazon (Che Piu et al. 2016, 25-26). 75% of all deforestation happens within 20 km of a road, and the proximity of the road can remove the effect of the ability of titled indigenous people to conserve (Oliveira et al. 2007, 1235; Soares-Filho et al. 2006).

I will now show a figure presenting deforestation data from MINAM, and a table presenting deforestation data by the NGO IBC. I chose to show both of them, because comparing them show how different deforestation methodology can result in different deforestation rates. The findings here are striking.

Figure 10: Deforestation in Loreto 2001-2017



Source: MINAM (2018a).

Table 5: Deforestation in territories in Loreto

Land category	Total Area	Deforestation 2001-2005		Deforestation 2006-2010		Deforestation 2011-2015		Total area deforested	
		HA	% of own territory deforested	HA	% of own territory deforested	HA	% of own territory deforested	HA	% of own territory deforested
Area outside TI and ANP	19,671,734	120,287	0.61%	148,710	0.75%	67,094	0.34%	336,091	1.7%
TI	10,690,421	45,108	0.42%	52,074	0.49%	23,858	0.22%	121,040	1.13%
Recognized TI	6,121,897	41,666	0.68%	47,140	0.77%	20,755	0.34%	109,561	1.78%
Not recognized TI	4,568,524	3443	0.08%	4935	0.11%	3103	0.07%	11,481	0.25%

ANP	8,865,695	9345	0.11%	20,855	0.24%	7032	0.08%	372,32	0.41%
ACR	2,201,420	500	0.02%	956	0.04%	394	0.02%	1850	0.08%
Loreto	37,501,935	173,521	0.46%	220,259	0.58%	97,101	0.26%	490,881	1.30%

Source: Soria and Ríos (2017). Notes. Colored areas mark the total Loreto area.

Abbreviations: TI = Indigenous territory, ANP= National Protected Area, ACR= Regional Conservation Area.

Figure 10 and table 5 show how different definitions of deforestation result in different trends of deforestation. In figure 10, we see that deforestation in Loreto is increasing over time, which has made it the second most deforested region in Peru after San Martin (Che Piu et al. 2016, 63). As discussed in chapter 4.2.4.3, Geobosques is a result of the national REDD+ implementation, and all regions follow this reference level. The table on the other hand, is constructed by IBC that has done georeferencing the last 20 years. They follow the deforestation methodology of the organization RAISG (Amazon Geo-Referenced Socio Environmental Information Network), that creates maps over all Amazon countries. As we see in table 5, their findings indicate that deforestation rates in Loreto increased from 173,521 hectare 2001-2005 to 220,259 hectare between 2005 and 2010, then was almost halved by 2015. Figure 10 shows that deforestation grew constantly after 2010. The methodologies are not compatible by far and show a big weakness in deforestation literature. Table 5 shows that 336,091/490,881 (68%) of all deforestation in Loreto occurred in land outside indigenous territory or national protected areas. Nevertheless, titled indigenous communities actually have deforested most as a percentage of their own territory (1.78%). Indigenous communities that are not recognized has a much lower deforestation, with only 0.25% of their own territory deforested. Following this, I can argue that titling is not a policy for reducing deforestation in Loreto, contrary to the CBNRM. This is striking, as my impression from the interviewees is that titling territories is a policy for keeping deforestation low. Valqui, Feather, and Llanos (2015, 31) emphasize that satellite monitoring must be taken with caution, because satellites cannot distinguish between traditional farming and forest loss. Deforestation rates in indigenous lands can therefore be overestimated. Furthermore, studies show that forestry concessions deforests outside their own territories, which has an impact on deforestation in indigenous lands (Finer et al. 2014). Tuesta (interview 2018) also highlights that titled territories function as a buffer against other zones and hinders migration. In this way, titling is a policy for reducing deforestation.

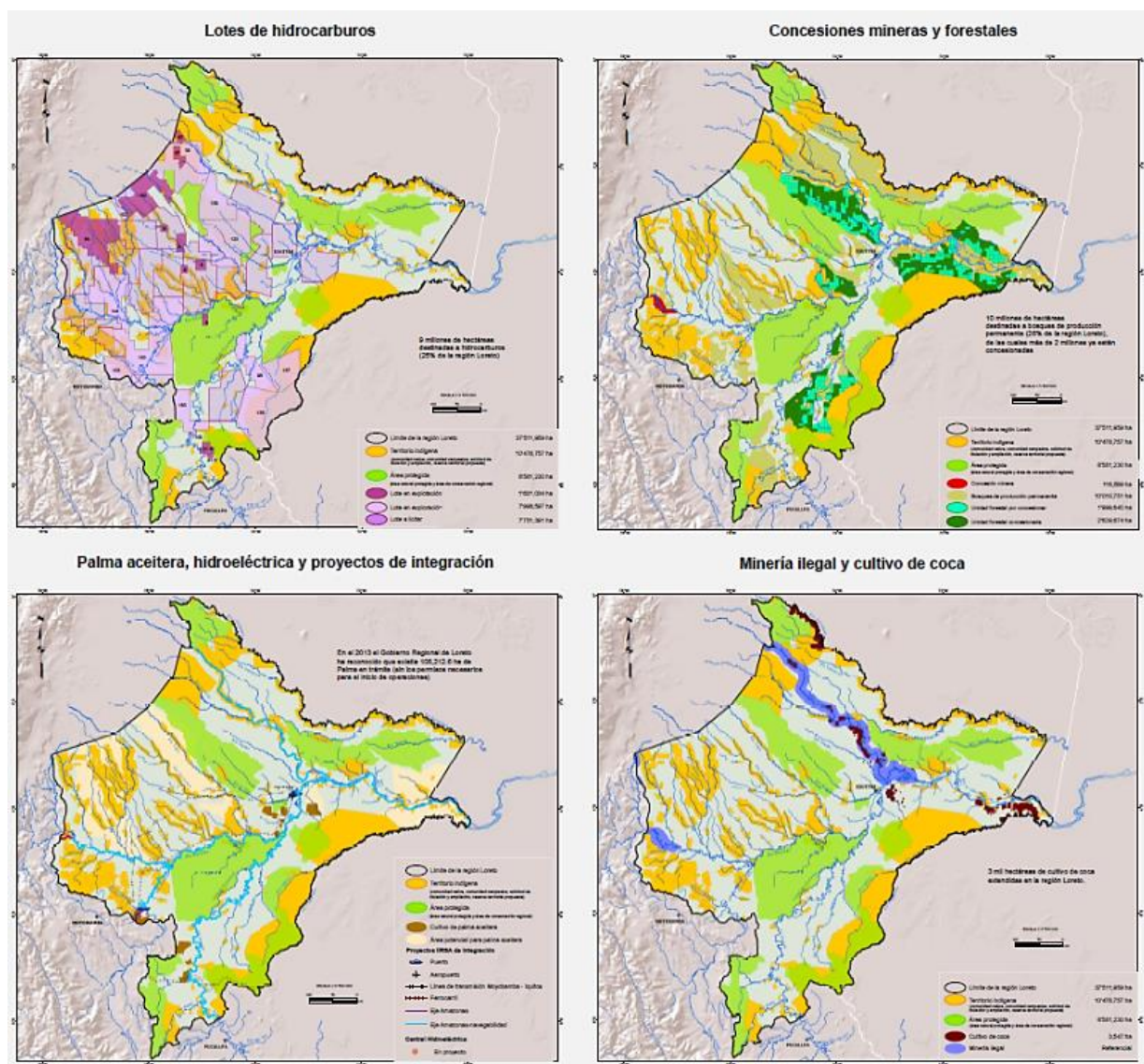
Different definitions of deforestation can result in very different deforestation rates. As discussed in chapter 2.1, Schoene et al. (2007) argue that definitions of deforestation should ideally be the same in all institutions to make monitoring and implementation more efficient. I

have followed the methodology of MINAM in this thesis, as this is the data that is relevant for REDD+. However, the examples of the definitions illustrate an important point, as we need to be aware of how deforestation is defined.

5.7.3 Threats of deforestation in Loreto

Map 2 shows different threats to titling of communities and how economic activities can affect Loreto the coming years. This can have dramatic consequences for deforestation.

Map 2: Threats to the rainforest in Loreto 2016



Source: Soria and Ríos (2016b). With permission from IBC.

General info all four maps, map 2: Total area Loreto: 37,511,959 ha, Yellow areas: Indigenous territory 10,478,959 ha, light green: Neutral protected area; 8,581,230 ha

Top left: Purple areas: 9 million ha planned for hydrocarbons in Loreto (25% of the region).

Top right: 10 million ha planned for BPPs (26% of the region).

Bottom left: Brown area: 106,212.6 ha of palm oil. Light yellow: potential areas for palm oil.

Bottom right: Brown area: cultivation of coca. Purple area: illegal mining areas (reference areas). 3 million ha of coca plantations is found in Loreto.

Source: Soria and Ríos (2016b).

Map 2 shows that a lot of Loreto is already concessioned or destined for concessions, and much more can be in the future. As argued in chapter 4.2.3.1, BPPs and other types of areas are causing trouble for titling of communities, and with more economic interests in the region, it is hard to believe this obstacle will disappear. ZEE is not finished nor enforced and cannot hinder overlapping of land, which is a weakness in the laws of Peru. At the same time, Peru builds its economic growth on extractive resources, and poverty has been reduced remarkably as the economy has grown. Pierson (2004, 47) argues that national economic systems are highly path dependent and draws the country in the same direction when they have started down a path. On the other hand, the direct drivers of deforestation in Peru (figure 7) are mostly small-scale farming and other small scale activities. The big industries are not the main drivers of deforestation, at least today. Vera (interview 2018) insists that there is a belief among people that industries from the EU or USA are the main actors deforesting, but this is not true in Peru. This is also the reason why they do environmental education and technical assistance around their local REDD+ project, BPAM in San Martin. They want to teach people that cutting a tree is serious. REDD+ needs to address the titling issue and hinder overlapping of land even as economic activity is increasing. However, MINAM is a newly established ministry and cannot hinder other ministries from their economic interests, which often is the national interest for promoting growth. Extractive industries are still not the main causes of deforestation in Peru, but can be in the future if the economy draws in this direction. The plans to build new roads into Loreto are threatening for the Peruvian Amazon

5.8 Summarizing the regions: What factors facilitate REDD+ implementation?

San Martin is a much better example in terms of discussing the complex REDD+ dynamic in Peru, such as REDD+ safeguards and local REDD+ projects. NGOs and civil society engagement have been key for developing this in San Martin, and deforestation has been decreasing in the region since REDD+ implementation started in 2009. CI and CIMA, who are key actors in the regional REDD+ roundtable, have promoted “conservation agreements” and environmental education within their local REDD+ projects. They believe that the people in San Martin need to be taught on how to conserve the forest and produce sustainably. The region is an agricultural region, characterized by much migration, illegal activities and small-scale agriculture. The approach of the NGOs to work closely with the people can be connected to these contextual factors. However, CBNRM theorists would say that communities can monitor themselves and conserve the forest. This is not true in San Martin, where NGOs teach people how to live in their areas. On the other hand, ZEE is not enforced in San Martin, and many

communities have no title because of overlapping of land. Some indigenous communities that have a title actually deforests a lot, which is against the CBNRM. This tells us that in certain context, marked by migration, building of infrastructure and illegal activities, indigenous people also deforest to earn money and pay their bills. We can also question the sustainability of the local REDD+ projects in San Martin. The NGOs might only be there for a limited time, and when funding ends, the communities would have no title unless the national policy allow for it. The NGOs can play the role of the state for a time, but sooner or later the national REDD+ will have to allow for titling in San Martin as well.

Loreto is a different story but teaches us something important about REDD+. Participation by relevant actors is a key to implement REDD+. After the negative local REDD+ experience (the carbon cowboys) in 2010, indigenous protests and participation have made REDD+ develop indigenous REDD+ roundtables, an Indigenous REDD+ program and put focus on land titling through the national REDD+ program. Even though vertical linkages through the decentralization process have been relatively weak, new ownership rights (ACRs) have been created, and titling of territories has increased compared to before decentralization and REDD+. International pressure through REDD+ agreements financed by the DCI have been key for the latter. Nonetheless, the deforestation rates in Loreto are increasing according to MINAM. In contrast to San Martin, the theory of CBNRM fits better with Loreto, and deforestation happens mostly in other areas. Loreto is a more remote region with poorer infrastructure, and the indigenous areas are hard to reach. It remains to be seen if Loreto can hinder overlapping of land rights through ZEE and continue the titling processes. As long as the prices for commodities stay high and economic interests in the forest increases, the future for the Peruvian Amazon is insecure.

6.0 Summary and conclusion

In this thesis I have answered the research question “*how does climate aid through REDD+ affect existing environmental governance and deforestation in Peru?*”. I have done a case study of Peru and a paired comparison of San Martin and Loreto, which has allowed me to look for subnational variation in the impact of REDD+.

The first dimension of the research question was answered through a case study of Peru. I asked the sub-question: *How has REDD+ affected environmental governance and deforestation on the national level in Peru?*

I argue that the impact of REDD+ on environmental governance have been modest. The horizontal linkages outside the environmental ministry are weak, and MINAM is a newly established ministry with little influence over the national policy. REDD+ has increased concern on environmental issues, and funding has also increased, which are steps in the right direction. Most environmental institutions and laws existed before REDD+ came to Peru, and REDD+ has not affected them remarkably. REDD+ has promoted community ownership in terms of titling indigenous communities since REDD+ was implemented in 2009, but REDD+ has not done anything to hinder overlapping of land, and ZEE remains a poor law for handling this. In the context of Peru, I recommend that REDD+ advocates should enhance ZEE and other laws aimed at territorial planning. Territorial planning is important for solving conflicts over land, which is crucial for titling indigenous communities in the future.

Civil society organizations have been important actors for directing focus onto titling and indigenous rights, which shows that the civil society can influence its political leaders in Peru. Nonetheless, the costs have been high, as the *Baguazo* in 2009 is an important confounding variable explaining the increased focus on the rights of indigenous communities. REDD+ may have seen this as a window of opportunity, and programs such as the DCI have responded to indigenous peoples demands for rights. The DCI promotes titling of indigenous communities, TDCs and an indigenous REDD+ program. The monitoring system Geobosques is another REDD+ advance that can contribute to hold different actors responsible for the deforestation and identify where the deforestation occurs. Geobosques is a state led monitoring through satellite pictures, and my findings indicate that some people on the regional and local level are not capable of using it yet. Local monitoring is promoted as the best form for managing natural resources, but Geobosques cannot be regarded a system for the local level yet. My recommendation is that REDD+ should finance and facilitate local monitoring, for example

through drones, GPS and smart phones. This would improve the legitimacy of REDD+ and Geobosques.

CBNRM theorists would argue that local communities can inform, monitor and sanction each other if someone breaks the law. The lifestyles in these communities are preferable for managing natural resources sustainably, therefore, community ownership is preferable for low deforestation. On the national level, my findings of deforestation are in line with the CBNRM. Indigenous communities have a low level of deforestation compared to other areas. I also complemented Blackman et al. (2017) by identifying one legal, one social and one protective mechanism that can explain why the indigenous communities have less deforestation. Combining titling with the TDC policy may also be important, as this can contribute to solving the economic challenge in the conservation dilemma. Indigenous peoples need economic incomes, and the TDC can incentivize sustainable production. The TDCs is a policy for confronting the direct deforestation drivers, such as small-scale agriculture on a low level. Nevertheless, economic activity and deforestation in the Peruvian Amazon are still increasing. Export led growth, poverty and weak governance are underlying drivers of deforestation in Peru, and MINAM alone cannot solve this. My recommendation is that REDD+ need to improve horizontal linkages outside MINAM. The Ministry of Agriculture, the Ministry of Energy and Mines and Ministry of Infrastructure need to participate more in REDD+ processes in Peru.

I also want to highlight the complexities of REDD+. Dryzek (2009) argues that it is hard to solve environmental issues because bureaucracy cannot solve that complex issues. Peru has many different drivers of deforestation, which requires a lot of different solutions. As shown through my thesis, the number of actors, programs and concepts involved in REDD+ are huge and demanding to understand. I think REDD+ is a good example showing the complexities of environmental governance and deforestation, and how challenging it is to change the environmental governance in a developing country as Peru.

My second sub-question is: *How successful has the implementation of REDD+ been in San Martin and Loreto, and what factors facilitate REDD+ implementation?*

Vertical linkages through decentralization have been weak in Peru. The decentralization process transferred functions such as titling, ZEE, TDCs and the ability to create new ownership rights. Nevertheless, the budget to fulfill these responsibilities has not been sufficient. Through my fieldwork I also learned that many believe the money mainly stays in Lima, while others fear

for corruption and misuse of the money on lower levels. New ownership types for conservation have been created in both San Martin and Loreto, which is preferable for deforestation. Titling has increased after 2009, but this is mainly due to pressure and funding from REDD+ rather than the decentralization process itself.

The local REDD+ projects BPAM and PNCA have been successful in working with communities and reducing deforestation in their areas in San Martin. CI and CIMA also advance REDD+ on the regional level, and facilitate REDD development on the regional level through capacity-building and inclusive conservation agreements. NGOs and civil society pressure have been essential for REDD+ development in San Martin, which has improved environmental governance in the region. San Martin has developed REDD+ safeguards, increased its monitoring capacity and reduced deforestation since REDD+ was implemented in 2009. San Martin is characterized by illegal activities, migration and small-scale agriculture, and CI and CIMAs decision to work strictly with environmental education and sustainable production have been successful strategies for reducing deforestation in these areas. The strength of the subnational comparison came into play in this region, as I found that CBNRM do not hold for his region. Indigenous communities are a main actor deforesting in some parts of San Martin. San Martin has much infrastructure, migration and illegal activities, which can contribute to explaining why those indigenous communities do not maintain their traditional lifestyles and keep deforestation low. In line with the critical institutionalists, communities also adapt to new institutions and the changing context around them.

Loreto teaches us another story, highly relevant for REDD+. The reverse effect the local REDD+ project had in the region caused indigenous mobilization, which created demands for titling, indigenous REDD+ programs and indigenous REDD+ roundtables. Increased participation from indigenous people in response to the carbon cowboys contributed to improve REDD+ on the national level. This has not been sufficient for reducing deforestation in Loreto (according to MINAM). Many challenges remain in Loreto as economic activities are increasing and ZEE is not enforced. Overlapping of land is a big challenge in Loreto and can become even more so in the future, unless the national policies change direction. CBNRM fits better with Loreto than San Martin, and deforestation is generally low in indigenous communities in Loreto, but economic incentives such as TDC can improve the forest management also in Loreto.

6.1 Contributions

Empirically, I show that titling alone is not sufficient for reducing deforestation in a country characterized by illegal activities, poverty and export led growth. A diverse set of policies that mitigate the multiple drivers of deforestation in Peru is important for reducing deforestation in the country. The presence of NGOs that work closely with the communities can only work in specific locations. Participation in the local REDD+ projects and indigenous mobilization has been key for the legitimacy of REDD+, which is in line with Larson and Ribot (2009). Although there have been some improvements regarding titling and TDCs, my findings indicate that REDD+ implementation on the national level has challenges overcoming the institutional and economic characteristics of a developing country as Peru.

Theoretically I tested the CBNRM and found that deforestation in titled indigenous communities is low compared to other territories on the national level, in line with the CBNRM. I also contributed with theory building, discovering mechanisms that can explain why titled indigenous communities have less deforestation. I identified three mechanisms: legally because a title frightens outsiders and gives a value to the community, socially because indigenous communities live traditionally, and protectively because titled territories also protects other territories from invasions. Nevertheless, my findings regarding deforestation on the subnational level are in line with the critical institutionalists. Some indigenous communities in San Martin have unusual high deforestation rates, which can be due to proximity to roads and migration. I argue that Loreto fits better with the CBNRM, because my interviewees argued that deforestation is generally low in the indigenous communities in Loreto.

Methodologically, subnational comparison has been fruitful for answering my research question, as I have showed that REDD+ has affected the national level and regions differently. Also, the interaction between the levels has been fruitful for understanding how REDD+ has affected Peru. The before-after design has contributed to understanding the impact of REDD+ after a certain point in time, and identifying other relevant events. Nevertheless, isolating the impact of REDD+ on environmental governance and deforestation is in this case difficult, as the establishment of MINAM, decentralized forest governance and the *Baguazo* happened close to REDD+ implementation. This thesis has also showed that researchers need to be aware of how forests and deforestation is defined and measured, in order for deforestation studies to be reliable and replicable. Lastly, collecting data through fieldwork has been key for understanding the complex REDD+ mechanism and its impact on environmental governance and deforestation.

7.0 Literature

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8.0 Appendix

Appendix A: Informed consent:

Informert samtykke

Samson Johnsen, Universitetet i Bergen

Jeg skriver masteroppgave ved Universitetet i Bergen, og skal sammenligne to regioner i Peru som har REDD+ prosjekter. Jeg sammenligner spesielt deltagelsen til forskjellige aktører i REDD+ prosjektene og monitorering av avskoging. Det endelige målet er å undersøke hvilke forhold som er best for å redusere avskoging. Denne masteroppgaven har som mål å bidra til litteratur knyttet til REDD+ implementering, desentralisert styre i utviklingsland og hvordan klimabistand påvirker lokalpolitikk.

Metoden jeg anvender er dokumentinnsamling/analyse og intervju av eksperter og ulike aktører, som deg selv. Spørsmålene i intervjuene vil handle om historien til REDD+ i Peru, viktige aktører og trender i avskoging i regionene.

Dersom det er greit for deg vil jeg bruke opptaker i intervjuet. Intervjuet er frivillig og du kan trekke deg eller stoppe intervjuet når du ønsker. Dersom deltagerne bestemmer seg for å trekke seg ut av prosjektet, blir informasjon om disse personene slettet.

Med samtykke av deltagerne vil jeg publisere personlige opplysninger (navn og yrke) i oppgaven, som skal publiseres i BORA (Universitetet i Bergens digitale forskningsarkiv) ved prosjektslutt 15.8.2019. Dersom de ikke ønsker dette, vil intervjuet bli anonymisert. Intervjudata (båndopptak og transkriberte data) vil bli lagret på en passordbeskyttet datamaskin, passordbeskyttet Onedrive og passordbeskyttet smarttelefon. Bare jeg vil ha tilgang til data, men min veileder Leiv Marsteintredet vil hjelpe med behandling av data. Deltageren har rett til å få slettet, korrigert eller begrenset informasjonen når han/hun ønsker, i tillegg har man rett til å ha informasjonen flyttet til en annen server. Intervjudata vil bli slettet når sensuren av oppgaven er ferdigstilt 15.8.2019.

Jeg behandler opplysninger om deg basert på ditt samtykke. Hvis du har spørsmål om studien, ønsker å klage på studien eller ønsker å benytte deg av dine rettigheter, ta kontakt med Universitetet i Bergen ved min veileder, Professor Leiv Marsteintredet på epost, leiv.marsteintredet@uib.no. Klagen kan også rettes til det norske datatilsynet. Vårt personvernombud er NSD – Norsk senter for forskningsdata, på epost personverntjenester@nsd.no eller telefon +4755582117

Informert samtykke: Jeg har fått informasjon om prosjektet og er villig til å delta:

Jeg bekrefter bruk av opptaker i intervjuet

Ja	Nei
Ja	Nei

Jeg bekrefter at personlig informasjon blir publisert

Underskrift og dato

Appendix B: Interview guide:

Part one of the interview: General introduction, about the organization/institution, deforestation and decentralization.

1. Present yourself, what is the role of your organization/institution? What type of work do you do and how do you work?
2. With what organizations/institutions do you cooperate to accomplish these goals? Who are the most important, why?
3. What are the biggest challenges for reducing deforestation in Peru?
 - What are the most important political actions that can be done to do this?
 - What are the main causes of deforestation in Peru? Does the regions differ?
4. How has the decentralization process affected the environmental policy in Peru?
 - What does the regional government do, and have they changed the policy for reducing deforestation?

Part two: REDD+

5. What is your relationship to REDD+?
 - Is the DCI a part of REDD+?
 - What do you think about REDD+? Are initiatives like REDD+ important to reduce deforestation? Explain
 - How has REDD+ affected the environmental governance in Peru?
 - What factors facilitates or hinders the implementation of REDD+ on a regional level?
 - Are the local REDD+ projects and the national implementation of REDD+ different projects? Explain

- Have the local REDD+ projects (BPAM and PNCA) created reduction of deforestation in their areas? What mechanisms can explain this?
- How has REDD+ affected the local communities? Economically, socially and culturally?

Part three: Regions, San Martin and Loreto

6. Can you explain your project in Loreto/San Martin? (are they related to the DCI and/or REDD+?)
7. What are the causes of deforestation in the region?
 - In what areas does the deforestation happen? Private areas? Natural parks? Indigenous communities, communities with titling, without titling? Why?
8. What are the most important actions and actors for reducing deforestation in the region?
9. Can you explain why monitoring of the forest is important in the discussion about deforestation? How do you do the monitoring of the forests?
 - Do you lack anything in the monitoring of forests?

Part four: DCI, titling and deforestation

10. Can you explain the conditional cash transfers and the ecological and economic zoning? How has this affected the environmental governance in the region?
11. Can you explain the role of DCI in the region?
12. What do you think about titling of communities? Have this policy created reduction of deforestations? What mechanisms can explain this?
13. Can you explain the process to title a community?
14. Do you have enough capacity to implement a good environmental policy in the region/nationally? How are your cooperation with the national government?
15. What are the results of organization/institution?