

INDIGENOUS RESHAPING OF INSTITUTIONS TO GOVERN FOREST RESOURCES IN THE PERUVIAN AMAZON

A case study of the Awajún community Chapís in Datem del Marañón

TESS DE JONGH

AUGUST 14, 2018

MSc FOREST AND NATURE CONSERVATION



Indigenous reshaping of institutions to govern forest resources in the Peruvian Amazon

A case study of the Awajún community Chapís in Datem del Marañón

Tess de Jongh
921215409010

MSc Forest and Nature Conservation
Thesis submitted at the Forest and Nature Conservation Policy (FNP) group
Wageningen University & Research

Supervised by
Verina Ingram PhD MSc – assistant professor FNP
Marieke van der Zon – PhD researcher at FNP

Examiner
Prof. dr. BJM (Bas) Arts

14-08-2018
Wageningen, the Netherlands

The **cover picture** was taken by the author on 18-01-2018 in the close surroundings of the village Chapís. It shows a community member carrying a bag of venomous *huaca* leaves to go fishing in the small creeks.

Abstract

In Peru, recent decentralization of forest governance has led to new actors entering the forest governance arena. Non-governmental organisations (NGOs), market actors and regional governments are now introducing new institutions besides the state. The increased presence of multiple institutions aiming to govern forest resources leads to an institutional mess and unexpected forest outcomes. This research studies the working of institutions on a local level in the Peruvian amazon by employing the theory of institutional bricolage. A case study was conducted in the indigenous community Chapís, which finds itself between traditional Awajún culture and an increased embeddedness in modern economy and society. Natural resources within the community's land title are largely governed by customary regulations, but the involvement in a regional NGO project and the cacao and timber market has led to changes in the institutional framework. Where the NGO has introduced the commercial, legal and sustainable harvesting of palm fruits, the market and the government are promoting the expansion of cacao production and timber extraction. These institutions were able to influence the local institutional framework because they met the community's desire for development by creating economic opportunities while other institutions that are a threat to indigenous autonomy were rejected. The study concludes that only those institutions that are well-informed of the local socio-economic context are able to influence the institutional framework of indigenous forest users. It thereby contributes to the body of critical institutionalism literature by providing empirical evidence of the non-linearity in the working of institutions from national, regional to local level.

Acknowledgement

I would like to take the opportunity here to thank everyone who has supported me on my thesis journey. Above all, I would like to thank the people in Chapís; the women I got to share my washes in the Kangaza with, the children for their endless creativity in finding ways to spend our leisure hours and the men for the great stories they shared from their hunts in the forest. A special thanks to Roman for helping me to get to the right informants and the intense life discussions we had and Daniel and his family for their hospitality. Furthermore, Marieke, you did an amazing job in supporting me through this entire process. You prepared me for the fieldwork and were there to give me advice anytime I needed it the most. Carlos, Yolanda and Abel, thank you for receiving me in San Lorenzo and enriching my fieldwork with exotic dinners and inspiring stories. Last but not least, I want to express my gratitude to my family and Kai for their endless support and always having my back.

Table of contents

Abstract	ii
Acknowledgement.....	iii
List of figures and tables	vi
List of abbreviations	vii
1. Introduction	1
1.1 The Datem del Mara�on case	3
1.2 Research objective and questions	5
1.3 Relevance of the research.....	5
2. Theoretical framework	7
2.1 Communal land tenure	7
2.2 Environmental governance.....	9
2.3 Institutionalism and natural resources	10
2.4 Institutional bricolage theory.....	11
2.5 Conceptual framework	14
3. Methodology	16
3.1 The character of the research.....	16
3.2 Selection of the case	16
3.3 Data collection.....	18
3.4 Data analysis.....	21
3.5 Validation and generalization.....	22
3.6 Research ethics	22
4. Description of Chap�s	24
4.1 Geographical location and demography	24
4.2 Local livelihoods	27
4.3 The 2017 oil spill.....	30
4.4 APUAPISEM and the bio-business project.....	31
4.5 Formal community structure	34
5. Results	37
5.1 The institutions governing natural resource use	37
5.1.1 Statutory law.....	37
5.1.2 Customary regulations.....	39
5.1.3 Project-based arrangements.....	43
5.1.4 Market-based arrangements.....	44
5.1.5 Key institutions and conservation	46
5.2 Processes of institutional bricolage	50
5.2.1 Agriculture.....	50

5.2.2 Timber, hunting and fishing	51
5.2.3 Palm fruit collection	52
5.2.4 Bricoleurs	55
6. Discussion	59
6.1 ‘Modernizing’ local institutions	59
6.2 The role of NGOs in institutionalism	60
6.3 What to expect for the future?	63
6.4 Reflecting on conceptual framework.....	64
6.5 Limitations of the research	65
7. Conclusion.....	67
8. Recommendations	69
Bibliography	70
Annex I.....	74
a) Semi-structured interviews.....	74
b) Questionnaire informants characteristics	74
Annex II - Codes data analysis.....	75
Annex III – Interview guide	76
Annex IV - Reglamento Interno Chapís	79

List of figures and tables

Figure 1: Map of the research region showing the road and pipeline infrastructure.	4
Figure 2: Different types of institutions (source: de Koning, 2011)	12
Figure 3: 'Rock in pond' metaphor of practices in institutional bricolage (source: de Koning & Cleaver, 2012).....	13
Figure 4: Conceptual model to study the processes of institutional bricolage	14
Figure 5: Map of the research area (photograph taken by the author).....	17
Figure 6: Political map of Datem del Marañón, Loreto (source: Profonanpe, unpublished)	24
Figure 7: Population structure of Chapís according to age groups and number of inhabitants based on the community censo from 2017	26
Figure 8: Map of the community village Chapís drawn by the community (photograph taken by the author)	27
Figure 9: Graphical map of the communities under ORPISEM.....	28
Figure 10: Logical framework of the mitigation component of the project of GCF and Profonanpe (source: GCF, 2015)	32
Figure 11: Organizational structure of the project (source: GCF, 2015).....	33
Figure 12: Political indigenous structure from community to national level, including the association APUAPISEM.	34
Figure 13: a) Perceived community conservation efforts according to community members b) Ideas for community conservation identified by the community (n=50)	47
Figure 14: Processes of institutional bricolage in agriculture	50
Figure 15: Processes of bricolage in timber logging, hunting and fishing	51
Figure 16: Processes of bricolage in palm fruit collection	54
Table 1: Overview of the methods used for data collection per research question	19
Table 2: Overview of the institutions per resource activity.....	49

List of abbreviations

ACAM	Área de Conservación Ambiental Municipal
AIDSEP	Asociación Interétnica de Desarrollo de la Selva Peruana
ALP	Alternative Livelihood Project
APUAPISEM	Asociación de Productores de Ungurahui y Aguaje de Pueblos Indígenas del Sector Marañón
CANDELA	Comercio Alternativo de Productos No Tradicionales y Desarrollo para Latino América
CBNRM	Community-Based Natural Resource Management
CI	Critical Institutionalism
CORPI	Coordinadora Regional de los Pueblos Indígenas
GCF	Green Climate Fund
ILO	International Labour Organization
MI	Mainstream Institutionalism
MINAGRI	Ministerio de Agricultura y Riego
MINAM	Ministerio del Ambiente
NGO	Non-Governmental Organisation
NTFP	Non-Timber Forest Product
ORPISEM	Organización de Pueblos Indígenas del Sector Marañón
SERNANP	Servicio Nacional de Áreas Naturales Protegidas por el Estado

1. Introduction

The Amazon is the largest tropical forest basin remaining on the planet. It is often referred to as ‘the lungs of the earth’, the biodiversity hub or the South-American broccoli (Agrawal, 2007; Draper et al., 2014; de Koning, 2011; Robinson, Holland & Naughton-Treves, 2014). Its tropical forests belong to the most biodiverse ecosystems in the world, providing us multiple ecosystem services such as timber, non-timber forest products (NTFPs), mitigating climate change and nutrient recycling (Agrawal, 2007; Chao, 2012). Despite this ecological importance, the Amazon is under threat. Current population growth on a planet ruled by a liberal discourse, but where resources are limited, leads to increasing pressure on natural ecosystems, just as the desire for economic growth and national development by countries in the Amazon (Acuña, 2015). These threats to deforest and exploit the Amazon have led the region to be a priority on global conservation and development agendas (Sarkar & Montoya, 2011). However, the Amazon forests are more than just a biodiversity hotspot, they are the home of many native forest communities who directly depend on them for their livelihoods. This human aspect of the Amazon is often forgotten, but equally important. Local forest communities are direct influencers on the forest and only partially driven by state-incentives on forest management and conservation (de Koning, 2011). Although the recognition of their existence in Amazonian countries has strengthened, there is still a lack of understanding and co-operation between indigenous peoples and the state. This collision of two worlds makes co-governance of forests and natural resources by state, private and public actors a challenge in the Amazon.

Forest governance can be defined in many ways. Here I use the following definition; “interventions aiming at changes in environment-related incentives, knowledge, institutions, decision making, and behaviours” (Lemos & Agrawal, 2006, p. 298). It is an interactive process in which rules are made in a particular social context that has its own understandings, norms and values (Wiersum, Ingram & Ros-Tonen, 2013). On a global level, forest governance has experienced a shift from government-owned and centrally-administered forests towards a more stakeholder-inclusive, decentralized forest governance (Agrawal, Chhatre & Hardin, 2008; Andersson & Ostrom, 2008; Lemos & Agrawal, 2006). Decentralization moves in both vertical and horizontal levels. Vertically, it shifts responsibilities and tasks to regional and local levels of government and horizontally, it includes more actors besides government, such as non-governmental organisations (NGOs), civil society groups and private organizations.

This has led to an increase in community-based natural resource management (CBNRM) regimes, in which ecological conservation and local human development are considered equally relevant (Berkes, 2007). Yet, in many cases community-based forest management has not lived up to its expectations (Berkes, 2004, 2007; Leach, Mearns & Scoones, 1999; Ojha et al, 2016). Despite viewing ecosystems as complex, adaptive, human-included systems that need to be co-operatively managed on multiple

scales, both geographically and socially, there seems to be a gap between state or private imposed institutions and the adaptation of these institutions in a local socio-economic context (Berkes, 2004; Cleaver, 2002). Institutions are hereby referred to as the rules-in-use, norms and beliefs that guide human behaviour (Berkes, 2007; Crawford & Ostrom, 1995; Gibson, McKean & Ostrom, 2000). Often, forest governance reforms only consider the formal rules implemented by government organizations to be important in how the forests and its natural resource are managed. These rules, standards and regulations may be influenced by NGOs or private actors. However, increasingly more scholars also emphasize the important role that informal, traditional and customary laws and beliefs play in determining how forests and other natural resources are governed (Cleaver, 2002; Ingram, Ros-Tonen & Dietz, 2015; de Koning, 2011).

The number of civil-society groups, such as NGOs, community organisations and market actors, that influence forest governance has increased rapidly (Agrawal et al., 2008). These actors have different demands and visions on how the forests should be managed and its resources used. NGOs, for example, often try to protect the environment by strengthening community institutions for sustainable natural resource use. On the contrary, markets support the commercialization of natural resources and have a stake in increasing their production. While many of these groups are demanding some form of access to the forest resources, the state has officially decentralized forest governance to the regional level but is still trying to maintain as much authority as possible over the Amazon (Cronkleton & Larson, 2015). For example, in Peru, decentralization laws and the allowance of communal and private land tenure has become possible, but at the same time, the constitution claims that all natural resources remain under ownership of the state (Monterroso & Larson, 2018). However, the weak presence of the state in many remote parts of the Amazon, leaves enough space for non-state and indigenous actors to govern the forests and its resources according to their own interests, customs and traditions (Andersson & Ostrom, 2008). This leads to customary rules and other institutions to determine to a large extent how forests are used and managed. These governance arrangements are not static in time, but adjusted to changes in the local, national and international environment in which they become increasingly embedded. The combination of newly introduced institutions with existing statutory and customary laws causes a ‘fine mess’¹ of governance arrangements that can lead to unexpected outcomes for the state of the forest and natural resources (Ingram et al., 2015; de Koning, 2014).

Peru is one of the Amazonian countries facing problems regarding forest governance. 60% of the national territory of Peru is covered by tropical forests that belong to the western Amazon basin. Although national annual deforestation rates are relatively low (<0.2%), the conversion of forests to

¹ Ingram et al. (2015) refer with ‘fine mess’ to governance arrangements created by actors that have little formal power in governance. It captures both the good and the bad aspects of this messy situation. Cleaver & de Koning (2015) refer to the same using the term ‘fuzzy’.

other types of land-use is the cause of half of the national greenhouse gas emissions (MINAM, 2011; Che Piu & Menton, 2013). Accordingly, the country has made a voluntary commitment to reach zero net deforestation rates and to conserve 54 million ha of forest by 2021 (MINAM, 2011). However, in such a culturally diverse country as Peru, norms and values of people regarding the forests differ strongly and national interests and aims are not always shared by local groups. In the Peruvian amazon exist 60 different indigenous groups, all with their own culture and language (Soria, 2016). These indigenous groups have lived in the forests long before they were explored by the Incas or Spanish colonists. Over time, they have developed a socio-environmental system that governs their direct environment and its resources. These local systems often collide with government agendas, which leads to an increase in socio-environmental conflicts between governments and indigenous forest communities who have other ideas on how to use and manage the forest (Acuña, 2015). These contrasting interests have led to over 136 socio-environmental in Peru and are the most frequent and difficult social conflicts to tackle (Defensoría del Pueblo, 2012). A recent example of such a clash is the so-called *Baguazo* conflict in 2009 in which 33 people died after the indigenous groups Awajún and Wampís protested against a new legislation that would facilitate resource extractive activities within indigenous territories (Acuña, 2015; Brandenburg & Orzel, 2016). These socio-environmental conflicts are often caused by ill-designed policies that do not take into account local capabilities, perspectives and interests. The relatively recent decentralization of forest governance, initiated in 2002 with the Law on Decentralization (Law 27783), the cultural diversity and the environmental challenges faced by Peru create an interesting case to study the working of institutions between national, regional and local levels.

1.1 The Datem del Marañon case

Loreto is Peru's largest Amazonian department, located in the north-east of the country, with the highest percentage of forest cover and the highest diversity of ethnicities (Cruz-Burga, Moterroso, Saldaña & Valencia, 2014). Through the western part of Loreto runs Peru's second longest river, the Marañon, which forms the main source for the well-known Amazon river. Datem del Marañon is one of Loreto's eight provinces, located in the far west. The peatlands in the Pastaza-Marañon basin have been identified as the current most carbon-dense landscape of the Amazon (Draper et al., 2014; GCF, 2015). Although the actual amount of carbon stored in the subsoils of the Pastaza- Marañon basin is only a recent discovery, the first petroleum boom already took place in the 1970s (Cruz-Burga et al., 2017), when Peru's most important oil pipeline, *el oleoducto Nor Peruano*, was constructed (see fig. 1). Before that, resource extractive activities were only performed for subsistence use by small groups of indigenous people who sparsely occupied the area (Profonampe, unpublished). An estimated 284 indigenous communities live in Datem del Marañon (GCF, 2015; Soria, 2016), who belong to seven different ethnic groups; Achuar, Awajún, Chapra, Kandozi, Quechua, Shawi and Wampís that have their own culture and language. This thesis is a case study of the community Chapís, which belong to the ethnic group Awajún that in turn is part of the Jivaro ethnic-linguistic family (Acuña, 2015). Chapís is a relatively

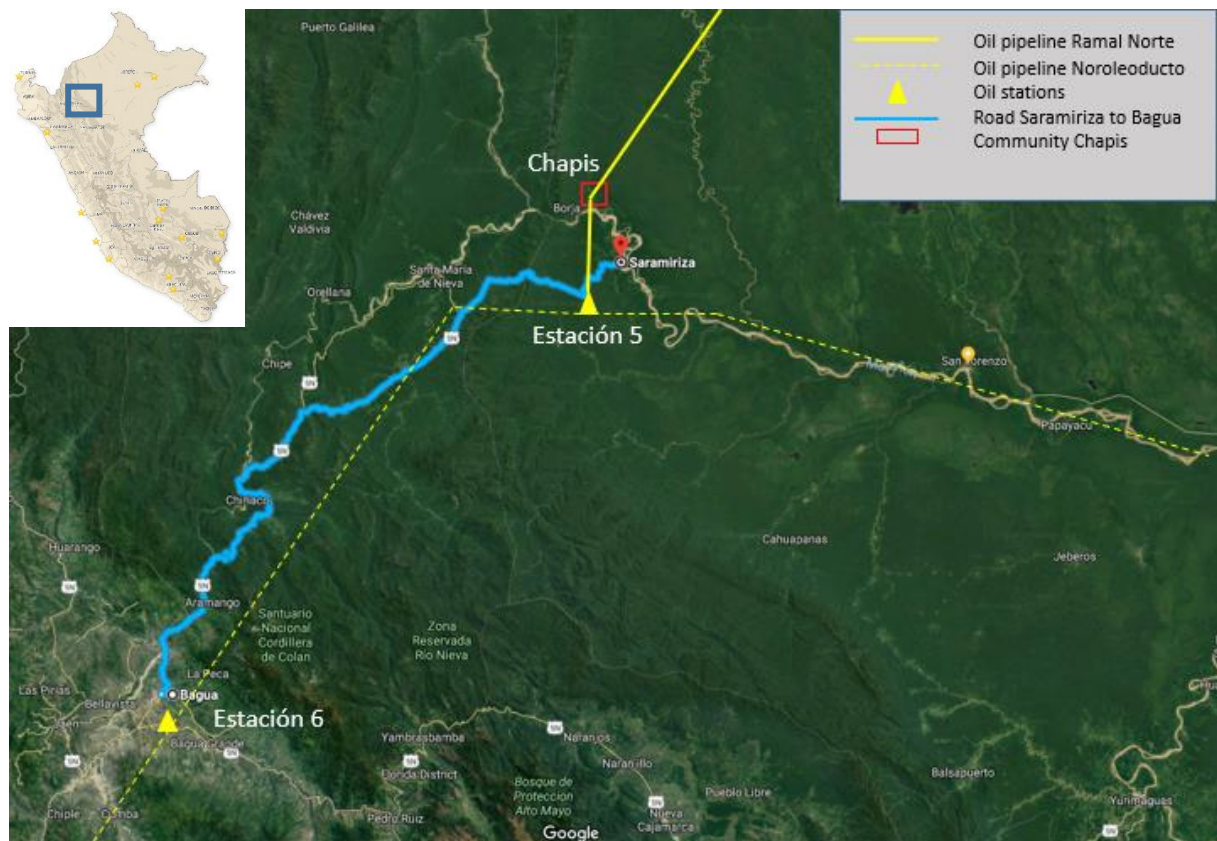


Figure 1: Map of the research region showing the road and pipeline infrastructure.

large community, with legal land titles and usufruct rights covering 8,650,000 ha (Soria, 2016). This land title provides the community with legal right to design its own rules for internal land and resource division (Roldán Ortega, 2004). A right taken very seriously by them, because they depend on forest access for their survival. Traditional resource extractive activities such as agriculture, timber, NTFP collection, fishing and hunting still make up a large part of the livelihood portfolio in Chapís. However, a new road was constructed in 2010, which has improved the region's connectedness to the national infrastructure (see fig. 1) and has led to an increased involvement of Chapís in regional markets and non-indigenous society.

The Awajún are recognized as a strong self-identifying group (Acuña, 2015). Over centuries they have created a socio-economic system including strong traditional and customary laws. However, these are not static, but continuously shaped and reformed. The same counts for Chapís. Their connectedness to local and national markets led the community to engage in the commercialization of timber and the cultivation of cacao, which generates an economic income for individual community members. Since 2009, they are also involved in a project of the national NGO Profonampe to improve the resilience of Amazonian communities by creating communal bio-businesses (GCF, 2015). During this project, Chapís' territory also became part of a municipal conservation area, led by indigenous leaders and supported by the regional government as a co-managed conservation area. These recent developments

make Chapís an interesting case to study the working of institutions on a local scale in an indigenous community in the Peruvian Amazon that is becoming increasingly modernized.

1.2 Research objective and questions

As described in the problem statement, Chapís is a community that finds itself in between traditional Awajún culture and the increasing desire for modern life, embedded in the mainstream socio-economic system in Peru. It has a strong internal organization that is based largely on customary rules and traditions, which are deeply embedded in the local indigenous culture. At the same time, local and regional governments, NGOs and private organizations are introducing institutional arrangements to govern the area's natural resources. All these institutions are designed in a different context and for a specific purpose, but not all are locally accepted, enforced and lived after. It is hypothesized that processes of institutional bricolage occur, which lead to unexpected outcomes in forest governance. The main objective of this research is therefore *to identify the institutional arrangements, both externally imposed and socially embedded, that determine local governance over natural resources by the indigenous community Chapís in the north-eastern Peruvian Amazon.*

The following research questions guide in reaching the objective:

1. What are the key institutional arrangements that govern natural resources?

This question will help to identify the key institutional arrangements that aim to influence how natural resources are governed. These will be classified into different types of institutions, depending on who designs and enforces them.

2. How are the key institutions formed in the process of institutional bricolage?

It is assumed that institutional bricolage is taking place in Chapís, because local institutions are (re)shaped using or not using other institutional arrangements available. This question therefore helps to explore which practices of institutional bricolage played a role in shaping the current institutions. It tells us something about local perceptions and how bricoleurs reframe, accept or reject externally imposed institutions.

3. What are the purposes of key institutions and to what extent do they serve the intended outcome?

This question also helps answering *why* particular institutions are enforced, what goals do they serve, which needs do they satisfy and does everyone in the community share these goals and needs? It focuses on the purposes of institutions and compares these to the intended outcomes that they were designed for.

1.3 Relevance of the research

Decentralization regimes and CBNRM projects are developed as a response to failures of the centrally administered, state-owned forest governance outcomes (Agrawal, 2008; Andersson & Ostrom, 2008;

Berkes, 2007). However, their resource management plans and policies often appear to provide great solutions to difficult problems on paper, but in practice they hardly satisfy these expectations (Andersson & Ostrom, 2008; Berkes, 2007). This is partly due to institutions being ill-informed of local contexts, causing a gap between theory and practice (Cleaver, 2002; Sears & Pinedo-Vasquez, 2011). With this case study I aim to explore how new institutions are responded to by local forest users. The outcome contributes to a better understanding of the working of institutions from national to local scales and how local institutions may be in contrast with national ones. Furthermore, the thesis provides empirical evidence by exploring the ‘fine mess’ of institutions that determine how the forests and its natural resources are governed using the institutional bricolage theory, contributing to the scholarly concept of critical institutionalism (CI). This in turn helps government, NGOs and private actors to adopt better strategies for desired forest management and hopefully leads to a better co-operation between indigenous people and these actors. Lastly, the data gathered in this research contributes to a larger research project conducted by M. van der Zon, PhD student at the Forest and Nature Policy Group, Wageningen University. Three months of on-site research allow for a deeper analysis and understanding of the working of institutions on a local scale and contributes to the data used in the PhD research.

2. Theoretical framework

This chapter explains the main theories and concepts used in answering the research questions. First, the relevant statutory concepts in Peru that influence forest governance will be explained to get a better picture of the research context. Then, I will introduce the bricolage theory developed by Cleaver (2002), which is a theory within the wider critical institutionalism approach. Although it has been used in multiple studies to analyse the working of institutions on a local level, the use of the theory in natural resource governance is limited. Finally, the concepts and theory lead to the development of a conceptual model that is used as a lens through which I will answer the research questions.

2.1 Communal land tenure

First of all, some terms need to be defined. The term community, for example, may refer to different groups of people. In this report, the community is understood as those people that are bound by the same institutions (Berkes, 2004). This allows to view the community as a dynamic, heterogeneous group of people that is not static in time. Traditionally, these communities were not stuck to a specific geographical location, but with the allowance of communal land titles, the law created a concept of communities linked to a specific piece of land (de Rivero, 2010). The terms indigenous and native are also used interchangeably. The Peruvian government, in its laws, uses the term native, whereas projects often refer to the same group of people as indigenous (GCF, 2015). ‘Native community’ is therefore actually a term invented by the Peruvian government (de Rivero, 2010). Since the term ‘indigenous’ is more commonly used amongst community members, NGOs and the public, it will also be adopted in the rest of this thesis. Finally, land tenure refers to “the institutional arrangements that determine how individuals or groups gain access to land and resources, who can use the resources, for how long and under what conditions” (Cronkleton & Larson, 2015).

Traditionally, land ownership is not part of indigenous cultures in the Amazon, as people moved around ancestral territories. Instead, families used to have temporary informal user rights over the areas which they actively used for their subsistence agriculture, hunting, fishing and NTFP collection. Once they moved to a new place they would lose these rights and gain user rights over the new areas they used. Land claims by indigenous people came with the migration of people from other parts of Peru towards the Amazon, which initiated in the second half of the 20th century. Governmental push and pull mechanisms attracted people from the Andes towards the Amazon, where land was perceived as free, unoccupied and abundant (Cronkleton & Larson, 2015; de Rivero, 2010). This resulted in (sometimes voluntary) displacements of indigenous groups deeper into the forest, but also in violent confrontations. Although fights over territory are part of indigenous history, the recent colonization of the Amazon led to the introduction of the Law of Native Communities and Promotion of Agriculture in the Lower and Upper Rainforests (Decree Law 20653) in 1974 (de Rivero, 2010). This was the first law that made it

possible for indigenous peoples to obtain land titles. The law also meant that all land that would not be claimed by indigenous groups would remain under ownership and control of the state, making it available for timber concessions, mining, the creation of protected areas or other land uses. This puts pressure on indigenous organizations to strive for obtaining legally recognized land titles. A year later, the first Forestry and Wildlife Law (Decree Law 21147, 1975) was introduced, giving the state unalienable ownership over forest lands and resources and limiting the rights of indigenous peoples to the use of resources through a usufruct contract (*cesión en uso*). This means that titles can only be obtained over agricultural land, allowing it to be used freely for agriculture or livestock breeding. Over forested land they can receive a permanent usufruct right that allows the extraction of resources for subsistence use, but which does not allow the clearing of forests or forest patches (Monterroso & Larson, 2018).

Obtaining land titles was and still is a complicated and slow process for indigenous communities (Monterroso & Larson, 2018; Roldán Ortega, 2004). Communities need to be formed with a legally inscribed *junta directiva* and internal statutes. This is a costly process due to geographical distances from governmental offices and bureaucratic difficulties, which is why there are still more than 600 communities waiting for a recognition of their land title (Soria, 2016). While indigenous organizations continue to seek for ways to reform laws to better protect their territories and resources, the Peruvian government tried introducing new laws or modifications to existing laws to reinforce the power and control of the state over indigenous territories. Laws such as the Law of Native Communities and Agrarian Development in the Lower and Upper Rainforests (Law 22175, 1978), the 1993 Constitution and the Land Law (Law 26505, 1995) promoted and facilitated the inversion of the private sector in the Amazon, granting permission for large forest concessions for private companies to exploit its resources. It provided mining-, oil-, timber- and other exploitive companies with legal mechanisms to enter indigenous territories (Roldán Ortega, 2004). In the meantime, indigenous people started to share forces and create local federations and organizations to take a stronger position when negotiating with the government. They started to demand juridical measures to better protect their traditional territories. This was supported by the international community with the ILO 169 Convention concerning Indigenous and Tribal Peoples in Independent Countries, adopted by the Peruvian government in 1994, which “...recognises the aspirations of these peoples to exercise control over their own institutions, ways of life and economic development and to maintain and develop their identities, languages and religions, within the framework of the States in which they live...” (ILO 169, 1989). It also calls for the extended recognition of indigenous lands, compensation for exploitation within these lands and increased participation in natural resource management (Roldán Ortega, 2004). However, under the García presidency, a set of laws was introduced, without prior consult of the indigenous people, that opened up the Amazon for economic development through exploitation of its resources. This led to the protest of mainly Wampís and Awajún groups, who occupied Estación 6 (see fig. 1), one of the state’s petroleum

stations near the city of Bagua where they blocked the road to call attention from the government. The tragic encounter, known as the *Baguazo* conflict, between the army and the indigenous people resulted in the death of 11 indigenous and 33 policemen (Acuña, 2015; Brandenburg & Orzel, 2016; de Rivero, 2010). The Baguazo tragedy led to the creation of the Prior Consultation Law in 2011, which guaranteed indigenous peoples with the right to prior information and consult regarding issues that affect their territories and livelihoods. In the same year, a new Forestry and Wildlife Law (Law 29763) was developed. Still only allowing indigenous ownership over agricultural land but improving social inclusion and equity in access to forests and natural resources (Sears et al, 2014). Currently, titling processes are responsibility of the Ministry of Agriculture (MINAGRI) but executed by regional governments (Cruz-Burga et al., 2017). Previously this was done under the ‘Proyecto Especial Titulación de Tierras y Catastro Rural’ (PETT) in cooperation with ‘Organismo de Formalización de la Propiedad Informal’ (COFOPRI), an organisational unit of the Ministry of Agriculture and before that, by other institutions such as ‘el Instituto del Bien Común’ (IBC). The absence of a central register of titled and pending native communities makes it difficult to give accurate numbers of the communities left without recognized titles, but estimates are that there are more than 600 communities still waiting for a legal recognition of their land (Soria, 2016). Chapís obtained a communal land title in 1983 over 7,350 ha of land and usufruct rights over another 1,300 ha (Soria, 2016). Obtaining land titles and usufruct rights gives communities legal rights for managing natural resources according to customary rules and thereby influences the way the environment is governed on community level. In this thesis the rights associated with land titles and usufruct contracts form a major part of the statutory institutions in Chapís.

2.2 Environmental governance

Since the introduction of the Law on Decentralization (Law 27783) in 2002, much environmental governance was transferred to regional level. Followed by a Law on Municipalities (Law 27972) in 2003, municipalities were given the competencies to create environmental management plans and policies, environmental conservation areas, environmental education, participation and coordination. This decentralization to municipal level was a trend throughout Latin America and Peru was one of the later countries to adopt decentralization into their legal system (Andersson & Ostrom, 2008). The idea behind the laws is that municipalities are better capable of addressing local environmental issues by building institutions, support and capacity. However, Andersson & Ostrom (2008) conducted research on resource governance in three Latin-American countries and discovered that decentralization is not a blueprint solution for a more sustainable environment.

In the case of Peru, the lack of an institutional governance system that can effectively manage a complex resource as the Amazonian forests, can be attributed to the vertical hierarchy in which municipalities are still limited in their coordination by regional or national administrative bodies. Also, they lack

financial support and knowledge for carrying out the environmental agenda (Larson & Petkova, 2011). This lack in government control creates voids in forest governance, which increases the unexpectedness in forest outcomes (de Koning, 2014). In Datem del Marañon, the presence of the government is considered the lowest in the country (PNUD-Perú, 2012), allowing local user groups, among which Chapís, and NGOs to govern the environment according to local institutions, norms and beliefs.

2.3 Institutionalism and natural resources

In 1968, Garrett Hardin wrote the famous paper on “The Tragedy of the Commons”, in which he argues that humans are stuck in an inevitable process of natural resource depletion and destruction on which they are so dependent for survival (Hardin, 1968). He sees common natural resources as open access systems that lack any form of regulation. He was criticised by many scholars who argued that institutions that regulate resource use have been in place for as long as humanity can be traced. The most influencing counter argumentation came from Ostrom (1990), who wrote the paper “Governing the Commons”, arguing positively that natural resources can be managed in a sustainable manner when the appropriate institutions are in place and well-nested on global, national and local levels. This rational design of appropriate institutions is also known as the mainstream institutional (MI) approach that views the crafting of institutional arrangements as the optimal tool to provide good governance systems over forests and natural resources (de Koning & Cleaver, 2012; Ostrom, 1990).

This approach is popular in community forestry programmes that embrace both ecological conservation and local human development. It is believed that traditional ecological knowledge and local management systems, in combination with government-induced institutions will deliver successful outcomes on multiple levels (Agrawal, 2007). This principle relies on the idea that institutions function properly when they are well-nested in vertical and horizontal directions (de Koning & Cleaver, 2012; Ostrom, 1990). The increase in community managed forests signals that many national governments are decentralizing their forest governance and recognize that forest resources can be managed on a local level (Agrawal, 2007; Berkes, 2004, 2007; Lemos & Agrawal, 2006). This approach is appealing to policy makers because it does not reject the combination of neoliberalism and decentralized governance as management and economic benefits over natural resources remain with the government while answering the public call for distribution of power to local levels. It also provides clear guidelines for developing new, appropriate institutions according to a set of design principles (de Koning & Cleaver, 2012).

Questioning the effectiveness of rationality in institutional designs is called critical institutionalism (CI) (de Koning & Cleaver, 2012). This approach rejects the idea of rational institutions and focusses on “the multi-scalar complexity of institutions entwined in everyday social life, their historic formation and the interplay between the traditional and the modern, formal and informal arrangements” (Cleaver & de Koning, 2015, p. 4). So instead of crafting institutions with strict boundaries, formalities, transparency and representativeness of small homogenous groups to form optimal institutions that best manage

natural resources, the CI approach views differences in institutional arrangements ranging from bureaucratic/formal ones to informal/traditional/socially-embedded arrangements (Cleaver, 2002).

A theory within the CI approach is institutional bricolage; developed by Cleaver (2002) and defined as “a process through which actors consciously and unconsciously reshape or piece together different arrangements at hand” (de Koning & Cleaver, 2012, p. 281). So instead of the continuous crafting of optimal institutions through rational thinking, institutions are believed to be patched together for multiple purposes, embedded in a social network, in compliance with norms and practices and in which there are more socially desired outcomes besides optimal management of natural resources (Cleaver, 2002). In the same line of thinking, Batterbury (2001) emphasizes the inevitable linkage between landscapes and livelihoods, arguing that local livelihoods have their own practices, perspectives, needs and desires that determine how the environment is managed. The CI approach and institutional bricolage theory have been applied by multiple scholars to analyse how institutions are received, accepted, rejected or reshaped by local actors in forest governance and NTFP value chains (Batterbury, 2001; Cleaver, 2002; Ingram et al., 2015). They provide empirical evidence for bricolage and will also form the core concept of this case study of indigenous bricolage in the Peruvian Amazon as it is assumed that bricolage takes place in Chapís. This research will therefore contribute to the body of empirical evidence to reject the notion of MI.

2.4 Institutional bricolage theory

The theory of institutional bricolage in forestry and common resource management has been developed by Frances Cleaver in 2002. It builds on the earlier work of Douglas (1987) who related Levi-Strauss’ concept of *intellectual bricolage* to the forming of institutional arrangements (Cleaver & de Koning, 2015). It belongs to CI as it questions the rational ‘craftability’ (Ostrom, 1990) of optimal institutions promoted by MI and emphasizes the socio-historical and socio-cultural dimensions of natural resource management dynamics. In this paper, the following definition of institutional bricolage will be used:

“Institutional bricolage is a process through which people, consciously and non-consciously, assemble or reshape institutional arrangements, drawing on whatever materials and resources are available, regardless of their original purpose” (Cleaver & de Koning, 2015, p. 4).

Institutions are therefore no static concepts, but they are continuously reproduced or re-enacted to perform new functions. They respond to changing circumstances in the daily lives of local people. Institutional bricolage helps in understanding the complexity of institutions that determine the practices of forest resource management in the daily lives of indigenous communities in Peru. It is an especially relevant theory for this research, since the case study considers a community that finds itself in a broadening socio-economic context in which traditional and modern institutions collide, conflict and co-exist.

Types of institutions

Cleaver (2002) describes 2 types of institutions; bureaucratic and socially embedded. *Bureaucratic institutions* are formalised arrangements derived from organisational structures, legal contracts and rights, which are mainly introduced by governments or development agencies. Whereas, *socially embedded institutions* are based on culture, social organisation and daily life and often referred to as being informal (Cleaver, 2002). It doesn't mean that any institutional arrangement can be easily classified into one of these categories. A wide range of options exists between the two, creating a gradient along which institutions move in time. Also, neither one of them can be classified as good or bad in governing forests and natural resources. De Koning (2011) identifies 3 types of institutions within these two classifications; rules, norms and beliefs (see fig. 2). Bricolage makes use of combinations of bureaucratic and socially embedded institutions to create a 'fine mess' of governance arrangements to meet current, local objectives, circumstances and livelihoods (Ingram et al., 2015).

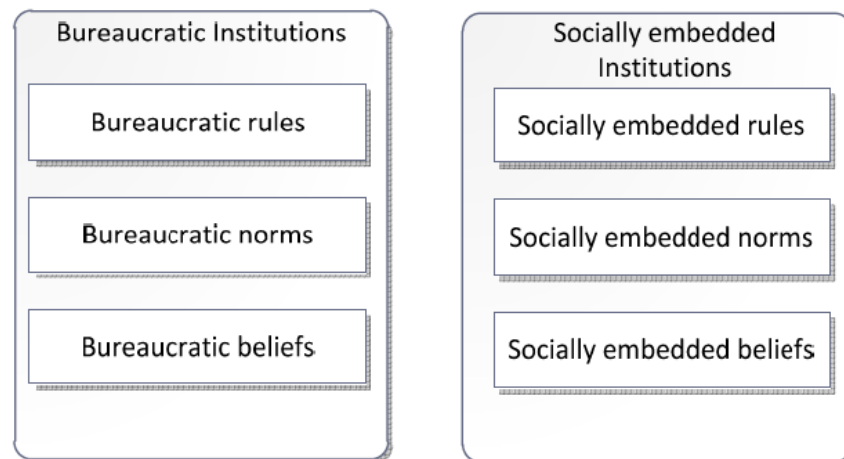


Figure 2: Different types of institutions (source: de Koning, 2011)

A more selective characterisation of governance arrangements is made by Ingram et al (2015), who researched the 'fine mess' of institutions created by bricoleurs in NTFP value chains in Cameroon. They identified six governance arrangements;

1. *Statutory arrangements*; these are also referred to as the formal institutions, which are mostly formed by governments and NGOs and often take the form of national laws.
2. *Customary arrangements*; those practices and norms that are not formally recognized on a national level but are treated as such by specific communities. They serve as codes of conduct and violation of customary law may lead to sanctions.
3. *Market-based governance*; considers institutions that are introduced by private/market entities and regulate the access to markets and the supply and demand of products and services (e.g.

organic certifications). These institutions can also be initially designed by NGOs, like the FSC certification.

4. *International standards and agreements*; these are developed by international entities and can be incorporated into national laws or voluntarily complied with by states (e.g. IUCN and CITES).
5. *Project-based arrangements*; introduced by organisations that perform activities with a specific aim and often within a specific timeframe.
6. *Institutionalized corruption*; when corruption becomes part of the institutional context, it can lead to governance arrangements that not serve the intended outcome.

Each of these have a different degree of influence depending on the product value chain and its socio-economic and local context (Ingram et al., 2015). This distinction in governance arrangements seems valid for this research project because NTFPs – in particular the local palm fruit *aguaje* – is an important activity and income-generating resource in the community under study (GCF, 2015; Profonanpe, unpublished). Hence, expectations are that the governance arrangements in this case are also bricolaged and that these NTFPs determine a great part of the local livelihood practices. The categorisation also allows for a more detailed classification of the origin of institutions.

Institutional bricolage practices

De Koning (2011) identifies three different practices of institutional bricolage; aggregation, alteration and articulation (see fig. 3). In explaining this, she uses the metaphor of a rock being thrown into a pond, the rock being the newly introduced institution and the pond representing the local context of current institutions, knowledge, technologies, practices and conditions. In *aggregation*, the rock dilutes in the pond like sugar. This symbolises a reformation in which formal institutions are given a new meaning or purpose by being combined with socially embedded institutions, making them ‘their own’. This outcome

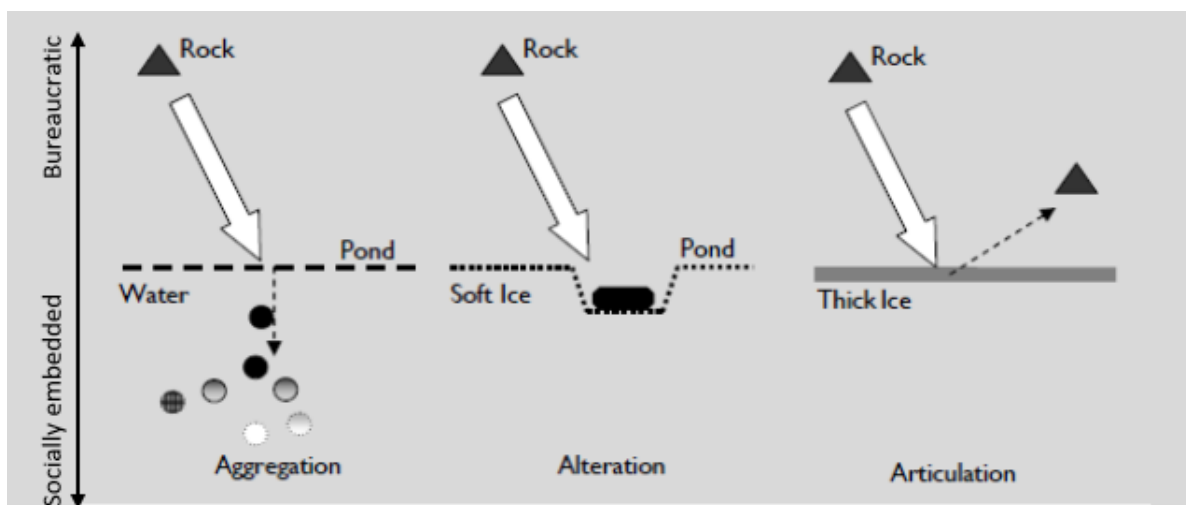


Figure 3: 'Rock in pond' metaphor of practices in institutional bricolage (source: de Koning & Cleaver, 2012)

is also called a ‘balanced situation’ in which both types of institutions correspond or exist in harmony. However, the newly introduced arrangement might serve a plurality of purposes besides the one it has been designed for. This process can happen unconsciously when the new institution is being ‘naturalised’ to fit the local context. *Alteration* is represented by the rock hitting the soft ice of the pond and leaving a mark on it. It means that the new institution is not completely dissolved in the local socio-economic context, but it is being used to adjust the current institutions to make it fit better with local livelihoods and/or identities. Alteration practices range from complete reinterpretation to making small changes in institutions at hand, depending on the time, location and circumstances. Institutions are adjusted all the time and this practice may therefore lead to unexpected outcomes. Lastly, in the case of *articulation*, the rock is bounced back on the thick icy surface of the pond, meaning that a newly introduced institution is in direct conflict with local identities and therefore rejected, as happened with the proposed laws in the *Baguazo* case (Acuña, 2015). This practice involves an articulation of the traditional identity and culture, which in these cases play an important role in governing the forests and natural resources. However, the newly introduced arrangement may leave behind confusion and discussion, causing traditional meanings to leak from one context to another (de Koning, 2011; de Koning & Cleaver, 2012). These processes are useful to this research in describing processes of institutional bricolage in Chapís more clearly, using a visualization of a phenomenon that is not visible with the naked eye.

2.5 Conceptual framework

Having the institutional bricolage theory as a main approach to the working of institutions in Chapís, a conceptual framework has been developed to analyze the processes (see fig. 4). The conceptual

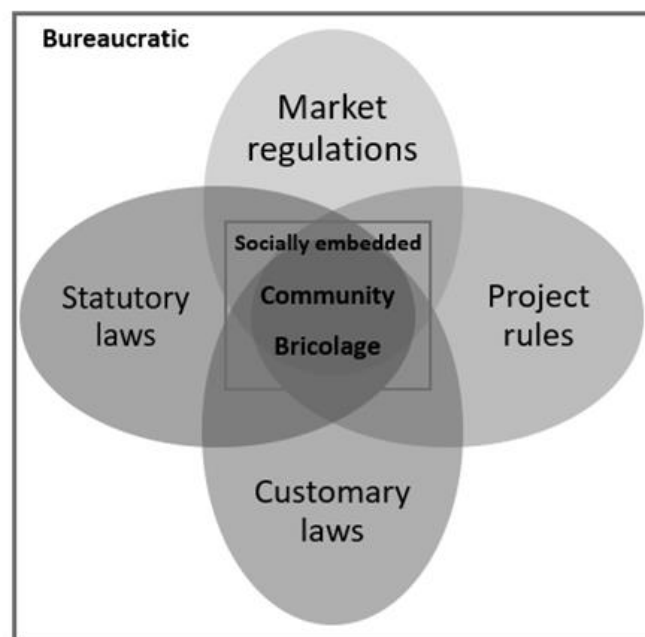


Figure 4: Conceptual model to study the processes of institutional bricolage

framework shows how the institutional arrangements can be classified. Cleaver's (2002) types of bureaucratic and socially embedded institutions are used as general classifications after which they will be further classified into customary, statutory, market-based or project-based institutions. These are four out of the six classifications used by Ingram et al. (2015). Corruption and international standards and agreements are not part of the model. The former because it will be a difficult task to identify corruption that is embedded in the institutional system as an outsider within the time-frame of the research. The latter will fall under either statutory, market or project rules depending on their original designers because in my view they overlap with these classifications. Community bricolage involves the three processes of bricolage: aggregation, alteration and articulation (de Koning, 2011). This conceptual model should help to disentangle the fine mess of institutions in which Chapís is rooted by identifying the origin of local institutions. It also helps in developing the methodology by providing guidance in the interviews and in selecting the right informants.

3. Methodology

This chapter characterizes the research and elaborates on the methods used for data collection and analysis. It provides argumentation for the selection of the case, the considerations made and how this led to a choice of methods used to gather and analyze information to answer the research questions.

3.1 The character of the research

This thesis takes the form of a qualitative case study. Qualitative research allows for a thorough exploration of phenomena in the social world, including livelihoods, daily practices, understandings of the world and social processes such as the working of institutions. It has a great capacity of arguing “how things work in particular contexts” (Mason, 2002). Case studies are also great for answering *how* and *why* questions in a contemporary context in which behavior can’t be controlled (Yin, 2003). It thereby suits this research, which aims at answering questions like; how are institutions being shaped? Why are bureaucratic institutions not adopted in a linear manner? And how does this affect local livelihoods and the environment? More specifically, it forms an explorative case study (Yin, 2003), since the research objective is to explore why certain institutions are involved in local livelihood practices, how these are shaped and by whom. It does not aim at providing solutions or predicting outcomes of natural resource management. Lastly, this thesis classifies as a single case study. To avoid committing the “ecological fallacy” (Bernard, 2002; p.51) by making hasty generalizations about other communities and people the focus of this research is on the dynamics within one community only.

3.2 Selection of the case

The community in this case study is Chapís, which consists of people from Awajún ethnicity. The case has been selected with the help of PhD candidate M. van der Zon (FNP), who is carrying out research with 60 communities in the province of Datem del Marañón. She conducted fieldwork in the area in 2016 and 2017 and has visited the community several times. Chapís was selected based on several characteristics and guided by the conceptual framework. First of all, Chapís is an Awajún community that is forest dependent with a strong internal organization built on local culture and traditions. The community has therefore developed institutions that determine to a large extent how natural resources are accessed and divided internally (customary law). Secondly, Chapís is a formally recognized community by the Peruvian government with legal land titles and usufruct rights, giving them legal authority to make decisions over the land and resources under title (statutory law). Thirdly, Chapís is recently involved in NGO and government projects to create (sustainable) business alternatives (market projects). Together, this led to the expectation that Chapís is exposed to many types of institutions that aim to govern natural resource use. Moreover, Chapís is regionally acknowledged as a community that has been increasingly integrated in mainstream economy and society over the past decades. Historically, this was driven by the arrival of the missionaries, followed by the establishment of schools and modern

The scope of the research is also defined by the geographical location. Chapís is the biggest community in a title shared with three other communities; Nueva Alegria, Ajachim and Caupernaum. It is therefore recognized and registered as the central community that holds the land title in national registers. The distances between the communities should not be underestimated since the area's main infrastructure are the shallow rivers on which transportation takes place in *peke* (wooden canoes with a small engine) (GCF, 2015; Profonanpe, unpublished). Therefore, it can easily take 30 minutes by *peke* to get from one community to the other. Secondly, Chapís is the central community of the federation ORPISEM, which represents the four communities within Chapís' land title, plus Wee, a community with its own land title, but which is descendent from the same original population. Figure 5 gives an overview of the geographical locations of the communities.



3.3 Data collection

The methods used in the case study are designed to gather qualitative data to answer the research questions. In this thesis, the subject under study is the process of (re)shaping institutions to serve local livelihood needs. This process would not exist without people, so the focus is on the local bricoleurs, forming the main source of data. Initially, I expected this to be the community leaders. However, during the fieldwork it appeared that ex-leaders or simply community members also had a great deal of influence and so, the informants are a mix of community leaders, elders and youngsters as well as the project leader of Profonanpe. The main unit of analysis are the livelihood practices of community members that involve the managing or use of natural resources. This allows for a guidance in interview questions and as a focus lens when entering the field.

Fieldwork subjects

In total, I spent a bit more than three months in Peru, of which ten weeks in Chapís. In between, I also spent some days at the regional office of the NGO Profonanpe, who is executing a project in Chapís, in San Lorenzo, the provincial capital. There I attended capacitation sessions with community members, held interviews with staff and could carry out some data processing. Yet, most fieldwork took place in Chapís. I spent my first days interviewing some of the community leaders and talking informally to community members to get familiar with the subject under study and to build rapport (Silverman, 2013). This helped me in selecting my other informants and setting up the interview questions for the rest of the interviews. These semi-structured interviews make up my primary data collection, along with questionnaires and field notes that consist of observations and information gathered through informal conversations (see table 1). The field notes serve as a validation method for the information gathered in the interviews. Besides that, I also used secondary data such as institutional documents, online news articles and company websites. Especially for information on formal, governmental laws and regulations this method was needed, but I also used official project documents from Profonanpe as important sources of data. In the following sections I further motivate my data collection methods used.

Primary data

Qualitative data is gathered through interviews. Interviews know many forms; from totally unstructured to structured interviews that follow a set of questions posed beforehand (Bernard, 2011). For this research, I've used semi-structured interviews and questionnaires as main data collection methods.

Semi-structured interviews have a guideline in which questions to ask but are still flexible to the interviewee's responses. This type of interviewing helps in gathering more in-depth information on specific topics (Bernard, 2011). It constitutes a mix of open and closed questions. I conducted 11 interviews that were based on open-ended questions, of which some were repeatedly asked to all informants whereas others were specifically formulated to the informant's function/position within the

community or project (e.g. community leader, president, elder, woman). Due to my initial unfamiliarity with the subject and research context, this method reduces the making of assumptions. It was especially useful in this study of illuminating a complex fuzziness of institutions because I wanted to discover what my informants found important and what their role and purpose is within institutional shaping. Semi-structured interviews allow this flexibility in questions asked. Besides some general questions on community organisation, local culture and social structure, these interviews mainly focused on institutionalism, or rules-in-use for resource extractive activities and how these have changed over time (see table 1). I spoke with community (ex) leaders, community members, the leader of the Profonanpe project and the president of the ACAM Bajo Morona. The interviews took between 30 minutes to 2 hours and were all recorded and transcribed. Annex Ia provides an overview of the informants for this type of data collection.

Table 1: Overview of the methods used for data collection per research question

Main RQ	Sub RQ	Examples of interview questions/topics	Data collection method	Justification
1. What are the key institutions that govern CNR?	a) What practices constitute the local livelihood portfolio? (e.g. fishing, hunting, NTFP products, agriculture) b) How are these livelihood practices organized/managed? c) How can the key institutions be classified?	- What are the rules for timber logging? - Who has access to communal forest areas? - Have current rules regarding fishing always been into force? - If not, how/why has it changed?	• Semi-structured interviews • Questionnaires	Interviews with community leaders generate a first impression of most important livelihood practices and power division in institutional decision making. Community members without a special function can reveal more insight information on how CNR are managed in daily life.
2. How are the key institutions formed in the process of institutional bricolage?	a) How long have the current ways of doing been in place? b) How have institutions changed over time? c) Who decides on which institutions are involved and which aren't? d) Are these ways of doing supported by the entire community?	- Do you remember other ways of land division between community members? - What/who influences if you can commercialize resource or not? - How has the project with Profonanpe changed life in the community?	• Semi-structured interviews • Questionnaires • (Observations)	Interviews with community members and observing communal meetings helped in highlighting how institutions are formed, by whom and why and if they are lived after. It identifies power relations within the community.
3. What are the purposes of key institutions and till which extend do they serve intended outcomes?	a) What needs do local practices satisfy? b) Are these needs mentioned by the designers of the institutions? c) What is the difference between formal documents and practice?	- What is the cooperation like between the communities and the government/NGOs? - Compare written documents with practice	• Semi-structured interviews • Questionnaires • Documents of: - community - Profonanpe/GCF - Legal (government)	Partly answered with the help of methods above. To answer second part of the question, documents can verify if intended purpose matches the actual purpose of institutions.

In the second half of the fieldwork I conducted questionnaires with 50 households in Chapís. These consisted of both open-end and close-end questions, making some of the answers comparable, but also allowing interviewee's input (Bernard, 2011). Households, most often families, are an important body in indigenous social organisation (Regan, 2003) and many activities were performed per household. I chose to conduct these questionnaires to discover heterogeneity within the community and to identify issues like power divisions, compliance with rules and representativeness in local institutions. Even though a sampling strategy did not turn out feasible because half the community had left the village because of the holiday period, I did aim to survey households from each of the three *barrios*, or neighbourhoods of the community village. At the beginning, I tried different dayparts to see which resulted in a higher response rate. It turned out that between 3 and 7 pm was the best time since then most families would have returned from their *chacras* (forest parcels/gardens used for agriculture and extraction of timber and NTFPs) or other activities. This leisure time allowed me to conduct the interviews in a comfortable setting for the informant. Most of my respondents are men, because men are usually seen as the head of the household, but I also tried to question women. I ended up having a total number of 50 respondents, of which 14 women and 36 men, ageing between 19 and 75. The amount of information obtained differed per person since especially women and young adults felt like they were not capable of answering my questions. This was not only a cultural issue, but also a personal issue as some people are more elaborating while answering questions and others are shy and short in answering. It limited the research in not making all answers comparable. However, when possible, I codified questions and answers to make them qualitatively comparable.

In addition to the interviews and surveys, I had informal conversations with community members. Such unstructured chitchats took place basically anywhere and in any context; besides the river while washing our clothes, while walking through the forest, while fishing, cooking and playing volleyball. These conversations didn't have a fixed content and were usually unexpected, but as soon as I could I made notes of the relevant information obtained. This kind of information turned out helpful in validating what I obtained from the semi-structured interviews and to grasp local perspectives outside a formal interview setting. The same counts for any type of observations. I would note these down in my field notes to be used for validation in the analysis stage.

Unexpectedly, I didn't make much use of a research assistant as I had quite open access to all community members. To my benefit, a surprising number of people spoke Spanish. The ones who did not were mainly elders and women. For these cases I had a research assistant, Roman, who was partly assigned by community leaders, but also chosen for practical reasons since this man had no wife or family, no parcel and therefore time to come along with me. However, after a few weeks he suddenly left the community for several weeks to visit his mother, but this wasn't a big problem because by that time I was quite familiar with the people and could find a translator on the spot when necessary, who was often a family member of the informant.

Secondary data

Besides interviews, I also used secondary data to answer parts of the research questions. Most of these took the form of project documents written and/or published by Profonanpe, GCF and CANDELA (organisations involved in the project in Chapís). This information was useful in discovering the purpose of newly introduced institutions and helped in understanding why these were or were not adopted by the community. Moreover, governmental laws as well as customary, written laws (*reglamento interno*) were also analysed for the same reason and to discover compliance with such laws and institutions not mentioned by the informants.

3.4 Data analysis

Data analysis is needed to make sense of the big pile of data collected, so that it can be used to answer the research questions. The data needs to be ordered to find relationships and draw conclusions. Since most of the data collected takes the form of texts, I thought about how to analyse textual documents (Mason, 2002; Silverman, 2013). Literal analysis of texts might seem the most objective option because you analyse ‘what is there’, but it can miss the underlying meanings of the data collected. Whereas interpretive and reflective reading allow for reading through and beyond the data (Mason, 2002). Where especially in reflexive reading, the relationship between the data and the researcher plays an important role. Interviews were recorded and later transcribed word for word, this allowed for using all three methods in analysing the data.

In order to find relationships and to create order and structure in the many pages of transcriptions, I used the program Atlas ti to code and reference the large pieces of texts. Cross-sectional indexing allows the making of comparisons and relationships between different parts of text and non-textual documents (e.g. diagrams, pictures, maps) (Mason, 2002). In determining the categories and codes, it is important to maintain the links between the problem, the research questions and the data. The research questions and the conceptual model formed the main sources to develop my codes (see Annex II). Two coding cycles provided me with an overview of relevant pieces of text. Besides Atlas, I used Excel to then manually sort the coded information needed to answer my research questions. I also used Excel to give structure to the data gathered in the surveys.

Throughout the analysis, it is important to stay aware of personal bias, assumptions and perspectives. For that, I used my field notes that included personal experiences, notes on informal chats and observations during the fieldwork. It worked as a validation technique in drawing conclusions from the main data sources.

3.5 Validation and generalization

Qualitative research, and case study research in particular, is often questioned for its generalizability and reliability, not making a valuable contribution to scientific knowledge (Flyvbjerg, 2006). However, as Flyvbjerg puts it, case studies are great for gaining insight into local practices, in refuting hypotheses, falsification of preconceived notions and identifying complexity rather than simplicity. This doesn't mean however, that methods exist to increase the validation of the data. In my research, I made use of field notes that include observations and (overheard) informal conversations to validate if what is being said is actually supported and performed. I also checked the information obtained with official documents during and after the research, such as the written internal law documents of the community, project proposals and national laws.

Case studies are less used to make empirical generalisation about a specific population or organisation, but more to make theoretical generalizations (Mason, 2002). In my research, I do not aim to make generalizing conclusions about a larger population, the entire indigenous community, but I rather try to make "analytic generalizations about social processes" (Silverman, 2014). By conducting in-depth research in one community I highlight the processes at a local level. Spending time in the community, building relationships, trust and experiencing local life allows for a better understanding and can thereby verify theoretical assumptions related to the CI approach. Chapís is not considered to be representative for the entire indigenous population in the region or country. It is a community with specific characteristics, but therefore interesting to analyse using the theory of institutional bricolage to explain the social processes related to intuitionism and forest governance.

Of course, it is important to be aware of personal bias in gathering and analysing the data. To limit this effect, I transcribed the interviews word for word. The use of a research assistant can also influence the data obtained. In the cases where I needed a research assistant to translate, I had no control over the conversation besides trusting the translator to report the truth and literal description of what was being said. However, the cases in which I needed this translator were limited and the benefit of it was that I could focus on the non-verbal interpretation and communication. Moreover, I was able to triangulate the information using other data from field notes and interviews.

3.6 Research ethics

Before entering the research site, Van der Zon got oral approval of the community leaders to conduct long-term research in Chapís. Due to the remoteness of the area and the nature of the indigenous organization, it was difficult to get a written agreement, which is why Van der Zon travelled with me to meet with communal authorities and assure their approval. Upon my arrival, I brought printed versions of a research letter signed by my university supervisor as well as a summary of the research proposal in Spanish, which I handed out to the community leaders. After their second approval, they announced my

presence and the purpose of my stay in general assembly to the rest of the community. All community members were therefore aware that I was gathering information for my thesis research. Still, before each interview, I explicitly asked if I could interview that person for my research. Also, during the interviews, I made clear that the informant is free to withdraw from the interview or from answering a specific question. Moreover, to provide the informants with confidentiality, their names will not be mentioned in the report. Only their sex, age and role within the community is being used when relevant.

4. Description of Chapís

Before presenting the results, some more general information on Chapís is necessary to better understand the results. The following sections will describe the geographical aspects of the research site, the socio-cultural and economic features of Chapís, including some general information on the history, livelihoods and internal organisational structure. This information helps to create a better picture of the context in which the research took place and leads to a better interpretation of the results.

4.1 Geographical location and demography

Chapís is located in the province Datem del Mara  n, in the northern Peruvian Amazon. The province was created in 2005, covering an area of 42,592.66 km² in the north-west of Loreto where it borders with the department Amazonas in the west and Ecuador in the north (GCF, 2015). The mountain range

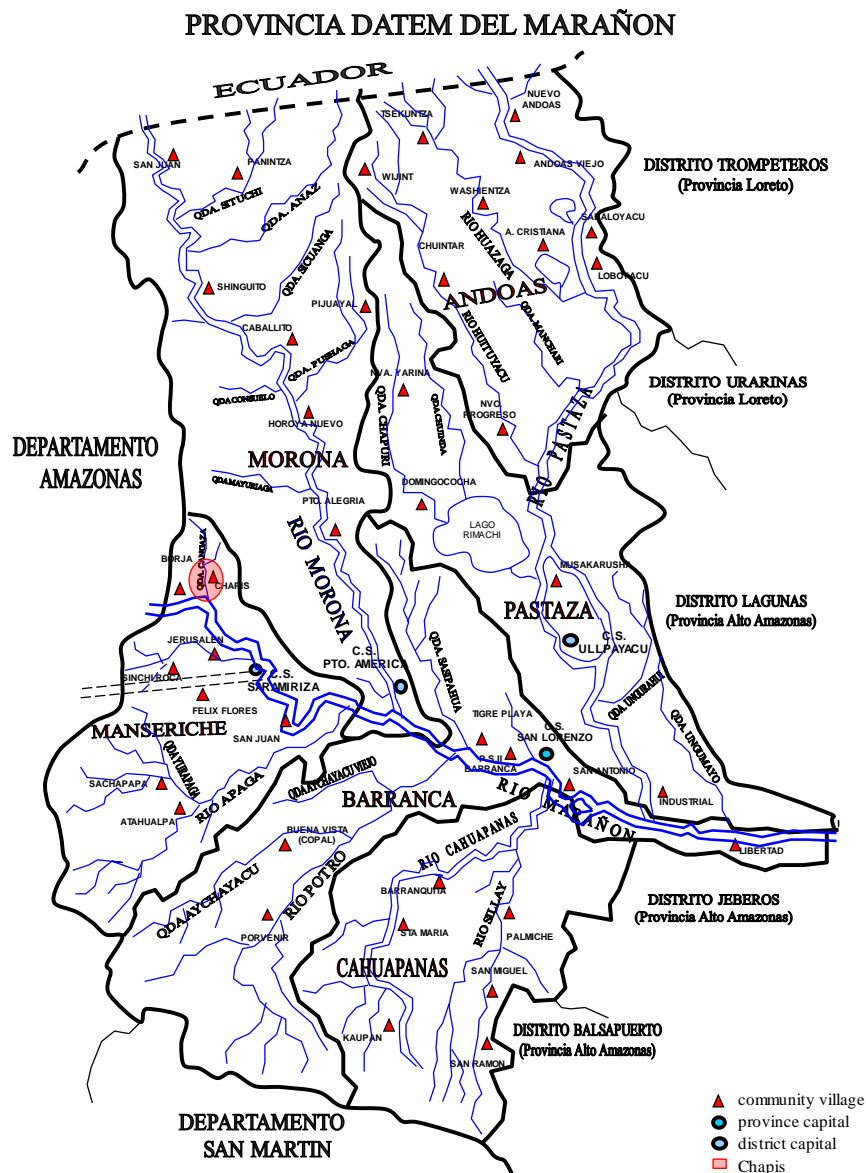


Figure 6: Political map of Datem del Mara  n, Loreto (source: Profonanpe, unpublished)

Kampankis separates the two departments, marking the end of the Andean slopes and the beginning of the Amazonian plain. Chapís is located just east of Kampankis. Through Datem del Marañón runs the river Marañón and two mayor sub-rivers; Pastaza and Morona. The province was created using these natural boundaries, which further separate the province into six political districts; Andoas, Pastaza, Morona, Manseriche, Barranca and Cahuapanas (see fig. 6). Chapís is located in the Manseriche district, along the Kangasa, a side river of the Marañón.

The area knows a tropical, humid climate with a lot of rain throughout the year, and with more frequent and intense storms during the summer (months December till April) (Profonanpe, unpublished). These rains contribute to the growing and shrinking of the rivers, which form the main ways of access, creating a complex infrastructure. In the dry season, the water in the Cangasa can lower to become barely impassable by *peke*. On the contrary, in the wet season water levels rise, causing sometimes dangerous currents that carry along tree trunks, loose vegetation, sediment and trash. For the people in Chapís these rivers form their only way of access to the rest of the region. Only Saramiriza, Manseriche's district capital, connects the province over land via Bagua to the rest of the country by an asphalted road constructed in 2010. This road has strongly contributed to the current situation in Chapís as it provides the community access to the rest of the country's economic, political and social infrastructure. It has led to increased interaction with mainstream economy and society, altering local livelihoods.

There are seven different ethnic groups that live in Datem del Marañón; Awajún, Achuar, Quechua, Candoshi, Shapra, Huambisa and Shawi. These, together with mestizo communities, make up a total of 61,097 inhabitants of Datem del Marañón (INEI, 2013) In Manseriche, the indigenous population is made up of pure Awajún and mestizos. Chapís is one of the 16 Awajún communities in the district and has an estimated 523 inhabitants (Censo 2017). The exact number is hard to tell because besides a fast population growth (see fig. 7) there are also temporary inhabitants (e.g. teaching staff and medical technicians). These often come from other Awajún communities in Datem del Marañón or the Condorcanqui province. The median age is 15 (Censo 2017). Family sizes range from households with two to ten children, sometimes also including grandparents or other relatives. Although polygamy is becoming less common, there are still cases in which men have children with different women. Marriage is uncommon since this is a costly phenomenon, but people refer to their partners as *convivientes*, living together under the same roof. Their relationship is documented in an *acta de convivencia*, signed by the couple and their parents. This binds them under national and local law, as the community has its own rules and sanctions when it comes to problems such as domestic violence, child benefits and 'divorce' as well as land and resource division amongst families.

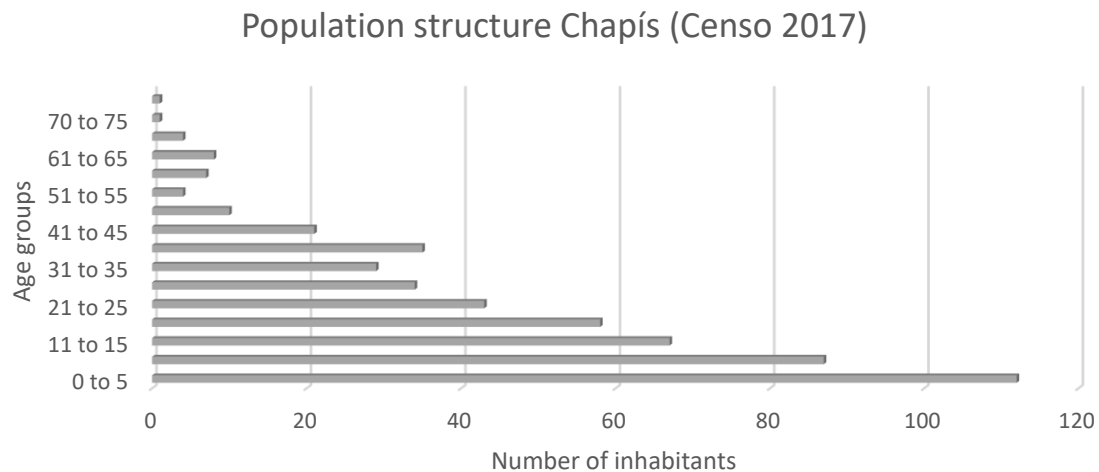


Figure 7: Population structure of Chapís according to age groups and number of inhabitants based on the community censo from 2017

Chapís has 3 levels of education; kindergarten, primary school (established in 1973) and secondary school/high school. Most of the children finish primary school and some continue with secondary school, but due to a lack of motivation or simply because they have to help their parents on the land this is not standard. Only a handful goes to university since this is very expensive for the community members. Most common is to study, as they call it, *vacacional*. This means that they go to university during the holiday months (January/February and July/August) to study and the rest of the year they start working. Most study to become a professor at the community schools, but engineering and nursing are also becoming more popular. Universities and higher education institutions are either in the same department, San Lorenzo and Iquitos or some go to Jaén or Chiclayo, main cities in north Peru.

The village also has a *puesto de salud*, a health care post (see fig. 8). The post is occupied by a technician and a nurse and provides basic care for all community members with a SIS (Seguro Integral de Salud) certificate, for free (SIS, 2011). In case of serious problems, patients are prescribed and directed to the health care post in Saramiriza (1,5h by local transportation), if they can't be assisted there, they are redirected to San Lorenzo (6h by local transport from Saramiriza) and if not there, then they are sent to the first "true" hospital in Yurimaguas, which still has limited services and specialties (45min by plane or 8h by boat from San Lorenzo). If the Yurimaguas hospital cannot treat the patient, he or she is transported by plane to hospitals in coastal cities and ultimately the capital of Lima. So, in serious cases, good care is far away. Although the costs for patients in need of better care are covered, most community members don't make it to these hospitals because they know the trip is going to be hard on their health and feel that they will not survive. Moreover, some people have more faith in traditional *curanderos*, of which a few are quite popular. Part of this faith is due to discrimination and language problems faced in public hospitals.

Furthermore, electricity is rare and not provided by the local government. Some houses own a generator or solar panels, but these don't provide electricity during the entire day. Potable water infrastructure is also absent. People either drink directly from the river or boil river water before consumption. Similarly, sanitation is absent, causing diseases to spread rapidly. On a national scale, levels of education and health care are considered among the lowest of the country, as are average income levels (PNUD-Perú, 2012). Chapís is therefore located in one of the poorest regions of Peru, characterized by rural, self-sustaining livelihoods.

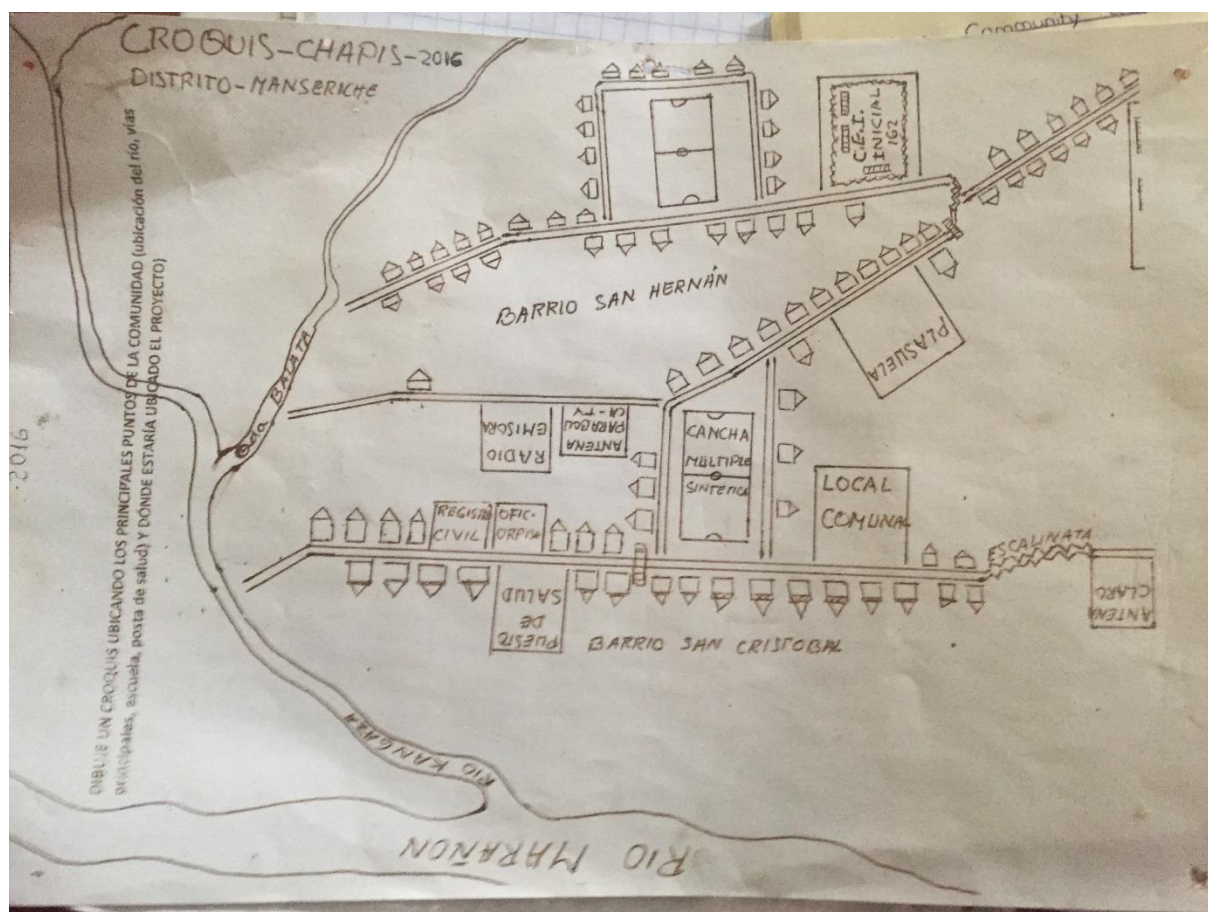


Figure 8: Map of the community village Chapís drawn by the community (photograph taken by the author)

4.2 Local livelihoods

Ancestral life was strongly different from that of today. Before they started to settle and live in communities, people sparsely occupied the area, with often no more than 3 houses of one family together. In some cases, it would take two to three hours by foot to get to the next settlement/family. According to several informants, the first settlers lived from their agricultural fields, fishing and hunting, which kept them highly occupied. In their free time they would drink *masato* (a local, fermented drink made of yucca), dance and sing and sometimes early morning spiritual rituals would take place that include the drinking of the hallucinating, root-based fusion called *ayahuasca*, which helped people to envision their future and connect with spirits. However, major changes occurred with the arrival of the

missionaries of the catholic church at the beginning of the 20th century, the establishment of schools and later also the connectedness to markets and non-indigenous society, which have caused people to gather and live in small groups. It is not known in which year exactly such a group of people became known as Chapís, but it is not before the 1960s. Over the years, Chapís’ location has shifted from up the hills, downstream Cangasa, where it was closer to the main rivers, which made transportation faster and easier due to less shallow water. It owes its name to Cangasa’s affluent called Chapís, but along with the movement of its people went its name. Previous locations are now known as Wee and Ajachim (see fig. 9).

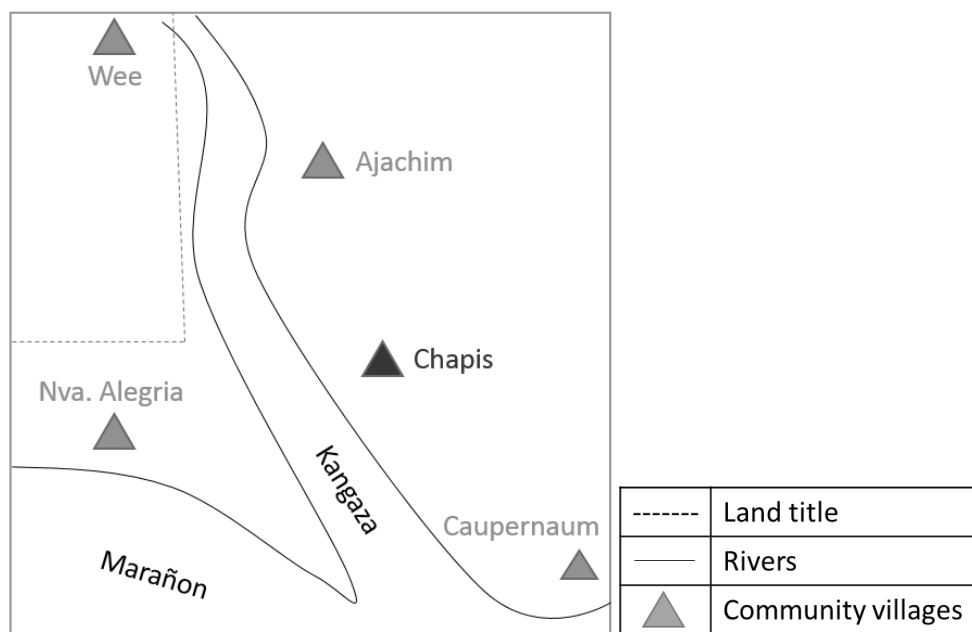


Figure 9: Graphical map of the communities under ORPISEM

The first people settled in the current location in the late 1960s. However, their land title was only officially obtained in 1983 (Soria, 2016). Chapís knows two churches, an Evangelic church and a church of Nazareth. Most community members follow the Nazareth church. The arrival of the catholic church has caused the disappearance of traditional ceremonies such as the drinking of ayahuasca. Ancient beliefs are now mixed with Christianity and the Bible determines to a large extent the norms and values of the current generation. Education has led to increased literacy and the introduction of non-indigenous knowledge, such as science. In the first years of education, everything is taught in Awajún and topics cover knowledge on traditional lifestyles, but the percentage of Spanish teaching increases with each grade, as does the inclusion of scientific knowledge. The combination of two types of knowledge illustrates the importance of traditional life that becomes increasingly intertwined with modern society.

“Yes, that there would be external traditions and cultural traditions too. Our tradition is never going to change, but still, it will grow. We want that our culture also lives, that it doesn’t die. And in summary of this, that it goes together; culture and education. That they grow together.” (Community member)

Still, people in Chapís depend strongly on the forest for their livelihoods. Agricultural fields (*purmas* and *chacra*'s), fishing, hunting and fruit collection are the most important sources of food. A large part of the day, especially the mornings, is spent on these activities. However, the utilities to perform them have slightly changed. Now they use nylon to make fishing nets instead of only using venomous plants or spears, hunting is unimaginable without a shotgun and trees are cut using chain saws and machetes. On the individual parcels they perform slash and burn practices. One part is used as *chacra* to cultivate crops, the other part is kept as *purma*, where vegetation is able to regenerate. After a period of about four years, this *purma* is cut down and burned to be used as the new *chacra* and vice versa. The main products cultivated are yucca, plantain, corn and cacao among other crops and fruit trees. All these products serve as food for the family or their animals, except cacao. Cacao is cultivated to be dried and then sold in Saramiriza.

The introduction of small engines for the *peke* has led to decreasing travelling times to local markets, increasing commercial activities and trade that generates monetary income. Money therefore came to play an influencing role in local livelihoods. The main need for money comes with education and health care. These two basic services are still relatively cheap, but for a community that is used to live without currency it are high costs. Money is also used to buy clothes, food (e.g. rice, sugar, eggs, milk, oil and sweets) as well as household utilities such as soap, tin pans, plastic plates, cups and cutlery. There are several households in Chapís that run a *bodega* next to (or in) their house in which they sell these basic goods that are imported from Saramiriza.

There are several ways for community members to earn money. Still, the easiest way remains through the selling of timber. Although this is officially only allowed under legal permits, low intensity logging was and still is common. A more recent income provider is the cultivation of cacao. The cultivation of cacao was introduced by an international NGO many years ago who provided seeds and techniques for cultivating. They trained people in Chapís on how to cultivate for commercial purposes but did not help them identify markets to commercialize their product. In earlier days, production was very small-scale within household's parcels, but today it has regained the interest of the people because they see the individual income that is generated through larger-scale cultivation. 60% (n=50) of the respondents mentioned that they are either cultivating cacao already or starting to grow cacao. The growing of cacao is especially popular because it provides income security per household as it depends on one's own efforts instead of an employer.

Some community members, mainly men, work occasionally in construction, logging, mining or forest vigilance. There have also been two attempts to set up a community business that provides human resources to external companies to perform these kind of jobs, but these haven't really gotten off the ground (yet) and most people seek contracts individually or perform undeclared work. Other, more

recent providers of income are the petroleum companies, the bio-business APUAPISEM and the cacao market.

4.3 The 2017 oil spill

Oil leakages are not uncommon in the region and are causing tensions to increase between indigenous peoples and the state. Previous leaks in the area (e.g. in Mayuriagua in 2016, the neighbouring community) provided jobs to people of several affected communities in the surrounding area, including Chapís. Wages for these jobs are higher than any other job found in the region. Moreover, affected communities by oil spillage receive monetary compensation for the contamination of their land that can sometimes sum up to 30 thousand soles (\pm 7.575 euros). This causes people to get distracted from other income generating activities because it provides them with a large amount of money in a very short time.

Through Loreto, and Datem del Marañon runs the most important and longest oilpipe of Peru, *el Oleoducto Norperuano*, which belongs to the state-owned petroleum company Petroperu. This oil pipeline was constructed in the 70's and runs through state and indigenous territories, crossing a total of 1,106 km (Petroperu, 2014). Part of the oil pipe *Ramal Norte* also crosses Chapís' territory. Just at the time of the fieldwork, on November 7th, a leak was found in the pipeline, 1,5 meters below the surface, under the *aguajales* (Petroperu, 2017). This meant that the leaked crude could easily spread through the wetlands once it reached the surface, but it also contaminated the soil. Preoccupations amongst the community members rose further because rains were about to become more frequent and strong from December onwards, increasing the contaminated area. During this leak, high level government officials, congressmen, and representatives of the oil company visited the community for meetings to discuss how to approach the remediation and reparation process. In one meeting between the government and the communities, Chapís and its annexes threatened to destroy the oil pipe running through their territory. A large part of their concern was the contamination of the *aguajales*, which provide input for the bio-business APUAPISEM that turns these into cosmetic oils sold under organic certificate to CANDELA (more information in section 4.4). Contamination would mean a threat to the organic certificate, but also to their 'supermarket'; the forest, the rivers and the animals. They requested monetary compensation and the hiring of at least 150 community members in the remediation process for wages of at least 80 soles per day. Their arguments for compensation were explicitly based on their traditional dependence on the forests and a history of conflicting interests between the government and the community in which they felt their rights were violated and misused. Petroperu didn't want to meet this request, which led to the suspension of problem solving. It caused tensions to rise and even led to government officials being held as hostages inside the community village. Five men tried to flee by taking one of the community's canoes, but they hit a tree trunk in the river and one of them drowned in the Marañon (La Industria, 2017). Two indigenous leaders were accused of attempted murder, but these claims were eventually withdrawn, and negotiations continued. They didn't reach an agreement before the end of the fieldwork,

but a group of 20 people from the communities under ORPISEM were invited to Lima to discuss the proposed projects of the government to support the community in better health care, education and the provision of basic services as part of community compensation.

The oil spill has not only had a negative environmental effect, but it has also caused Chapís and its annexes to get in contact with high governments officials. The community has put itself on the map due to their own determination of not being tricked (again) by representatives lower in the governmental hierarchy trying to solve the problem making false promises and because of a community member who has a high role in the ministry of health in the region. It has caused them to get attention from especially the regional government and put them in a relatively strong bargaining position, driving them to take action.

High communal compensations for these environmental damages and the high wages make working in the oil spill more popular than in other sectors or jobs. APUAPISEM is another example of an income provider for people in Chapís, which is described in the next section.

4.4 APUAPISEM and the bio-business project

The ecosystem in Chapís' territory can best be described as humid tropical forest with low and medium terraces, hills, *aguajales* and swamps (GCF, 2015). The latter two are also referred to as wetlands. These wetlands are great storages of carbon and are therefore considered important conservation areas (GCF, 2015). Nonetheless, they are exposed to increasing deforestation pressures due to the conversion of forests to agricultural lands, for timber commerce, for palm oil production and because of traditional, indigenous palm fruit harvesting by cutting the trees. Also, climate change and government plans to expand the areas infrastructure by connecting Saramiriza and Yurimaguas to Iquitos by road are posing threats to the conservation of the Amazon basin. The underlying reasons for these threats lie in the province's cultural diversity, the low presence of the government and the lack of coordination between different groups (GCF, 2015).

In 2015, the GCF approved to partially finance Profonanpe's project on "Building the Resilience of Wetlands in the Province of Datem del Marañón in Peru" (GCF, 2015) to respond to these threats. It is a follow up and expansion project of Profonanpe's initial project to improve natural resource management in the Pastaza-Morona basin. The aim of the project is "to identify a proven, solid and culturally acceptable management strategy to protect the carbon stock from identified direct and underlying threats, and to prevent the development of new and unanticipated risks while improving the well-being and resilience of the indigenous communities in the area of interest" (GCF, 2015, p.13). They do this by focussing on the following four components: 1) strengthening institutional capacity in government organizations, 2) strengthening capacity of community-based institutions, 3) building resilience through sustainable bio-businesses in natural resources management and 4) science,

technology, knowledge management and monitoring and evaluation systems established (p.5). Component 3 receives half of the project’s financial budget of 9.11 million USD.

These components are based on the underlying threats to the carbon stock as identified by Profonanpe. The first being the weak government institutions. Datem del Marañon scores lowest of all Peru’s provinces on the government presence index, as well as the number of individuals with official identification documents (PNUD-Perú, 2012). Additionally, the province lacks in the availability of professionals to fulfil government positions and sufficient financial budgets to cover its responsibilities. The second underlying threat is the poor coordination among key stakeholders to sustainably manage the province’s natural resources. Differences in ethnicity, historical conflicts with in-migrants and the government have created an environment of minimal understanding and interaction. Thirdly, formal land ownership is lacking, with 43 percent of land under pending land titles that are waiting to be legalized. Profonanpe argues that “land security favours the implementation of good natural resource management practices” (GCF, 2015, p.13). Fourth, a lack of coordination among government offices means that there is still no common vision for land-use. Land-use planning through participatory processes with stakeholders is suggested to provide a good basis for natural resource management plans. Finally, the long history of mistrust between indigenous communities, settlers/migrants and government officials is emphasized (GCF, 2015). These threats underly the more direct threats to climate mitigation as mentioned in figure 10. To face these direct threats, different strategies are applied.

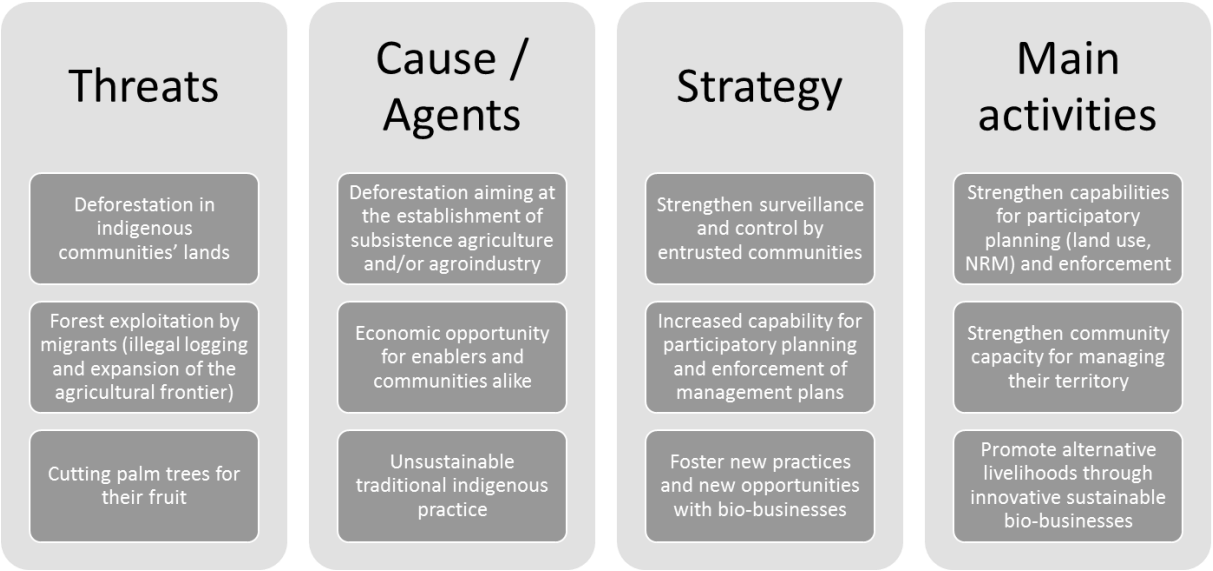


Figure 10: Logical framework of the mitigation component of the project of GCF and Profonanpe (source: GCF, 2015)

In Chapís, the last strategy has been applied; to foster new practices and new opportunities with bio-business, which led to the creation of the community association APUAPISEM (Asociación de Productores de Ungurahui y Aguaje de Pueblos Indígenas del Sector Marañón). APUAPISEM is now a legally inscribed indigenous association that produces organic oils from palm fruits. The association

involves people from all five hamlets that fall under ORPISEM (see section 4.5), but the factory plant is located in Chapís.

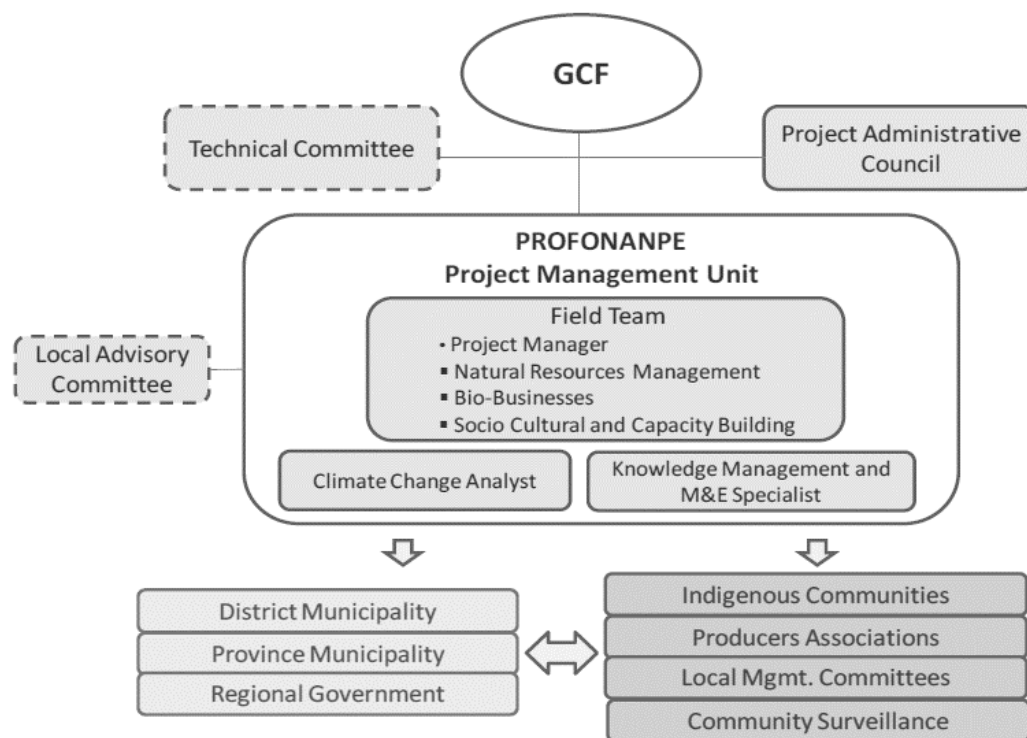


Figure 11: Organizational structure of the project (source: GCF, 2015)

Also involved in the project, as the buyer of the products of APUAPISEM, is CANDELA. CANDELA is a NGO based in Lima and found in 1989 that has as its goal “to develop ethical markets for natural organic high-quality products aimed at strengthening the value chains of Amazonian and Andean production by empowering the capacities of rural producers, making sustainable use of their native ecosystems” (CANDELA, 2014). The NGO is connected to international markets and aims to increase product values along the entire value chain. They started working as a partner of Profonampe to strengthen the markets for the oils produced in Chapís by providing trainings and equipment to sustainably harvest the wild palm trees and produce the oils according to Good Manufacturing Practices (Minerva, 2016). If these requirements are met, APUAPISEM is granted an organic certificate with which they can sell their end products to CANDELA. They have had this certificate for one year, from 2015 to 2016. When this expired they had to renew it, which needs to be done annually. The inspection for renewal happened at the beginning of December 2017, just when the oil spill had happened and was one of the main worries of the community after the oil spill.

The project also facilitated the creation of *Area's de Conservación Ambiental Municipal* (ACAM). These areas were created when the Law on Municipalities (Law 27972) mandated local governments to develop territorial plans at the provincial level by identifying areas of natural risk, agricultural areas and

environmental conservation areas (GTZ, 2010). The legal recognition of ACAMs remains vague and its jurisdictional meaning as well. Chapís is part of one of such an ACAM, which is normally managed by local user groups. However, in the case of Chapís, there is no formal management board because the communities never formalized this, its effect is therefore even more limited. Anyhow, the project is thereby focussing both on government bodies as well as local, indigenous communities. Figure 11 provides an overview of the organisational structure of the project.

4.5 Formal community structure

The land title that has been obtained includes 4 communities; Chapís as the central community, with its three annexes; Nueva Alegría, Ajáchim and Caupernaum. Caupernaum has recently moved out of the geographical area of the land title because it was recently flooded at its previous location. Also, they try to expand the land title by claiming that Caupernaum is the new community occupying the area wanted for expansion. Wee is an example of such a community, which is historically related to Chapís as its inhabitants descend from it, but which has its own title as an expansion of the previous one. Their title was obtained in 1999. Wee is now a small community, of about 60 inhabitants, but with a land title that covers 200,000 ha. Within and between these five communities exist different levels of organisation and power (see fig. 12).

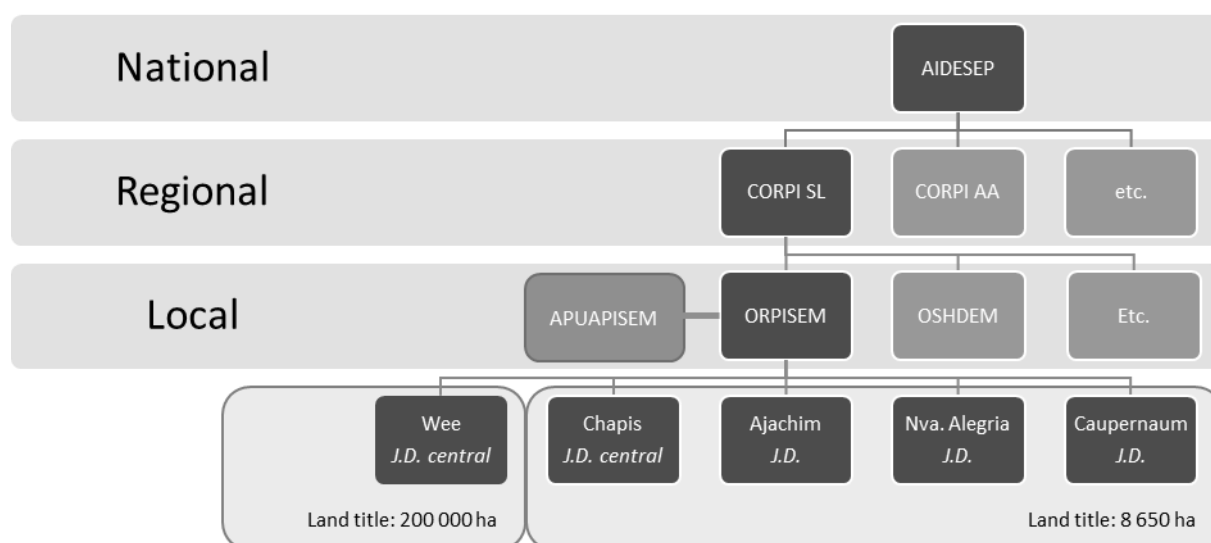


Figure 12: Political indigenous structure from community to national level, including the association APUAPISEM.

The main active body on the communal level is the *junta directiva*, or directive board. Each of the five communities has its own board. However, since Chapís is regarded the central community, its board is also referred to as *la junta directiva central*. The board consists of an apu (indigenous term for community leader), a vice-apu, secretary and treasurer. The central directive boards of the land titles (Chapís and Wee) are officially registered in the public registry as such and serve a period of two years. The other community boards are not formally registered and serve a period of one year. Each board is

in charge of maintaining order and compliance with internal rules and regulations and they have jurisdictional power. They also organize general assembly's; meetings with the entire community population to discuss important issues and make decisions. The general assembly also gathers when important issues or problems need to be discussed (e.g. meetings around the oil spill) or to report back to the public on meetings with external authorities or people. The general assembly also elects the new directive board through majority voting.

Chapís, Ajachim, Nueva Alegria, Caupernaum and Wee are all under the same federation; ORPISEM, which has its own board consisting of a president, vice-president, secretary and treasurer. ORPISEM is the political representative body for all the communities and the board is therefore chosen by all five of them, serving a period of three years. Members of all communities can be elected. The main task of ORPISEM is to manage education, health care, territorial and political issues. It also can be seen as the gate between external bodies and the communities, as it represents the communities in negotiations with state, non-state and market actors, but also serves as a superior power when internal problems cannot be solved at the communal level. Scaling up, ORPISEM is represented on regionally by CORPI and on a national level by APUAPISEM. These are politically organised bodies that make sure indigenous interests are represented in regional and national courts.

Chapís and its annexes have their own internal legal system, which includes judicial power. The apu and his board elect two community members to function as police. Besides vigilance, they also accompany the board in meetings between community members or external parties to assure legality of the process or negotiation. In case problems occur at the communal level, these are first attempted to be solved by the directive board of the community. For many violations, the internal regulations state what the sanctions are. In most cases, sanctions take the form of fines, communal work or hours in *calabozo*, a dungeon used as the community prison made of bricks with three very small cells. The amount of money and time in the dungeon depends on the severity of the crime, but it usually is around 500 soles and 24 to 48 hours imprisonment. Yet, with light cases, the board usually first tries to talk to the offender to solve problems by conversation. In case the apu and his board can't solve the problem, the case is passed on to the organisation, ORPISEM. On their turn they try to solve the problem through sanctions and conversation. In very rare and extreme cases, the case is passed to the Justice of the Peace (*Juez de Paz*), which is a formal institution under national law. A case can only be denounced in front of the Justice of the Peace once it has passed through communal authorities. In cases of murder and witchcraft, which is taken very seriously by the community, the delinquent is directly expelled from the community. If a crime is committed outside communal territory or once the delinquent leaves communal territory, then the judicial laws of the state apply, so customary judicial power is officially limited to the boundaries of the title. Yet, for the community, this jurisdiction extends till what they consider their territory, which is usually a lot bigger than the title. Moreover, when travelling to other communities and conflicts that arise when meeting other indigenous peoples, customary laws also apply.

“... and that has as right that the Awajún community makes his own constituted rules and those will be respected by the central government, everyone respects this internal law because the community is autonomous. Whatever serious thing, the Awajún community itself can solve it, it cannot bring a complaint to the national police. Instead of these authorities, we have the apu here. The apu’s provide the solution. If they can’t solve it, they have the organisation [ORPISEM].” (Community member)

This internal communal structure creates a framework for institutions to be adopted, adapted or rejected on a local level. It generally represents the bodies involved in the processes of institutional bricolage and internal power divisions. Still, the individual character of the person occupying these authoritative positions determines the influence they have on the shaping of institutions. Some of them will be better, or more influential ‘bricoleurs’ than others. The next chapter will focus on the key institutions that influence natural resource management and how these have been shaped. It provides the results needed to answer the main research questions.

5. Results

This chapter presents the results found during the research. The chapter is structured according to the research questions and the conceptual framework. The first section (5.1) highlights the different types of institutions found that guide local governance over natural resources, answering the first research question. The second part (5.2) takes a closer look at the processes of institutional bricolage in the past decade, including drivers of institutional change and the actors involved in these processes. The last part thereby answers research questions two and three.

5.1 The institutions governing natural resource use

To respond to research question 1, this section describes the institutions that aim to govern natural resources in Chapís. Institutions take many forms and have different origins. Their influence is not always equal. In Chapís, customary rules, norms, and beliefs shape to a large extent the daily lives of people, but within a statutory framework and increasingly influenced by NGOs. A mayor change in the institutional framework took place when the Law of Native Communities (1974) allowed for obtaining communal land titles. This has shaped the current local governance context in which statutory, customary, market and project-based institutions exist. The section starts by describing the statutory laws and arrangements followed by the customary regulations, the market-based and the project-based arrangements. Within these different governance arrangements, extra attention is paid to how these contribute to conservation of the forests and resources. At the end, an overview is provided of the institutions per resource (extractive) activity.

5.1.1 Statutory law

The Law of Native Communities (Decree Law 20653) and the Forestry and Wildlife Law (Law 29763), are most relevant for natural resource governance in Chapís. The former law, as described previously, allows for the obtaining of legal land titles and the latter for granting usufruct contracts to recognized communities for the use of forest resources (Cruz-Burga et al., 2017). Chapís obtained a communal land title in 1983 over 7,350 ha of land and usufruct rights over another 1,300 ha (Soria, 2016). This officially means that on the agricultural land they are allowed to perform forest clearing activities for productive purposes, but the other 1,300 ha can only be used for subsistence resource extraction that doesn't include the clearing of forests.

Peru's constitution states in article 66 that all natural resources are under ultimate ownership of the state. These resources can only be used under conditions specified in organic laws. The Forestry and Wildlife Law (29763) states that forest resources can only be used or extracted with a legal permit or license from the state, with an exception for those resources extracted for domestic, auto consumption or subsistence purposes by rural and native communities (article 81). In case native communities want to extract resources for commercial use, they require a permit and management plan for each of these resources.

The Forestry and Wildlife Law states that for the commercial extraction of timber, logging permits need to be obtained. These differ from low to moderate to high intensity logging permits. According to the intensity, taxes need to be paid to the government. Besides permits and taxes, management plans are required in which technical and financial specifications are included. These management plans need to be updated every one or two years to keep the permit. Internally, the law states that the community decides in general assembly from which areas timber can be extracted and according to which rules (personal communication with Van der Zon, July 31, 2018).

The Forestry and Wildlife law also states that communities can hunt for subsistence use without obtaining a legal permit. Internal rules established in the community's general assembly determine which species can be hunted, in which period and according to set quotas. These internal rules should respect the conservation status of endangered species and aid in the conservation of these resources. To hunt for commercial purposes, they need to obtain a legal license from the ARFFS (Autoridad Regional Forestal y de Fauna Silvestre), which includes a management plan for wildlife. Also, communities need to pay the government for the right to benefit economically from the extraction of wildlife according to the species and quantity extracted. Rules for fishing are similar, except that permits for commercial fishing are granted in consultation with the national water authority. In the case third parties want to hunt, fish or extract timber in communal land, they always need prior consult and approval by the community's general assembly.

Just as titling procedures are executed by the regional government, the granting of permits for resource extraction is also a task of regional governments. More specifically, the ARFFS, who works together with other government departments, such as the national water authority and ministry of culture. In order for the community to obtain titles and permits, they need a legally inscribed directive board, which is re-elected every two years. The statutory law also requires that internal rules, (*reglamento interno*), are made in general assembly, which are then documented as internal statutes. Once documented, it is approved by a Justice of Peace (*Juez de Paz*), which is an external, non-indigenous authority. It is then respected and acknowledged as statutory law, allowing communities like Chapís to live according to their own customary institutions and jurisdictional system. The internal rules include the documentation of internal divisions between sub-communities or hamlets found within the titled land. As in the case of Chapís, a division is made between the four hamlets (Chapís, Nueva Alegria, Ajachim and Caupernaum) to determine who can use which part of the title for natural resource extraction. This is no geo-referenced map, but a rough plan that divides the land title using natural boundaries. These agreements are not documented on paper, but have been decided upon long ago, when the title was obtained:

“The title was obtained by CORPI [regional political indigenous organization], they also told the communities that they had to form an internal law that indicates how to use the territory. This included the setting of boundaries between the communities to avoid conflicts over natural resource use” (Ex-president ORPISEM).”

The next section describes the customary regulations that govern natural resources within the communal land title.

5.1.2 Customary regulations

“... because here in the community, we live in one title. That is why we organize ordinary meetings with all the annexes to agree; how are we going to look after our water? How are we going to look after our forest? How are we going to look after our animals? How are we going to maintain ourselves? So, we get to an agreement to which we will work accordingly. According to the agreement, they [our annexes] also maintain their forests” (President ORPISEM)

Although internal rules and norms had long been in place, a written document of internal laws was firstly created when Chapís obtained a legal land title. The current version of the so-called *reglamento interno* was lastly modified in 2016 and contains 58 articles that include rules and sanctions to maintain social order (see Annex III). These are based on traditional norms and values but have been adapted to the changing livelihoods of the community. Only three articles of this internal law focus directly on the use and extraction of natural resources, but other articles indirectly affect how resources are divided and what is and what is not allowed regarding its extraction, commercialization or re-division. Some of these articles have also been mentioned by informants as rules that guide a particular resource extractive activity. At the same time, informants mentioned rules that are not (yet) taken up in the written internal law. Sometimes this occurs because these rules were recently decided upon in a general assembly and documented and signed in the form of an act, waiting to be taken up in the legal document. The process of getting the documents in order and signed by the legal authorities is a costly, long and complicated process, which is why communities often take more time to formalize new institutions (personal communication Van der Zon, August 9, 2018). Other rules are so intertwined in everyday life that they are considered common knowledge/sense for members of the community and don't need to be documented.

Over the years, the bundle of customary laws has changed a lot. When populations were small, few rules were needed to keep peace and order, but with the augmenting population and the changing livelihoods increased the pressure on natural resources. It meant more wood for houses, more *chacras*, more fishing, hunting and fruit collection, for both subsistence and commercial purposes. Therefore, more rules became necessary to determine who has access to which resources. However, as stated in Article 57 in the internal law: “All the inhabitants of Chapís have the right to work in and make use of the titled land” (Reglamento Interno Chapís, 2016), the right of the community to decide how to use the land and natural

resources under title remains the base on which other rules have been created over time. Also, with the civilization of Chapís, norms and values have changed resulting in new, alternative rules that alter behaviour. The internal, customary law guides daily practices and is generally respected, because the rules are agreed upon by the entire population through general assembly. 13 informants, however, mentioned that some rules are not always respected and that it then depends on the authorities' response and ruling on how to enforce the law, including its sanctions. In the following sections I will describe the most important institutions, considered as internal statutes, that determine the use of natural resources per resource extractive activity in Chapís.

Agriculture

Agriculture is the main subsistence activity performed by community members. Land use increasingly changes from forests to forest gardens, including *purmas* (secondary forests) and *chacras* (agricultural fields). Within the legal territory, and within every hamlet, each family has its own assigned piece of land as their terrain (also called parcel) to cultivate crops and extract wood, fruits, medicine and other resources. Basically, one can do anything with his land as long as it doesn't involve alienation, negotiation or commercialization of the land itself (Article 4d, Reglamento Interno Chapís 2016). This internal division is performed and controlled by the communal directive board. The custom is that when a new family is formed, the father of the woman gives a piece of his terrain to the head of the new family, his son-in-law. In case a community member wants or needs more terrain and clear a new forest patch, he needs to ask permission from the board. According to the current apu, there is no limitation yet to how much land one can have;

"Here people can have 2, 7, 5, 10 ha. Maybe in the future, when the population increases I think that will change, but at this moment there is enough terrain available" (Apu Chapís).

When questioning other informants on the issue of future land limitation, some said that by the time land becomes really scarce, the land title will have expanded. Others recognized that land can get scarce in the future but did not have a clear vision on how this could be solved. If someone enters communal land or the terrain of another community member without permission, this person is sanctioned. In extreme cases or when repeatedly violating, these sanctions can take the form of paying a fine for the damage done, *calabozo* or communal work, but usually it is discussed in front of the community leaders who warn the person. It is in all cases forbidden to negotiate one's terrain or natural resource within the communal territory with external parties. Community members are, however, allowed to sell crops or products cultivated on their parcel to other community members, on regional markets, or to other buyers.

As described in chapter 4, the main commercially cultivated crop in Chapís is cacao. According to the apu, people are converting forest to agricultural land (1.5 – 2 ha), specifically to produce cacao. For clearing land for cacao production there is also no limit to how much land one is allowed to have. The production of cacao is done per household and sacks are sold per kilo to a single buyer in Saramiriza.

Timber

Today, most trees used are ‘white wood’ species, such as *Ceiba Pentandra*. These are less durable than fine wood species such as *Cedrela odorata*, *Cedrelinga cateniformis*, *Machaerium inundatum*, which have disappeared in the nearby surroundings of the community settlements due to communal logging. With the increasing need for monetary income, community members started to log timber to sell on local markets. This is done without a legal permit. For many indigenous communities, permits are costly as transaction costs are high and technical knowledge is often lacking. In Chapís, they first logged the fine wood species, which have a higher value than white wood species. Nowadays, these have become hard to find and people have moved to extracting white wood species for commercial purposes. Although this commercialization of timber has become more restricted with customary regulations, it continues to be the easiest way for community members to earn some money and therefore it remains attractive to sell timber, especially with increasing needs and desires. At the time of the fieldwork, there was even a vague rule established that aimed to prohibit timber logging from the month December onwards;

“... we better dedicate in something else no? Sometimes when people are in need, timber is all they think about. Timber is the only thing. Sometimes they don’t think to dedicate to anything else, they don’t think about fishing, they don’t think about mining or another project to produce, like rice or corn. No, some don’t think about that, the majority only dedicates to timber. That’s why it has been totally forbidden” (Ex-president ORPISEM).

Rather than a new rule, it seemed more like the existing regulations were re-emphasized. As there are exceptions for people with a high need, such as a severe illness or lack of economic resources to pay for education. In these cases, the community member needs to present the issue in front of the general assembly, explaining why and how much wood he wants to sell. If the community approves, the person is given permission by the general assembly. After the wood is sold, the seller needs to pay taxes to the community fund. Wood is usually sold in Saramiriza per square foot. For quantities higher than 1000 feet, 10% of the sales price goes to community taxes, if lower than 1000 foot, this is 5%. If one doesn’t comply with these rules, either the wood is confiscated before the transaction moment or a fine must be paid according to the quantity of wood. In the case of severe violations, the offender is punished with 24 hours or more in *calabozo*;

“No one could commercialize any kind of product, only in the general assembly you can ask for permission. But then still you have people who don’t respect this process and take whatever they want without permission. And that is when it depends on the apus, if they comply with sanctions or not. We’ve also discussed; what is a need? Because needs never end. And if the community members see that one man is benefiting from timber, they will want the same. That’s why I said, need should be for the basics; alimentation, shelter and health care” (Ex-president ORPISEM).

During the time of the fieldwork there was no evidence of this system of communal taxes, neither of a general assembly to grant permission for timber logging. As the quotation above shows, there were expressions of uncertainty whether local leaders complied with internal rules and sanctions around the extraction of timber. The ‘new rule’ thereby aims to re-emphasize the importance of compliance with local regulations and sanctions as these lost their effectiveness.

Hunting and fishing

Animals used to be abundant in Chapís’ close surroundings. A large variety of animals used to serve a good meal, such as *sachavaca*, *majas*, monkeys, deers and birds. Whatever community members encounter, they try to kill it. Traditionally they used blowguns for hunting; today everybody uses shotguns. Some argue that this is the main reason why animals are now hard to find; that they ‘run away’ from the sound of guns. All informants, when asked, said that animals (as well as fish and timber) are now less abundant than ever before. It sometimes takes days of walking through the forest to find a mammal, bird, amphibian or even large insects. Therefore, the community has strongly forbidden free access to *el cerro*, the mountain range Kampankis, except for special occasions just like the fishing days. Within the land title, the communities have divided hunting grounds and each has its own paths and limitations. Furthermore, it is forbidden to hunt for commercial purposes. All meat hunted in the territory, should be consumed within the territory.

Nowadays, fishing is done more than hunting, because fish is still relatively abundant compared to bush meat. Traditionally, fishing was done using venomous plants like *huaca* and *barbasco*. Today, they still use this method in small streams deeper into the forest (see cover picture), but for the larger rivers they now use nylon lines, cast nets, seine nets and traps. 52% (n=50) of the respondents said they still use venomous plants for fishing, of which the use of *huaca* is more common than *barbasco*. Rules for the larger rivers are stricter as in the small streams. Article 41 in the internal regulations is on fishing and states: “It is strictly forbidden to throw venom in the streams or lakes that belong to the community, like Sawintsa and Kangaza, just as it is to use gill nets or traps” (Article 41, Reglamento Interno Chapís, 2016). These methods are forbidden because they lead to the extraction of large amounts of fish of all sizes and pollution of the rivers affecting all life in it. In any case it is forbidden to purposely fish large quantities for commercialization. It used to be common to give another family the harvest surplus as a gift, but this is increasingly sold. In addition, due to the low amount of fish these days, it rarely happens that there is a harvest surplus that can be sold. Sawintsa is a river slightly upstream the Kangaza, which is reserved for Chapís as an entire village. It is only allowed to fish here when the apu announces a fishing activity for the entire community, usually special occasion like visits of NGO or government officials and celebration days like Mother’s Day. On these occasions, all community members are invited to join to fish in the river Sawintsa with any fishing gear, including *huaca* and *barbasco* in the larger rivers. On all other days, it is strictly forbidden to fish here for individual purposes. Like Sawintsa,

the other annexes within the land title also have their own river reserved for communal fishing activities. There is open access by community members and outsiders to the river Marañon.

Palm fruit collection

The most extracted NTFP in Chapís are the fruits collected from the palm trees found in the wetlands and forests. The collection of fruits these fruits also forms part of the dietary intake of the people in Chapís. Most of these fruits come from palm trees such as aguaje (*Mauritia flexuosa*), pijuayo (*Bactris gasipaes*), huicungo or murumuru (*Astrocaryum huicungo/murumuru*), ungurahui (*Oenocarpus bataua*) and coconut (*Cocos nucifera*). These palm trees are highly abundant in Amazonian wetlands and constitute a big part of Chapís' land title. Besides fruit consumption, these palm trees serve another purpose. As part of their traditional diets, people in Chapís eat *suri*; the larvae of the palm weevil. This insect is attracted by the liquid produced by harmed or dead palms. The female then lays its eggs on the decaying trunk, which take one week to develop into larvae that live from four to six weeks. The larvae are an important source of protein, containing high levels of important nutrients and are considered a delicacy. Their consumption is often accompanied with a salad made of the palm's heart fibre, *chonta*. Collection of these products can only be performed on harmed or dead palms. Traditionally, people in Chapís harvested fruits, *suri* and *chonta* either from already dead palms or they log live and healthy trees. However, since the start of the bio-business project, these harvesting methods are no longer allowed for palms that are now used as a source of input for the palm oil factory. In order to sell the produced oils with an organic certificate, the fruits must be collected using *subidores*; tools to climb the palm trees for fruit collection. Only in their own parcels and trees within the village, the cutting of palms still allowed, as well as for the palms that aren't used in the bio-business (e.g. pijuayo). This rule, which originates from market and project-based institutions, has now been so widely adopted by community members that violations are strictly punished with *calabozo*. The sections 5.1.3 and 5.2 will go deeper into the introduction, adaptation and reasons behind the institutional change in palm harvesting.

5.1.3 Project-based arrangements

In this research case, most of the external institutional influence comes from Profonanpe. They initiated a project to promote sustainable forest management in 2009 and now continued the execution of this project with funding from GCF and in collaboration with CANDELA. The tool used to reach the goal of more sustainable forest management is the creation of a bio-business that uses palm fruits to produce high-value cosmetic oils. The idea is that community members will adopt a more nature friendly lifestyle and put less effort in unsustainable resource extraction once they have a consistent income stream from their sustainable aguaje harvesting. Additionally, Profonanpe has facilitated the creation of an ACAM, which is co-managed the by municipal government and 24 indigenous and mestizo communities. The institutions coming from Profonanpe are therefore a combination of market and project institutions. The project institutions are described in this section and the market institutions in section 5.1.4.

An ACAM is not a recognized conservation area at the national level, nor does it have a strong legal status when it comes to protecting the area from extractive activities. It rather serves as a tool to bind groups of people under a documented area that they want to prevent from being used for resource extraction by third parties. According to Profonanpe, the ACAM was established because of the threat that a company planned to plant 200ha of palm oil in the area. Chapís falls under the ACAM Bajo Marañon. However, only seven out of 50 informants knew about the existence of this ACAM, of which five have or had a position within the board of Chapís, ORPISEM or APUAPISEM.

“Well, we forbid that mining activities enter in this terrain that is conserved under ACAM, we don’t allow it. We don’t allow timber, mining or petroleum organisations, this is a reserved area... because by now, it is documented, and we respect it” (Plant manager APUAPISEM)

The current apu and vice-apu of the community did not know about the existence of ACAM. According to several respondents (i.e. the ex-president of ORPISEM, van der Zon, the project leader of Profonanpe and the president of ACAM Bajo Morona), this is due to a lack of leadership from the president of the ACAM Bajo Marañon and the little effect that the ACAM has on daily life. It is more a concept that exists on paper than having an actual effect in practice. It remains a rather informal tool to prevent the exploitation of resource by third parties. At the same time, Kampankis is considered a conservation area after a rapid investigation performed by researchers from the USA (Pitman et al., 2012). Resources within this area can only be used for subsistence use by the community.

5.1.4 Market-based arrangements

The market institutions refer more to the rules related to the support of Profonanpe towards the bio-business, and the related organic certification facilitated by CANDELA. Another market institution is the cacao industry. Years ago, an NGO provided the community with cacao, which community members have started producing. The rules and requirements of the buyers can be considered market institutions.

The bio-business APUAPISEM was created in 2010 with the support of Profonanpe. It falls under the project of Profonanpe that aims at creating sustainable businesses to provide alternative ways of income for indigenous communities and improve the sustainable management of natural resources. These businesses can only exist when meeting legal obligations; the associates need to be in the possession of a legal identification document, the business needs to obtain a RUC (Registro Único de Contribuyentes) number and official business management plans needs to be produced. For remote communities these processes can take up to several weeks due to far distances and costly travelling times to legal institutions. Moreover, it requires professional knowledge and human capital to set up a well-organized business with a business plan, something that isn’t part of traditional Awajún culture. Nonetheless, the community wants to learn and do as much as possible themselves as they does not want external employees to do the job for them. Profonanpe therefore organizes capacitation sessions with external professionals, increasing time and costs. Despite these costs and effort, Profonanpe strongly supports

the community, because the idea behind the project is that the community eventually takes all responsibilities and becomes autonomous in running the business. Decisions are therefore made by the community and Profonanpe only serves as a facilitator:

“They [the communities] do everything. We don’t decide who is going to work, who is... no, nothing. We can’t even say; this person we capacitate, this one not, [...] they harvest, they choose, everything is their decision. The project is a facilitator, it gives technical and financial support” (Project leader Profonanpe)

Yet, there are some strict requirements set by Profonanpe and CANDELA. The main one being the sustainable harvesting of natural resources used in the bio-business. In the case of Chapís, these are the palm fruits *aguaje*, *huicungo* and *ungurahui*. A requirement of the project is therefore that these fruits are collected using equipment to climb the trees instead of cutting and killing the palms, which is the traditional harvesting method. If this requirement is not met, the community will not receive Profonanpe’s support. Also, CANDELA, the market facilitator and main buyer of APUAPISEM’s cosmetic oils, only buys the products when they are produced with the organic certificate. To be granted this certificate the requirement is the same as Profonanpe; to use sustainable harvesting methods. Together with the community, CANDELA has also assigned specific areas within the land title from which the fruits for production should be collected. These are the so-called censored patches of forest and *aguajales*, located throughout Chapís’ and Wee’s land title that are conserved especially for the bio-business. Furthermore, specific production procedures and administration requirements need to be complied with in order to produce under an organic label. These rules are set so that the business operates according to statutory laws; extraction in a sustainable way and according to a specific management plan for that resource.

These market project institutions aim to change the way in which natural resources are managed. Although the new harvesting method is now widely adopted in local livelihoods, some other procedures are more difficult for the community to comply with. For example, during a meeting between CANDELA and the community, it turned out that not all administrative documentation of the management plan was complete and leaders of APUAPISEM asked many questions around the purposes of these documents. Also, the factory hasn’t been systematically running since its construction. Production is strongly depended on the demand and, at the moment, APUAPISEM is only selling to CANDELA. CANDELA buys the products with an organic certificate against a higher price, but this certificate was only granted for the period of one year, from 2015 to 2016. During that year they had their first large production of 200 litres of aguaje oil, sold for 180 soles per litre. After that, production slowed down. According to some informants this was because the organic certificate had expired and needs to be updated. Inspection for updating the certificate took place on the 6th of December 2017, but by the time the fieldwork ended, on the 4th of February 2018, there was still no update. Since CANDELA

is the only buyer of the oils, APUAPISEM is dependent on this certificate, which they can only obtain with the support of CANDELA because costs are too high to obtain this independently. Community members also attribute the stalling of operations to the absence of the president of APUAPISEM, who left the community from 2016 to 2018 for a working opportunity in another community. His leadership is what made the business a success, they argued. The other leaders of APUAPISEM were thought of as lacking knowledge, leadership and skills to continue running the factory plant. Profonanpe also thanks the project's success partly to the leadership of APUAPISEM's founder and president.

At the time of the fieldwork, capacitation sessions and workshops were held for all established community associations within the project. The aim of these sessions was to provide the associations with the skills to develop business management plans, which is a next phase of the project. These need to include for example, financial balances, SWOT (strengths, weaknesses, opportunities and threats) analyses and marketing plans. Most of this information is new to the associates. The project has as plan to hire business consultants that will visit and help the communities in developing these plans. Moreover, during the workshops, communities were trained to produce soap from the cosmetic palm oils to diversify the product portfolio. Yet, during the time of the research, no soap production took place in Chapís.

Regarding the commercialization of cacao, the market also has some influence. As mentioned earlier, the buyers of cacao produced in Chapís are performing a market monopoly as they are the only local buyers. This is partly due to the financial incapability of small scale, indigenous producers to travel to further markets. This means that they can set the price and quality standards. Chapís' land title does not possess the appropriate conditions to cultivate high quality cacao. This causes the buyer to set low prices for high quantities. At the time of the fieldwork, the price was 3 soles per kilogram of cacao. If quantity is more important than quality, it leads to an increase in production scale, mostly because the production per ha is relatively low as a result of suboptimal soil and climatic conditions and the lack of more advanced techniques such as use of (organic) fertilizers, meaning that more forest is cleared to create space for cacao cultivation. As described in section 5.1.2 this is currently happening in Chapís and there are no strict regulations (yet) on how much land one can have for cacao production.

5.1.5 Key institutions and conservation

Conservation is a word that doesn't have an origin in Awajún language. Traditionally, land and resources were abundant, and the needs of the communities were small. There was no commercial extraction. In addition, communities used to move to a new spot as soon as resources started getting scarce, giving nature the time to recuperate. Therefore, not many rules were needed regarding resource use and conservation.

Since livelihoods depend on the forests and natural resources, its use is now frequently discussed in daily conversations and internal meetings. 56% of the informants (n=50) argued that there is some form

of community conservation. They mentioned five types of conservation efforts and two respondents thought there was conservation but did not have an idea how (see fig. 13a). Some people mentioned more than one type of conservation effort, but the most common one was the prohibiting of the cutting of palm trees. Although these answers were received for the question if there was any type or form of community conservation effort, some referred to the conservation of palm trees due to Profonanpe or the bio-business project in general.

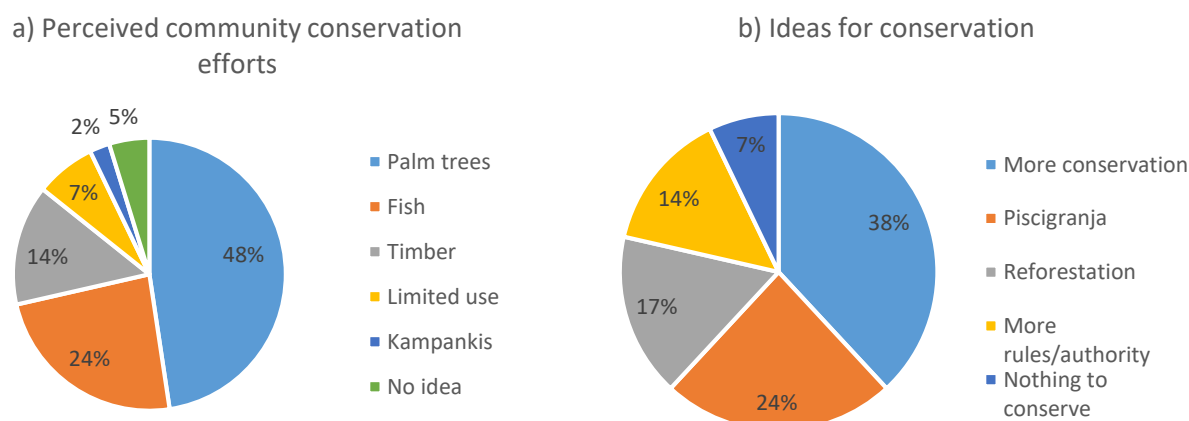


Figure 13: a) Perceived community conservation efforts according to community members b) Ideas for community conservation identified by the community (n=50)

As potential methods to conserve the forests, 17% of the informants mentioned reforestation (see fig. 13b), but the idea on how this would work in practice differed. Some saw reforestation as the active planting of specific tree species in their parcels that have a high productivity in wood or fruits. Others regarded the *purma*, the secondary forests that grow after agricultural land is abandoned as reforestation.

To conserve fish, the generally shared vision is to create *piscigranjas*, fish farms:

“... it’s like a farm for fish. And while we farm our own fish in our ponds, we feed ourselves from the farm and stop fishing in the river so the river can increase fish. That is our future” (Plant manager APUAPISEM)

Each household would have a pond to grow fish for consumption. The idea is that this reduces the pressure on the rivers, where fish populations can then grow back to healthy stocks. Animals are harder to conserve, but some expect that with the conservation of the palm trees, the animals will come back as well. Others argue that they will need to increase the breeding of chicken and other livestock, *“which is what the whole world eats when there are no animals left” (Community member)*.

Other ideas for nature conservation in Chapís were related to the creation of more, stricter rules, a board consisting of skilled leaders, the creation of more conservation areas within the territory and more co-operation with the state and NGOs to develop more projects. Four informants explicitly mentioned the

latter, which is interesting because it indicates the need of support from external parties in conserving the forests and natural resources.

The key institutions described above are summarized in table 2 according to the resource extractive activity, the rules that govern its extraction and the type of institutions. Statutory institutions are formed and introduced by the government, but it is important to note that their presence in Datem del Marañón is low. On the contrary, NGOs are more present to enforce statutory laws and exercise a form of control over what happens in practice on local levels. The customary institutions are introduced and enforced by the community itself, the members of Chapís and its organizations. Project institutions refer to those introduced by NGOs. Likewise, market institutions are introduced by NGOs (CANDELA) or by other market actors, as for example, the cacao sector.

The next section goes into the processes of bricolage that occur on the local level in Chapis and determine how resources are eventually managed.

Table 2: Overview of the institutions per resource activity

Resource activity	Institutions			
	Statutory (S)	Customary (C)	Project (P)	Market (M)
Agriculture	1) Distinction between agricultural and forest land	1) Land under title divided in parcels amongst households	1) All land falls under ACAM	1) Cacao market demands quantity over quality
	2) Freedom of forest resource extraction for subsistence use and commercialization of agricultural products	2) No limitations to how much land one can have	2) Introduction of cacao by NGO	
	3) Promotion of cacao production from regional government	3) Opening up forest only with permission from the apu		
		4) Freedom of resource extraction within one's parcel		
		5) Alienation of land forbidden		
Timber	4) Permit needed for commercialization of timber incl. management plan	6) Subsistence use is free within parcel and communal land	3) Timber conservation under ACAM	2) Fine wood is more valuable than white wood
	5) Taxes set per quantity and type of wood	7) Commercialization only for urgent needs, with permission from general assembly and by paying communal taxes	4) Limited deforestation by creating alternative income through bio-business APUAPISEM	
Hunting & fishing	6) Permit needed for commercial hunting and fishing incl. management plan	8) Prohibited to use venomous plants, gill nets or traps in large rivers and streams	5) No hunting or fishing in censored patches of forest	n.a.
	7) According to list of species including quotas and seasons	9) River Sawintsa is reserved for communal fishing activities		
	8) Respecting (inter)national conservation status of species	10) Commercialization of fish or bush meat forbidden		
		11) Only allowed within communal area and on one's parcel		
		12) Kampankis reserved for communal hunting activities		
Palm fruit collection	9) Permit needed for the commercial extraction of forest resources	13) Prohibited to cut palms for fruit collection used by APUAPISEM in censored forest patches	6) Fruits to be collected using climbing gear	3) Organic certificate requires sustainable harvesting methods in censored forest patches
		14) Suri and chonta can only be collected from already dead palms	7) Forbidden to cut palm trees to prevent deforestation	

5.2 Processes of institutional bricolage

This section responds to research questions two and three. Having identified the key institutions that constitute the ‘fine mess’ of governance arrangements, the next step is to identify how the institutional framework is shaped on the local level using the formal and informal institutions identified in the previous section. The focus is therefore on the processes of institutional bricolage in Chapís per resource extractive activity and the main actors involved in these processes.

5.2.1 Agriculture

The institutional bricolage processes involved in agriculture are visualized in figure 14. The first one being the articulation of indigenous territory and autonomy over the land. Statutory laws make a division between agricultural and forest land (S1). Although Chapís’ land title is also divided as such, there was no evidence that this division was maintained by the community. It was never mentioned by the informants that their title consisted of both these land type classifications. Moreover, no evidence was provided if forest clearings took place only within agriculturally classified land. It rather seemed that all land with agricultural potential was or could be made available for the cultivation of crops or other resources (C2). The second articulation was the ACAM (P1), which had no effect on the community performing agricultural practices. ACAM was accepted in general, not to influence agricultural activities, but because it was part of Profonane’s project strategy and did not directly threaten local indigenous authority. Previous attempts by the government to create a state owned, natural protected area under SERNANP (Servicio Nacional de Áreas Naturales Protegidas por el Estado), the state’s national service for natural protected areas, were strongly opposed by the community because it threatened their authority to enforce their own regulations and control (C3) as it would limit the allowance of human activities and resource extraction.

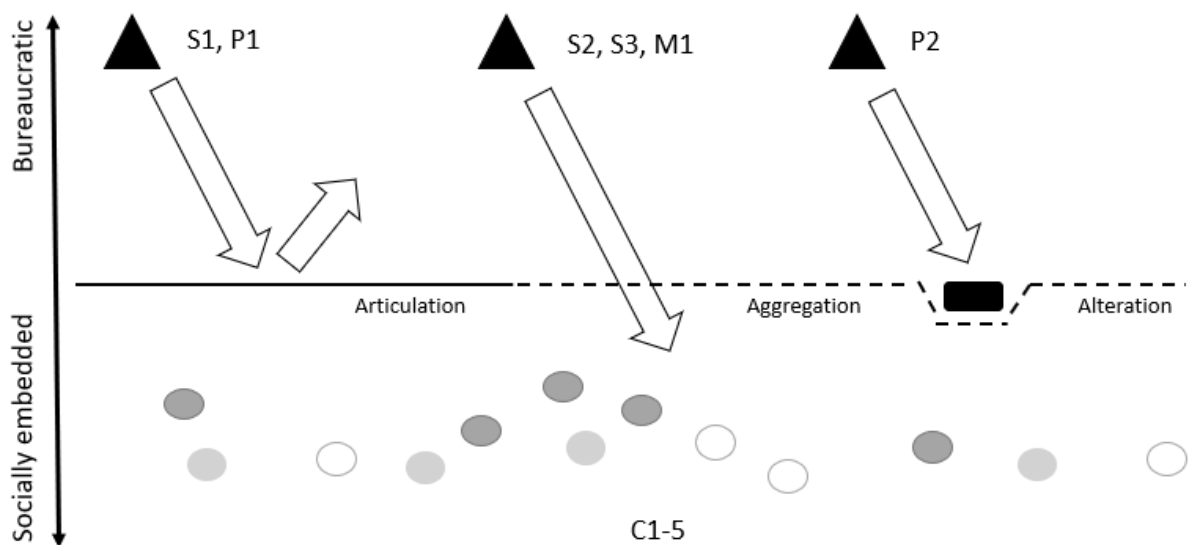


Figure 14: Processes of institutional bricolage in agriculture

The second processes involved institutions being aggregated with socially-embedded institutions. The first one being the government allowing agricultural products to be sold (S2), which puts no restrictions on the community, therefore being combined with local institutions. The promotional agenda for cacao production in Loreto (S3), which is expected to increase in the future and the cacao sector that demands large quantities of cacao (M1) were also aggregated with local institutions that do not limit the amount of land that can be cleared for agriculture and it meets local desires to create ways for obtaining monetary income per household.

The last one (P2) altered local institutions because the NGO that introduced cacao to Chapís, which at the time didn't have that much impact local institutions. However, due to recent promotion by the government and the increased access to markets, it has regained popularity, despite the relatively poor conditions to grow high quality cacao. The results show that the demand is responded to by community members increasing their efforts to produce cacao, despite the low prices. This influences local rules towards agricultural expansion to be more flexible because it meets the local desire for monetary income.

5.2.2 Timber, hunting and fishing

The three resource extractive activities involving timber logging, hunting and fishing are grouped here because their institutional framework is quite similar. In general, for timber, fishing and hunting, local regulations are put into place with the purpose to prevent individuals from overexploiting at the cost of the rest of the community. The rule that timber logging for commerce is only allowed for urgent needs is one of these (C7). Also, the restriction of fishing and hunting to specific areas and with certain tools aims to limit this overexploitation (C8, C9, C11 and C12). Nonetheless, all three of these resources are becoming more and more scarce. The increasing need for monetary income and disappearance of traditional forest values are underlying causes for overexploitation. Although the community aims to

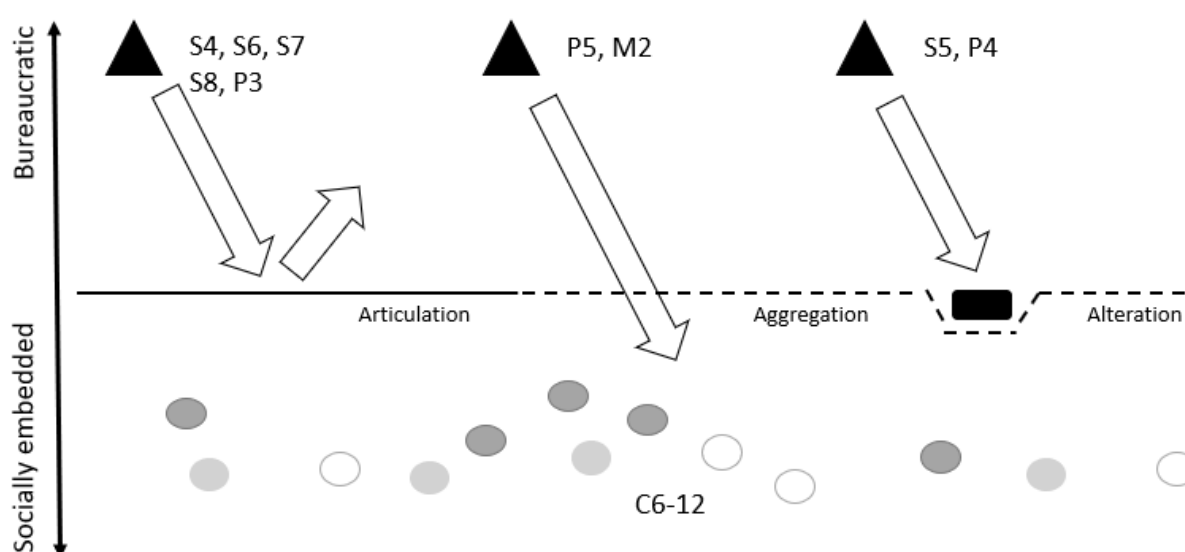


Figure 15: Processes of bricolage in timber logging, hunting and fishing

limit this by strengthening local institutions, it remains questionable if it works in conserving timber, fish stocks and wildlife. As long as these institutions are disrespected by some, sanctions not put into force and internal corruption present, the future looks troublesome. The processes of bricolage are visualized in figure 15.

For all three of the resources, the statutory obligations to obtain legal permits and create updated management plans for the extraction of these resource for commercial ends is not considered (S4 and S6), nor are the other statutory rules (S7 and S8) because there is no governmental control, or these rules are simply not known by community members. Rather, it is the permission from the apu, communal taxes and the general assembly which are considered important (C7), articulating the importance of local authorities. At the same time, local institutions are altered by incorporating statutory ones but adjusting them to local organisations (S5), such as the paying of taxes, to a local context in the form of communal taxes. Reasons for this incorporation are probably again related to the role that money plays nowadays and the sharing of benefits provided by communal resources.

Project institutions were involved in all three processes. The protecting of timber under ACAM (P3) was involved in an alteration process because it is in contrast with local needs for creating income, especially in urgent cases. Also, as mentioned earlier, the ACAM has no effect on daily life in Chapís as its formalized status is weak. No hunting and fishing in censored forest patches (P5) was aggregated with local institutions, because they welcomed the bio-business project and it is part of the requirements of Profonanpe for giving support. Yet, there was no evidence during the fieldwork how strictly this was enforced and lived after. P4 altered local institutions because limiting deforestation under the project did not become a directly adopted new institution, but through the bio-business it indirectly shifted the need of timber for money to an alternative source of income.

5.2.3 Palm fruit collection

The new harvesting method for collecting palm fruits by climbing the trees instead of felling them was introduced by the NGOs that supported the creation of APUAPISEM. Today it has become a widely recognized rule that cutting trees for fruit collection is forbidden. This section describes the process of reshaping institutions around palm fruit harvesting in more detail by describing the situation before the bureaucratic institution was introduced, the process that led to the introduction of the new institution and what the situation is like today.

Before

As mentioned above, Chapís and its annexes traditionally cut palm trees to collect the fruits, *suri* and *chonta*. The latter two are considered traditional delicacies and can only be collected by killing the tree and cutting the entire trunk. Their consumption is part of the culture of many indigenous groups in the Amazon, but also in other parts of the southern hemisphere (Muafor, Gnetegha, Le Gall & Levang,

2015) where palm trees are highly abundant. The larvae provide a great protein source and a good alternative for (bush)meat and fish. Historically, their harvesting was therefore performed without any restriction within the communal territory. They were collected from dying, or already dead trees, but also by cutting healthy, living trees. This unsustainable harvesting method was noticed by the government and Profonanpe.

Process

At the beginning of the century, the federation ORPISEM opposed the creation of a Regional Conservation Area (ACR), managed by the regional government under the framework of SERNANP, because they feared this would lead to a loss of authority over land use and the introduction of non-indigenous leaders controlling the area. It would lead to a prohibition of all human activities that do not serve subsistence purposes. As a result, Profonanpe approached the organisation in 2009 to generate new ideas on how to protect the environment while also supporting community development. Their approach was different. Their project would lead to conservation by supporting sustainable natural resource use. The initial idea of the project was to commercialize agricultural products. However, the community rejected the project's support because they said their *chacra*'s are already well-organized. They wanted something else, an alternative way of obtaining an income. Profonanpe asked them four questions:

“So what did we ask them? Only that they'd tell us: What do you want to do? Why do you want to do that? With whom do you want to do it and how is it going to benefit?” (Project leader Profonanpe)

So together with a technical team and community authorities at the time, they generated the idea to use palm fruits for cosmetic oil production. This led to a refocus of the project in phase II, which was later supported financially by GCF in phase III. The new strategy was to create bio-businesses, managed by indigenous communities that support sustainable natural resource management by finding alternative livelihood incomes. This will reduce deforestation and forest degradation. Making better use of the *aguajales* was also on the agenda of the provincial government. Aguaje is the most abundant and commonly used palm, but recently also ungurahui and huicungo (murumuru) have been used to create cosmetic oils and butter. In 2010, the association APUAPISEM was found, with a directive board and team of workers consisting of indigenous people from the communities under ORPISEM. In creating the bio-business, Profonanpe only provides technical and financial support, leaving the actual operation to the association. However, the association has to meet several requirements to keep receiving assistance from Profonanpe, the most influential one being the shift in fruit harvesting method from cutting palm trees for fruit collection to climbing the palms. The new institution on harvesting methods was first announced in a general assembly, causing discussion and resistance amongst community members:

To prevent the cutting of aguaje palms has been a problem, because the population had become accustomed to the cutting of aguaje, to take chonta, to take suri. When Profonanpe arrived here, we first said that they can't forbid us. We are natural from here, we live here. But because of the training, the workshop, they made us understand why and now we protect the aguaje palms (President ORPISEM).

However, as mentioned by the leader of ORPISEM, this resistance decreased when people started to understand the economic benefits of the new institution. Profonanpe gave several workshops and training to community leaders and members to explain both the economic and environmental potential of the new harvesting method. They explain that climbing trees allows for higher long-term productivity of trees and increased input for the factory in which the fruits are processed into high-value end products. If harvested sustainably, using climbing tools, this end-product can be sold with an organic certificate to CANDELA, further increasing its market value. Since all community members can become part of the association, this would lead to higher individual income levels.

The source of initial resistance is the tradition of eating *suri* and *chonta*, products that can only be collected from harmed or dead palm trees (C14). Prohibiting the cutting of palm trees (P7) was immediately perceived as a threat to their tradition of consuming these delicacies. Yet, the economic benefits (M3) eventually outweighed the desire for the consumption of *suri* and *chonta*. Also, it was a requirement from Profonanpe to proceed with the project. They introduced climbing tools (P6) so that palm fruits could still be harvested, but in sustainable ways. It would mean a decrease in their consumption, not a direct elimination since naturally dying palm trees still allow for their collection and consumption. Moreover, palm trees not used in the bio-business, palms in parcels and palms within the village, can still be harvested the traditional way. In this case, the statutory requirement of permits for

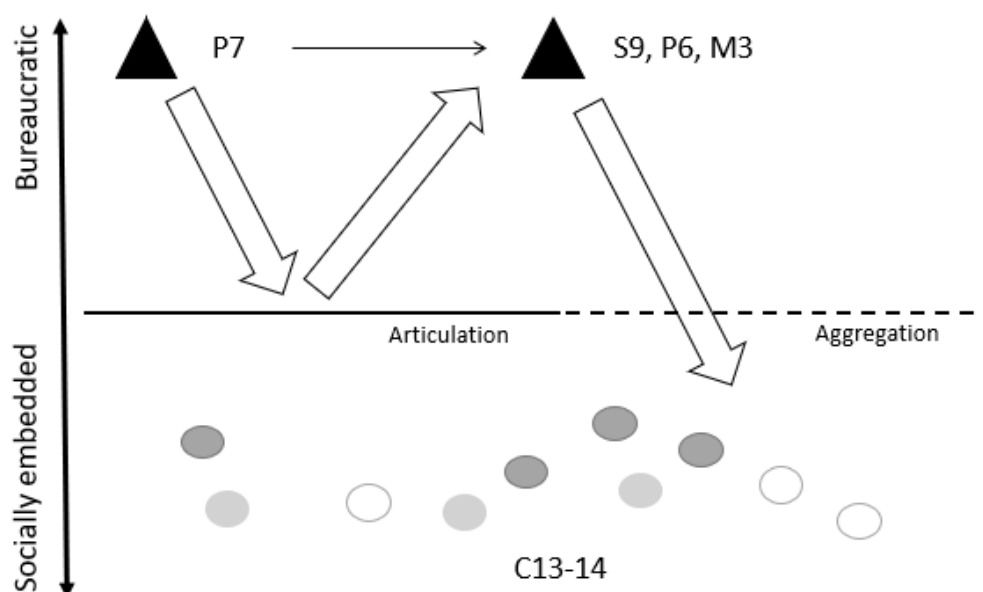


Figure 16: Processes of bricolage in palm fruit collection

commercial forest resource extraction was obtained (S9). Profonanpe can only proceed with the bio-business project when it meets the legal requirements of the state. The processes of institutional bricolage are visualized in figure 16.

After

It was acknowledged by all informants that it is now strictly forbidden to cut palm trees, especially aguaje, for any purposes. Violating this rule leads to sanctions in *calabozo*. It is important to note that this rule does not apply for the palm trees found within one's parcel or within the village. There are assigned pieces of censored forest within the communal titles that are set aside for the fruit collection for factory input. These parts of the forest have been selected with the technical help of CANDELA, as a requirement for obtaining the organic certificate. Today, fruits are collected with the use of so-called *subidores*, tree climbing gear. Profonanpe gave workshops to a few young men in the communities on how to use these tools. These workshops also explained in more detail, the underlying reasons for protecting the forest. Yet, only the members of the community that are part of the association are invited to these workshops and trained. Some informants mentioned the inequity in benefits retrieved from the bio-business project, just as the apu of Wee was dissatisfied with the unequally divided support to all communities under ORPISEM.

5.2.4 Bricoleurs

In the process of institutional bricolage and institutional change, the actors play an important role. In Chapís, the power of individuals and groups to influence institutional (re)shaping depends on the personal capabilities they possess and not so much on the social political structure. This is due to the underlying indigenous institutions that are built on a social structure in which power lies with households. In ancestral life, the head of these households, often the fathers of the families organized meetings to take important decisions. Today, the organisational structure is different, with a board, organisation, federation etc., but most of the important decision are still made in general assembly and this includes all members, men and women, of the community. This section describes some of 'bricoleurs' involved in institutional shaping in Chapís.

Apu and the directive board

13 informants referred to the institutions and institutional power as depending on the local authorities. The direct authority of Chapís is the apu, who can be considered community leader. During the fieldwork, the person taking the position of the apu, including the other members of the directive board, changed. According to the ex-president of ORPISEM, this is not uncommon. Leaders have changed positions frequently and over the past five years; none of the apu's finished his term of two years. This is due to decease, corruption, personal motivations and upon communal request. In the recent case, the directive board was accused of negotiating with Petroperu to reach to a faster agreement on the terms of

work needed for the remediation of the oil spill, without consulting the general assembly. Although this was never proven, the apu and his board abandoned their positions and the previous apu (who had renounced earlier) took back his position, but with a new board.

ORPISEM

During the fieldwork, informal discussions arose about the power relation in decision-making between the board of Chapís and the association ORPISEM, especially around the oil spill compensation negotiations. As the highest organisational body that directly represents Chapís (and annexes) to the external environment, ORPISEM has a lot of influence when it comes to bureaucratic institutions entering the community:

“All the public institutions, for them to enter to make their businesses, they have to perform prior consultation with the organisation. If the organisation accepts, they can enter. If the organisation doesn’t accept, no entry. It’s the authority, the autonomous authority of the community, the most superior [ORPISEM]” (president ORPISEM).

The current president of ORPISEM had just assumed his position at the time of the fieldwork. He is the son of one of the community founders and lives with his wife and ten children at the entrance of the village. He is the person who maintains the relationships with external parties and manages all five communities that are bound under ORPISEM. He was not originally chosen as the new president, but due to the sudden decease of the electoral winner, he summoned the position after communal agreement in the general assembly. The event of the oil spill put a lot of pressure on him as the leader of the organisation, which also caused him to receive critics from some community members.

The previous leader of ORPISEM, who was my research assistant, is an unmarried man at the age of 40, born in Ajachim, but living in Chapís. During his presidency, the NGO project was in full development, causing him to work closely with APUAPISEM and Profonanpe in the creation of the bio-business and ACAM. He played a major role in the adoption of the new institutions on palm fruit harvesting and the prohibition of mining activities, visiting all annexes to get his fellow community members along with the project. He also mentioned to have worked with the district government in the provision of tin roofs for the community. He is a very politically active man and has an educational background in theology. During the meetings around the oil spill, he took a prominent position in the discussions, as did his brother, who was vice-apu during the first half of the fieldwork. He has a strong opinion when it comes to leadership skills of people in official positions (apu, APUAPISEM and ORPISEM).

APUAPISEM

Although he was absent at the time of the fieldwork, the president of the association APUAPISEM, has been identified as a skilled leader by Profonanpe and by several community leaders. He was assigned to

lead the bio-business because he was president of ORPISEM at the time of its creation and played a big role in taking the project forward:

“Since the idea to extract natural oil was mine, I made it present in the project, just at the time my presidency ended and the community put faith in me, because they had seen my effort and work in the organization. It went like that, and now I continue in APUAPISEM” (President APUAPISEM)

They attribute the project’s success to his leadership. He has taken responsibility for undertaking and organizing the steps needed to advance in the creation of the bio-business and has been the person closely cooperating with the NGOs. When the project was taken on, he informed all annexes of ORPISEM, together with the follow-up president of the organisation (my research assistant), on the institutional change that would take place if they were to proceed the co-operation with the external NGOs. He therefore played an important role in making the people understand the underlying reasons for this institutional change.

During his absence, the leading role of APUAPISEM was taken over by the plant manager. The vice-president also resided in Chapís, but he abandoned his role as a replacing leader. The plant manager lives in one of the first houses when entering the village and he is the son of one of the community founders. His dad was the officially elected new president of ORPISEM, but drowned in a river accident just before the time of the fieldwork. He is also the secretary of the church. He represented APUAPISEM during the time of the fieldwork. He has a very commercial mind-set and an educational background in business administration. He oversaw all management around the bio-business, including payments to employees, obtaining the organic certificate and production processes, which despite his mentioning, didn’t take place at the time of the fieldwork. His position caused him to travel quite often to near cities.

Other community members

The general assembly, which consist of all men and women of the community, has strong decision-making power. All new rules and regulations, adjustments or other changes that affect the internal law are decided upon in a general assembly. The apu calls for a general assembly at least the day before it is held. He takes the lead by announcing what is there to be discussed during the meeting. After his introduction, all participants, both men and women, are allowed to provide input or share an opinion. The board keeps track of what is being said and makes proposals which are then voted for. When a majority voting is reached, the secretary formulates an act which is then signed by the community authorities. From that moment, the new rule is being adopted and goes into function. The general assembly also comes together when problems occur, such as violation of local laws or when apu’s are accused of corruption, non-compliance with legal procedures etc. Although rules are agreed upon in consultation with the entire community, 13 informants mentioned explicitly that there are not always respected by everyone. In cases of disobedience, it depends on the authorities if sanctions are being followed. In most cases the avoidance of conflict is the main concern. Another important task of the

general assembly is to vote for community representatives that form the directive board. These are re-elected every two years, but the assembly also has the power to terminate this term earlier in cases of violating local regulations or disrespecting local norms.

Although he has no official position in any of the community's authorities or boards, another influential person is the brother of the president of APUAPISEM. He resides in Saramiriza, where he works as a governmental advisor for the ministry of health. His job brings him in close contact with politicians, causing him to know a lot about legal procedures and statutory laws. In the meetings around the oil spill, he was supporting the community authorities in the negotiations and often represented them outside the community location. He thrives for community development and closer cooperation between the community and the government. Yet, he feels proud of his Awajún identity and indigenous rights and authority remain his main concerns.

6. Discussion

This study has showed how decentralization and CBNRM projects allow external actors to influence the institutional framework embedded in the everyday lives of a local forest community in the Peruvian Amazon. The results helped in dismantling the institutional ‘mess’ that has been created by state, public and private actors. The interaction between these external, bureaucratic organizations and local ‘bricoleurs’ caused the blurring of boundaries between statutory, customary, project- and market-based institutions. Chapís is the perfect example of a community that finds itself in between traditional Awajún culture and the increasing desire for modern life, embedded in the mainstream socio-economic system in Peru. This has altered the way natural resources are managed. The results firstly identify the types of institutions that govern natural resources and then highlight the processes in which these have been shaped, by whom, and for which purposes.

6.1 ‘Modernizing’ local institutions

In the case of Chapís, a mayor change in the institutional framework took place when land titles were obtained in 1983. The new Forestry & Wildlife law (29763) and the Law of Native Communities (Decree Law 20653) issued the community the rights that fall under communal land tenure, including the right of authority over land use decisions of agricultural land and usufruct rights over forested land. The title required the communities to design and write in formal documents the institutions on internal land and resource division to avoid conflicts over natural resource use, which led to the creation of an internal law based both on customary laws, norms and traditions as well as statutory laws. The title also imposed new social organisational structures; the creation of communal boards and political organisations. These socio-political changes caused the freedom to decide on natural resource governance to still be restricted by statutory laws, but the community received the benefits of pursuing to a large extent their own ideas on forest governance and the right of authority within the geographic area of the land title. The weak presence of the government and a lack of governmental control increased this freedom in governance, resulting in statutory obligations to be rarely met by the community. Examples of local forest use without taking into account statutory rules from this study are the extraction of resources without legal permits and management plans in Chapís and the lack of control of compliance with land classifications, especially in forested land where (commercial) extractive and forest clearing activities also take place, except for the extraction of palm fruits used in the bio-business. The absence of geo-referenced maps of where the boundary between agricultural and forest land is located, makes land classifications even weaker.

Resource abundance in Chapís has decreased over the past decades, especially in valuable timber species, fish stocks and wildlife. The major cause being that the community has become rapidly embedded in a broadened socio-economic network. Increased access to local markets, such as

Saramiriza and Borja has connected Chapís with regional, national and international markets, especially with the construction of the road that connects Saramiriza with the Andes and coast. On these markets, the demand for products such as timber, cacao, fish, palm fruits etc. is high, increasing pressure on natural resources (personal communication with Van der Zon, July 31, 2018). The road especially facilitated the transportation of timber and bulk products like cacao. These are both resources that are currently exploited by community members in Chapís. A study conducted by Zenteno, de Jong, Boot & Zuidema (2014) on the impacts of major historical social, political and economic changes on the livelihoods of Bolivian forest communities identified similar trends of forest resource extraction that increased with better access to main towns. They found that especially the timber sector has become a major economic activity for forest communities with the construction of all-weather roads. Again, the low governance presence in Datem del Marañón allows Chapís to engage in the timber market without having official permits because of a lack of government control. Yet, the impact of timber logging in Bolivia is different from Chapís as forests were able to regrow on agricultural lands, which are not expanding rapidly. Whereas in Chapís, agriculture is expanding rapidly due to the increasing population size and the popularity of cacao production, with the latter being the main reason for the expansion of agricultural land. Yet, the exact rate of expansion can only be calculated over time using quantitative data and/or satellite images of land use change. Interestingly, in the Bolivian cases, brazil nut exploitation increased due to increasing global prices (Zenteno et al., 2014) whereas in Chapís, cacao production increased even though local prices are dropping. This expansion can be attributed to either the governmental support for cacao production or the diversification of local economic activities.

The reason for the depletion of fish stocks and wildlife is less related to increased market access as these resources are rarely commercialized by community members. Their decreased abundance can be attributed to a lack of regulations and control on their exploitation. Statutory permits and management plans were not in place in Chapís nor were strict local regulations. The latter is changing, with an increase in local rules and restrictions on areas with prohibited access and the prohibiting of fishing tools that are too destructive or causing rapid overexploitation. These local institutions were developed by the community experiencing the disappearance of species and animals in daily activities rather than by statutory or other external institutions. In the case of timber, current rules are partly influenced by modern regulations that include the paying of taxes. Although there is no official tax system controlling this process, it shows how Chapís is also adopting modern ideas, mixing and reshaping them with socially-embedded ones. Like Cleaver (2002) also mentioned, current institutions are reinvented mixtures of modern, traditional, formal and informal institutions.

6.2 The role of NGOs in institutionalism

The social and political governance web in which Chapís is embedded, is further broadened with the trend in decentralization of forest governance, shifting responsibilities for forest management to regional

and local governments and local user groups. In Peru, this happened relatively late (Andersson & Ostrom, 2008) and recklessly (Larson & Petkova, 2011). The vertical support and embeddedness of government bodies is limiting coordination just as budgets are too low to cover environmental responsibilities of regional and local governments (Larson & Petkova, 2011). These particularities were also noticed by Profonanpe in Datem del Marañon (GCF, 2015). Weak government presence in the area and the absence of a management and control system for forests and natural resources is threatening the conservation of the region. As a response, Profonanpe developed projects to strengthen both government and community institutions (GCF, 2015). Two components of Profonanpe's approach have worked out in particular in Chapís; the creation of a bio-business managed by the community and the creation of a municipal environmental conservation area. During the project, they have directly and indirectly changed the local rules, norms and beliefs on which institutional shaping is built. Directly, they have introduced new ways for palm fruit harvesting and indirectly they introduced new perceptions on conservation. Up to now, the project of Profonanpe has been quite successful in terms of reducing unsustainable palm harvesting in Chapís, with APUAPISEM being the pride of the project. Their influence on local bricolage processes can be attributed to several characteristics of their interaction with the community.

First, Profonanpe's philosophy doesn't have much of a top-down approach, but rather one of "co-management" (Berkes, 2009; GCF, 2015), an approach common in many CBNRM projects (Leach et al, 1999). Berkes (2009) identifies six faces of co-management: power sharing, institution building, trust and social capital, process, problem solving and governance. The co-management approach of the project possesses these characteristics to different extents. The most important factor being the large degree of responsibility given to the community. They are so actively involved in decision-making and capacity building that if they don't take on their responsibility, the project will stall. At the same time, Chapís has taken on this responsibility with both hands and a large part of the project's success can be attributed to their independence. Nonetheless, they need the financial and technical power of Profonanpe to move forward.

A second reason for their success in influencing local institutions can be attributed to the trust on which the relationship between Profonanpe and the community is built compared to the relation with the government, relating to Berkes' (2009) 3rd face of co-management. Profonanpe has been working with indigenous communities since 2004 and with Chapís since 2009. As the project leader mentioned, their initial approach of agricultural support was inappropriate and by learning from the community's input, they were able to adopt a strategy that was better adapted to local needs. This highlights the importance of two-way learning and knowledge generation in co-management (Berkes, 2009). Over the years, this trust has been created by Profonanpe being often present in the community, but also their seven weeks a day availability at their office in San Lorenzo, where community members can just walk-in for any type of consultation. Trust has also been created compared to the relation between Chapís and the

government, which is based on a history of distrust and conflict, with especially the *Baguazo* event being stuck in many community members' memories. Besides, the low presence of the government in the area and the lack of support given to the community caused Chapís to respond very sceptical to any government-led interventions. Their opposition to any form of state-controlled protected area shows how institutions can be rejected due to this lack of trust. In this case, because it meant a direct threat to their authority over natural resource use and they were afraid that it was a strategy of the government to take part of their territory. When Profonanpe facilitated the creation of the ACAM, perceptions changed because it met the desires of the community to maintain control and authority over their land and resources, while the government was also involved. The project has therefore contributed to bridging local organizations with governmental bodies, although its formalization remains absent. De Koning (2011) found similar conclusions in the case of the indigenous El Eden community in Ecuador, in which local NGOs also facilitate the implementation of government institutions along the bureaucratic and socially-embedded gradient. Similarly, in Bolivia, where forestry laws also require communal tenure and commercial forest extraction with legal management plans, NGO, international development and conservation programmes and private enterprises have helped communities achieving this (Zenteno et al., 2014). It has led to an increase of 33 communities working with legally approved management plans for forest resource extraction between 1997 and 2009 (Zenteno et al., 2014). This shows that in current governance regimes in the Amazon, laws may be formed by the state, but their enforcement is often facilitated by NGOs.

Other reasons for Profonanpe's success relate to the increasingly emphasized aspects of co-management, which are social learning and knowledge generation (Berkes, 2009). With the community lacking access to scientific knowledge, institutional innovation that focusses solely on the local level, has a chance of stagnating (Andersson & Ostrom, 2008). In Chapís, old institutions did not lead to more sustainable resource management, because they lacked innovative ideas. Part of this is due to the pace of change of their environment. In a short time, they became very integrated in a socio-economic system that is very different from indigenous ways of living. To adjust to these rapid changes, which increased pressure on forest resources, they were in need of innovative ideas to respond to this new environment. With palm fruits, for example, they did not possess the resources and knowledge to turn these into high value products, nor did they consider climbing the trees instead of cutting them. Knowledge about the environmental effects of deforestation was also limited. Since Profonanpe did have these skills and knowledge, they provided the community with workshops and trainings to build capacity. At the same time, Profonanpe's initial project approach was to increase sustainable growing of agricultural crops. The community however, already possessed knowledge on how to grow these and came up with the idea to create aguaje oil and pulp, expanding the knowledge of Profonanpe on what is truly needed on community level. This multi-level governance adopts Andersson & Ostrom's (2008) concept of polycentric governance as alternative for purely centralized or decentralized governance forms, which

both ignore the multi-level dependence for 'good' forest management (Berkes, 2007). Polycentric governance instead, looks at the interactions between all levels of governance and suggests that no one optimal governance arrangement exist, but that different levels should serve as a back-up system (Andersson & Ostrom, 2008).

6.3 What to expect for the future?

The rapid changes occurring in Chapís environment on political, economic, environmental and social level are creating many opportunities, but also threats for the future. The Profonanpe project is a recent development that is bringing new opportunities for alternative livelihood income, but the effect of their strategy should remain carefully considered. Despite the good incentives of the project to create alternative livelihoods to meet the increasing demand for monetary income and APUAPISEM performing best of all communities involved in the project, there are some concerns as well. Wright et al. (2015) performed a critical analysis of alternative livelihood approaches (ALP) and express their concern for the outcomes of these type of projects. One of their arguments is that social and political structures control access to these alternative livelihood activities. This in turn reduces the equal spread of benefits among households within a community. In the case of APUAPISEM, only a small proportion of the community is involved in business operations. Although the board is chosen in a general assembly, they decide who can attend trainings, work in the factory and therefore, who benefits. This means that the households which are excluded, still depend on other sources of income such as the selling of timber or cacao. Although Wright et al., (2015) see this as a misassumption from the ALP that communities consist of homogenous and similarly endowed households with similar characteristics and interests (p.10), it remains a hard task to equally divide benefits, the same counts for all institutional designs. Divisions of power will always be involved, but the project at least leaves these decisions to be made on communal level.

Secondly, palm fruits can only be harvested during specific months, which means that there is no consistent input for the production process and to secured income. Besides, they only have one buyer at the moment, CANDELA, who is only buying with an organic certificate. As long as this certificate is not there, production stagnates, and people lose interest and might lose their faith in APUAPISEM. The recent oil spill is also contributing to drawing attention from the project by taking up time from the community and its leaders and by creating jobs for local people to work in the remediation of the spill. Wages for these jobs are higher than any found in the close environment, leading to community members shifting form other income generating activities to a short-term, well-paid job provided by Petroperu. Although the latter is no consistent substitution for palm fruit collection as in the example of Wright et al. (2015) of hunting activities of farmers in West and Central Africa (p.10), it does serve the need and aspiration for quick, high-levels of income. The same counts for the selling of timber, which resulted as still the most performed activity to provide monetary income.

Thirdly, the project has a primary focus on the *aguaje* palm, which is only one of the resources that constitutes community livelihoods. To maintain a living, most households are still dependent on agriculture. With the increasing population and the popularity of cacao production, the change of forests to agricultural land is another local threat to forest conservation that is not directly addressed by the project. Actually, the cacao promotion by the government and market is going straight against Profonanpe's goal to limit deforestation. So, if the aim is to limit deforestation and make local livelihoods more sustainable, a more holistic livelihood approach is needed that addresses other forest resources and livelihood incomes to become more sustainable as well.

Finally, the oil spill has led to increased interaction with the government. Compensation for the contamination caused by the leak takes the form of monetary compensation, provision of better health care, but potentially also the establishment of telecommunication in the community. In case of the latter, rapid change is about to occur as it will provide access to a whole new body of information that is available on the internet and accelerates modernization.

6.4 Reflecting on conceptual framework

The aim of this research was to identify the key institutions that govern natural resources from a messy institutional situation on community level. For identifying the key institutions, the categorisation made by Ingram et al. were used (2015). During the research it turned out that it was sometimes difficult to distinguish between statutory, customary, market- and project-based institutions. For example, the *apu* seemed to be a traditional leader of indigenous groups, but the acquiring of land titles introduced the formation of directive board that consist of *apu*, *vice-apu*, secretary and treasurer. My question was, is this then a customary institution or statutory? It was easier to identify between formal and informal, which also allowed for institutions existing along a gradient of these (Cleaver, 2002). Another complication was the institutions introduced by the bio-business project. Although the creation of a bio-business is part of the time-bound project of Profonanpe, it has a market characteristic. As the definition says, market institutions can also be introduced by NGOs, but this happened within the frame of a specific project. In the end, distinctions in coding were based on those with market-characteristics and those who don't have these.

The theory of institutional bricolage has been used to make sense of the subject under study. It has proven particularly helpful in identifying community's responses to bureaucratic institutions and the way in which they affected the local institutional framework: the practices of institutional bricolage. In this research I've analysed these practices with the help of those identified by de Koning (2011); aggregation, alteration and articulation. Three bricolage processes have been identified in this case study according to the resource extractive activities.

The institutional bricolage theory is a relatively new concept, which hasn't been widely applied in natural resource management studies yet. As the theory is still evolving (Cleaver & de Koning, 2015), it is open for specifications that allow for it to be applied in multiple contexts, but with comparable outcomes. A restriction of the theory is that it is able to describe processes of institutional functioning and how these lead to unexpected outcomes in forestry, but to discover the role of different actors and actual responses to newly introduced bureaucratic institutions, one often has to rely on the narratives of the informants. This reduces the reliability of the results as narratives of the past are inevitably biased. To study institutional bricolage while it is happening is also difficult because it often happens *ad hoc*, causing problems for research planning. Although one is present at the time of bricolage, gaining access to the roots of the process can be complicated as situations and actors are dynamic.

6.5 Limitations of the research

The findings of this research highlight the institutional situation in Chapís regarding the management of natural resources. First of all, it should be taken into account that these resources are located within a geographic area that constitutes the land title. This title is shared with 3 other communities that also have access rights to these resources. Their institutional framework may be similar, but differences exist. Their influence is not taken into account in the scope of this research but is expected to have an influence on forest management. Especially, because they are politically represented by the same organization. The assumption is that power differences exist between these communities that may result in further unexpected outcomes of forest governance. Research findings cannot be generalized but contribute to a better understanding of the working of institutions in communities that become increasingly modernized and the effect of CBNRM projects on local natural resource governance.

A second limitation was the uncontrollable event of the oil spill at the time of the research, which may have influenced the outcomes of this study. Community leaders were very occupied with organizing and preparing meetings around the oil spill, causing them to have less time and attention for the research. Additionally, with the rising tension between the government and the community and the articulation of traditional Awajún culture and forest dependency, customary institutions may have been overemphasized as indigenous rights were at the core of the discussion and since the interviews took place in between these meetings, answers might have been steered in this direction as well.

Another factor was that the fieldwork largely overlapped the holiday period. This meant that some people had left the community to visit family members in other communities or moved to the larger towns and cities to study. This reduced sample size might have influenced the data. Also, if being able to conduct the research again, I would have asked more in-depth questions and made more use of surveys. This is always easier to say afterwards, but it could have deepened the research with especially more information on the bricoleurs and power divisions. Regarding the language, outcomes could have been influenced because Spanish is not the first language of the community members nor the researcher.

Expressing thoughts, feelings and opinions in a second language, the message might come across differently. Other possible limitations are that the researcher is not from the same ethnicity, which could have led to reduced openness of the community and a lack of confidence towards the researcher.

7. Conclusion

This study has shown that weak government presence and a lack of governmental control causes natural resources to be managed according to dynamic local rules, norms and beliefs. In Chapís these have changed rapidly with an increased involvement in mainstream socio-economic society. NGOs are aiming to guide changes in sustainable directions by creating alternative livelihoods and are quite successful in bringing about institutional change. Together, the combination of these institutions creates an institutional mess that leads to unexpected forest outcomes.

The aim of this study was to identify the institutional arrangements, both externally imposed and socially embedded, that determine local governance over natural resources by the indigenous community Chapís in the north-eastern Peruvian Amazon. This was done posing three main research questions. The first question aimed classifying the institutions that govern natural resources according to the four categories; statutory, customary, market and project-based institutions. These were identified per main resource extractive activities in Chapís including agriculture, timber, fishing, hunting and palm fruit collection. The results show that most customary rules in Chapís were designed to restrict access to certain areas to avoid overexploitation at the cost of the entire community and assuring equal division of resources. Yet, resource abundance has decreased rapidly over the past decades, questioning the effectiveness of these rules. The Forestry and Wildlife Law (29763) and the Law on Native Communities (20653) are the statutory institutions, which allow for the existence of customary rules, but in compliance with statutory obligations. These laws state that natural resources are ultimately owned by the state, but communal land titles over agricultural land and usufruct rights over forested land allow for their extraction by recognized native communities. Chapís obtained a land title in 1983 over 7,350 ha of land and usufruct rights over another 1,300 ha (Soria, 2016). The project institutions were introduced by Profonanpe, a national NGO with a regional project that aims to limit deforestation by creating alternative livelihood incomes through the establishment of communal bio-businesses. They have supported the creation of APUAPISEM, an association that produces organic oils from palm fruits that are sustainably harvested. The market for these organic oils is managed by CANDELA, another NGO involved in the project, that buys the oils with an organic certificate and distributes them to international markets. Other market institutions were the buyers of the cacao produced in Chapís and the timber sector. The former demanding cacao quantity over quality, as cacao from Chapís is not top-notch quality, thereby fuelling the need for more agricultural land. The timber sector is demanding both fine wood and white wood species. Fine wood is most popular among communal loggers as it has more value, but due to their low abundance, white wood species are currently more exploited. Timber remains the easiest way for community members to rapidly earn money, which is mostly used for health care and education and only allowed with permission from the community's general assembly.

The second research question focussed on the processes of institutional bricolage that took place in Chapís and led to the local institutional framework that actually governs natural resources on community level. It relates to the third research question of what purposes local institutions serve, because processes of bricolage take place because Chapís chooses to use those institutions that help them in achieving their goals. The only external institutions that were adopted and reshaped with local institutions, were those that met the community's right of maintaining indigenous authority over land use decisions and resources and those that met their needs and desires of monetary income and modern lifestyles. This explains why many statutory obligations are not met, because they are in direct conflict with local autonomy to make their own decisions over how natural resources are managed. As such, statutory divisions between agricultural and forest land were not maintained by the community, who considered all land under title (and even beyond that) to be theirs. Neither was the obligation of obtaining legal permits for commercial timber logging, because timber is the easiest way to earn money. The only time legal obligations are met, is in the case of palm fruit extraction, because this is facilitated by Profonanpe who can only create bio-businesses if they meet legal requirements. The NGO thereby enforced legal obligations using a strategy that meets local desire for increased ways of income. Similarly, the institutions that allowed and promoted cacao production were adopted that allow for the obtaining of income per household. The latter forms a threat to the forest because the quality and production per ha is relatively low compared to other regions, meaning that more land is needed to intensify the production of cacao. Also, customary rules do not pose limits on how much agricultural land one can have, leading to rapid deforestation.

Weak local governance institutions are a major cause for the little effect that national laws and regional governments have on resource governance in Chapís. The *Baguazo* conflict, which was also experienced by some community members of Chapís has also affected the bad relationship the community has with the government. Profonanpe aims to solve this by strengthening both government and community institutions and adopts several strategies to create a better co-governance between both parties. Yet, the effect of these strategies remains uncertain in the future; what will happen when their project ends? APUAPISEM is still in its starting phase, needing a lot of technical and professional support, especially to meet legal obligations. Moreover, by introducing commercial capacity in a community that has long lived without money, the likeliness that resources will be further exploited is big, putting pressure on Amazonian ecosystems. The recent oil spill is also creating change as the community is now in close contact with the government. They have a strong bargaining position when it comes to governmental support due to the damage done to their environment and increased knowledge of legal systems. If the government will support the community with improved education, health care and the provision of electricity and telecommunications, rapid changes are awaiting. These phenomena currently happening in Chapís are certainly going to affect the institutional landscape in the future.

8. Recommendations

The main recommendation derived from this research is that to bring about (positive) institutional change, policy makers need to be well-informed of the local socio-economic context. Policies that are not well-informed are most probably rejected by local forest users. This especially applies to countries and areas in which government presence and control is weak. Bringing different actors together creates space for knowledge and information sharing, allowing all stakeholders to be informed of the current state of the forest and practices that either negatively or positively affect natural resources. NGOs can play a leading role in creating this space.

The modernization of indigenous communities is hard to stop and influenced by modern socio-economic society itself. The key is therefore not to halt development, but to steer this in a sustainable direction. This can be done by creating alternative livelihoods, as in the case of Chapís, but caution should be taken as still this involves the implementation of a commercial mind-set onto indigenous communities. Therefore, a holistic approach is needed, that focusses on making lifestyles more sustainable and not only one resource extractive activity. A way of doing this could be to emphasize traditional institutions of respect for the environment, which are still strongly present in communities that are proud of their indigenous identity.

For further research in Chapís longitudinal studies are needed to reveal the effect of the bio-business on the long term as well as the effect of the recent oil spill on the institutional landscape. Recently, the government has approved to support the provision of electricity and advanced health care assistance among other projects. This is expected to have large impacts on local livelihoods and further research on these rapid modernization actions can reveal the effects on local institutions and forest governance in the event of oil spills. Moreover, the research was limited to the study of Chapís, but since they share the land title with 3 other communities, these should also be studied. Especially, because they are united under ORPISEM, the most authoritative organization when it comes to the interaction with external parties and the gateway for new institutions. Within Chapís, research is needed that focusses more on agency and the working of power to discover the identities and characteristics of local bricoleurs. A recommendation for further research on forest outcomes is to combine social data on local livelihoods with GIS images and quantitative data to find correlations between changes that occur in the socio-economic environment with changes in land-use. Lastly, when applied in more case studies, institutional bricolage processes in different contexts can be compared so that predictions can be made for forest governance in other parts of the world.

Bibliography

- Acuña, R. M. (2015). The politics of extractive governance: Indigenous peoples and socio-environmental conflicts. *The Extractive Industries and Society*, 2(1), 85-92.
- Agrawal, A. (2007). Forests, governance, and sustainability: common property theory and its contributions. *International journal of the commons*, 1(1), 111-136.
- Agrawal, A., Chhatre, A., & Hardin, R. (2008). Changing governance of the world's forests. *science*, 320(5882), 1460-1462.
- Andersson, K. P., & Ostrom, E. (2008). Analyzing decentralized resource regimes from a polycentric perspective. *Policy sciences*, 41(1), 71-93.
- Batterbury, S. (2001). Landscapes of diversity: a local political ecology of livelihood diversification in south-western Niger. *Ecumene*, 8(4), 437-464.
- Berkes, F. (2004). Rethinking community-based conservation. *Conservation biology*, 18(3), 621-630.
- Berkes, F. (2007). Community-based conservation in a globalized world. *Proceedings of the National academy of sciences*, 104(39), 15188-15193.
- Berkes, F. (2009). Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of environmental management*, 90(5), 1692-1702.
- Bernard, H. R. (2011). *Research methods in anthropology: Qualitative and quantitative approaches*. Oxford, UK: Rowman Altamira.
- Bille Larsen, P. (2011). Municipal environmental governance in the Peruvian Amazon: a case study in local matters of (in) significance. *Management of Environmental Quality: An International Journal*, 22(3), 374-385.
- Brandenburg, H., & Orzel, M. (Directors). (2016). *When Two Worlds Collide* [Documentary]. USA.
- CANDELA (2014) About us. Retrieved October 27, 2017, from CANDELA:
http://en.candelaperu.net/_candela/info/mision-y-vision
- Chao, S. (2012). *FOREST PEOPLES: Numbers across the world*. Moreton-in-Marsh: Forest Peoples Programme.
- Che Piu, H. & Menton, M. (2013). *Contexto de REDD+ en Perú: Motores, actores e instituciones*. Documentos Ocasionales 90. Bogor, Indonesia: CIFOR.
- Cleaver, F. (2002). Reinventing institutions: Bricolage and the social embeddedness of natural resource management. *The European journal of development research*, 14(2), 11-30.
- Cleaver, F., & De Koning, J. (2015). Furthering critical institutionalism. *International Journal of the Commons*, 9(1). 1-18
- Crawford, S. E., & Ostrom, E. (1995). A grammar of institutions. *American Political Science Review*, 89(3), 582-600.
- Cronkleton, P., & Larson, A. (2015). Formalization and collective appropriation of space on forest frontiers: comparing communal and individual property systems in the Peruvian and Ecuadorian Amazon. *Society & Natural Resources*, 28(5), 496-512.
- Cruz-Burga, Z., Monterroso, I., Saldaña, J.S., Valencia, F. (2017). *Visión comunal del proceso de formalización colectiva sobre la tierra y el bosque en la Región Loreto*. Convenio Universidad Nacional Agraria La Molina - Centro para la Investigación Forestal Internacional (CIFOR): Perú
- Defensoría del Pueblo (2012, May 4) *Conflictos socioambientales se incrementan*. Retrieved from:
<https://www.defensoria.gob.pe/conflictos-socioambientales-se-incrementan/>
- Douglas, M. (1987). *How Institutions Think*. London: Routledge & Kegan Paul.
- Draper, F. C., Roucoux, K. H., Lawson, I. T., Mitchard, E. T., Coronado, E. N. H., Lähteenoja, O., ... & Baker, T. R. (2014). The distribution and amount of carbon in the largest peatland complex in Amazonia. *Environmental Research Letters*, 9(12), 124017.

- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative inquiry*, 12(2), 219-245.
- Gibson, C. C., McKean, M. A., & Ostrom, E. (Eds.). (2000). *People and forests: Communities, institutions, and governance*. MIT Press.
- Green Climate Fund (GCF) (2015). *Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru (FP001)*. Retrieved from GCF website: <https://www.greenclimate.fund/library/-/docs/list/573365/page/4>
- GTZ (cooperación técnica alemana). (2010). *Áreas de conservación municipal: una oportunidad para la conservación de la biodiversidad y el desarrollo local. Reflexiones y experiencias desde América Latina*. Brasilia, DF.
- Hardin, G. (1968). Tragedy of the commons. *Science* 162(3859): 1243-1248.
- Ingram, V., Ros-Tonen, M., & Dietz, T. (2015). A fine mess: Bricolaged forest governance in Cameroon. *International Journal of the Commons*, 9(1).
- Instituto Nacional de Estadística e Informática (INEI) (2013). *Población total al 30 de junio, por grupos quinquenales de edad, según departamento, provincia y distrito*. Retrieved from INEI website: <https://www.inei.gob.pe/estadisticas/indice-tematico/poblacion-y-vivienda/>
- International Labour Convention (ILO) (1989). *Indigenous and Tribal Peoples Convention, 1989 (No. 169)*. Retrieved from ILO website: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169
- de Koning, J. (2011). *Reshaping Institutions – Bricolage Processes in Smallholder Forestry in the Amazon*. (PhD dissertation). Wageningen: Wageningen University.
- de Koning, J. (2014). Unpredictable outcomes in forestry—Governance institutions in practice. *Society & Natural Resources*, 27(4), 358-371.
- de Koning, J., & Cleaver, F. (2012). Institutional bricolage in community forestry: An agenda for future research. In *Forest-people interfaces* (pp. 277-290). Wageningen Academic Publishers.
- La Industria (2017, December 17) *Liberan a personas retenidas por comunidad de Chapis*. Retrieved from: <http://laindustria.pe/noticia/liberan-a-personas-retenidas-por-comunidad-de-chapis-15314>
- Larson, A. M., & Petkova, E. (2011). An introduction to forest governance, people and REDD+ in Latin America: *Obstacles and opportunities*. *Forests*, 2(1), 86-111.
- Leach, M., Mearns, R., & Scoones, I. (1999). Environmental entitlements: dynamics and institutions in community-based natural resource management. *World development*, 27(2), 225-247.
- Lemos, M. C., & Agrawal, A. (2006). Environmental governance. *Annual review of environment and resources*, 31., 297–325
- Mason, J. (2002). *Qualitative Researching*. London and Thousand Oaks: Sage Publications
- MINAM (2011) *Plan Nacional de Acción Ambiental. PLANAA PERÚ 2011-2021*. Ministerio del Ambiente, Lima, Perú.
- Minerva, F. (2016) *Creciendo en armonía con el planeta y las personas: Reporte de Sostenibilidad 2015-2016*. Lima. CANDELA
- Muafor, F. J., Gnetegha, A. A., Le Gall, P., & Levang, P. (2015). *Exploitation, trade and farming of palm weevil grubs in Cameroon (Vol. 178)*. CIFOR.
- Monterroso, I., & Larson, A.M. (2018) *Avances del proceso de formalización de derechos de comunidades nativas en la Amazonía peruana (2014-2018)*. Retrieved from CIFOR website: <https://www.cifor.org/library/6906/avances-del-proceso-de-formalizacion-de-derechos-de-comunidades-nativas-en-la-amazonia-peruana-2014-2018/>

- Ojha, H. R., Ford, R., Keenan, R. J., Race, D., Vega, D. C., Baral, H., & Sapkota, P. (2016). Delocalizing communities: changing forms of community engagement in natural resources governance. *World Development*, 87, 274-290.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.
- Petroperu (2014) Oleoducto. Retrieved from: <https://www.petroperu.com.pe/Main.asp?Seccion=550>
- Petroperu (2017, December 12) *Petroperú iniciará remediación en el km 221.5 del oleoducto Ramal Norte*. Retrieved from: <https://www.petroperu.com.pe/Main.asp?Seccion=3&IdItem=979>
- Pitman, N., Inzunza, E. R., Alvira, D., Vriesendorp, C., Moskovits, D. K., del Campo, Á., ... & Smith, R. C. (Eds.). (2012). *Perú: Cerros de Kampankis*. Field Museum.
- PROFONANPE (2016) Get to know us. Retrieved October 20, 2017, from Profonanpe: <http://www.profonanpe.org.pe/en/conocenos>
- PROFONANPE (unpublished) *Anexo 5.- línea base del proyecto “construyendo resiliencia en los humedales de la provincia Datem del Marañón, Perú”*. Word document received on 11 September 2017 from Marieke van der Zon.
- Programa de las Naciones Unidas para el Desarrollo (PNUD) – Perú (2012) *Índice de Densidad del Estado 2012: Departamental y Provincial*. Retrieved from: <http://www.pe.undp.org/content/dam/peru/docs/Publicaciones%20pobreza/INDH2013/pe.Indice%20de%20Densidad%20del%20Estado%20Per%C3%BA.xlsx>
- Regan, J. (2003) *Valoración cultural de los pueblos Awajún y Wampis*. Documento 10. Lima: INRENA
- de Rivero, O. E. (2010). Cambios y continuidades en la percepción y demandas indígenas sobre el territorio en la Amazonía peruana. *Anthropologica*, 28(28), 239-262.
- Robinson, B. E., Holland, M. B., & Naughton-Treves, L. (2014). Does secure land tenure save forests? A meta-analysis of the relationship between land tenure and tropical deforestation. *Global Environmental Change*, 29, 281-293
- Roldán Ortega, R. (2004). *Models for recognizing indigenous land rights in Latin America (Biodiversity Series, No. 99)*. World Bank, Washington, DC
- Sarkar, S., & Montoya, M. (2011). Beyond parks and reserves: The ethics and politics of conservation with a case study from Perú. *Biological Conservation*, 144(3), 979-988.
- Sears, R., Cronkleton, P., Perez-Ojeda Del arco, M., Robiglio, V., Putzel, L., & Cornelius, J. P. (2014). *Timber production in smallholder agroforestry systems*. CIFOR, Lima, Peru.
- Sears, R. R. & Pinedo-Vasquez, M. (2011) Forest Policy Reform and the Organization of Logging in Peruvian Amazonia. *Development and Change*, 42(2), 609-631.
- Seguro Integral de Salud (SIS) (2011) SIS gratuito. Retrieved from Ministerio de Salud website: <http://www.sis.gob.pe/asegurados/tipos-de-seguro/sis-gratuito.asp>
- Silverman, D. (2013). *Doing qualitative research: A practical handbook*. SAGE Publications Limited.
- Soria, C. (2016). *Directorio 2016 de Comunidades Nativas en el Perú*. Lima. Instituto del Bien Común (IBC)
- Wiersum, K. F. (1997). Indigenous exploitation and management of tropical forest resources: an evolutionary continuum in forest-people interactions. *Agriculture, ecosystems & environment*, 63(1), 1-16.
- Wiersum, K. F., V. J. Ingram, and M. A. F. Ros-Tonen. (2013). Governing Access to Resources and Markets in Non-Timber Forest Product Chains. *Forest, Trees and Livelihoods* 23(1–2).
- Wright, J. H., Hill, N. A., Roe, D., Rowcliffe, J. M., Kümpel, N. F., Day, M., ... & Milner-Gulland, E. J. (2016). Reframing the concept of alternative livelihoods. *Conservation Biology*, 30(1), 7-13.
- Yin, R. K. (1994). *Case Study Research, Design, and Methods*. Thousand Oaks: Sage Publication

Zenteno, M., de Jong, W., Boot, R., & Zuidema, P. A. (2014). Learning from the past: Trends and dynamics in livelihoods of Bolivian forest communities. *Environmental Science & Policy*, 40, 36-48.

Annex I

a) Semi-structured interviews

ID	INFORMANT	DATE	LOCATION
P1	Apu Chapís during first half fieldwork	24/11/2017	Chapís
P2	Male community member age 25-30	24/11/2017	Chapís
P3	Plant manager APUAPISEM	26/11/2017	Chapís
P4	Ex-president ORPISEM (2014-2017)	05/12/2017	Chapís
P5	President ACAM Bajo- Morona	14/12/2017	San Lorenzo
P6	Male community member age 20-25	20/12/2017	Chapís
P7	Female community member age 20-25	10/01/2018	Chapís
P8	Apu community Wee	14/01/2018	Wee
P9	President ORPISEM	23/01/2018	Chapís
P10	Apu Chapís during second half fieldwork	29/01/2018	Chapís
P11	Project manager Profonanpe	05/02/2018	San Lorenzo

b) Questionnaire informants characteristics

# informants	50
# informants same as in Ia	8
Average age	37
# Male	37
# Female	13
Average # of household members	5

Annex II - Codes data analysis

Research question	Codes	
1	Statutory Customary Market Project	ACAM Agriculture (Land division) Bio-business Cacao Fishing Hunting Land tenure Palm fruits (NTFP) Timber (commerce/subsistence)
2, 3	Aggregation Alteration Articulation	
Extra codes	Oil leak Socio-environmental conflict Community conservation Support Profonanpe	

Annex III – Interview guide

Fecha:				
2. Nombre:				
3. Edad:				
4. Lugar de nacimiento:				
5. Cuantas personas viven en la casa?				
6. Cual es su relación con ellos?				
7. Tienes chacra en Chapis?				
Si <input type="radio"/> No <input type="radio"/>				
8. Agricultura				
	Consumo propio	Cons. prop. + venta	venta	otro
Platano				
Yuca				
Mais				
Cacao				
Aguaje				
Notes:				
9. Pesca				
a) <input type="radio"/> si <input type="radio"/> no				

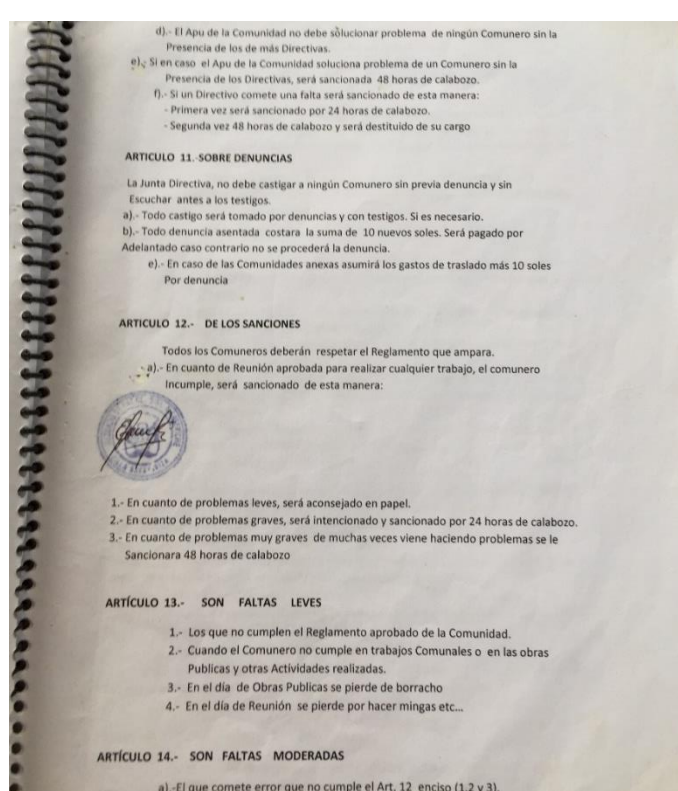
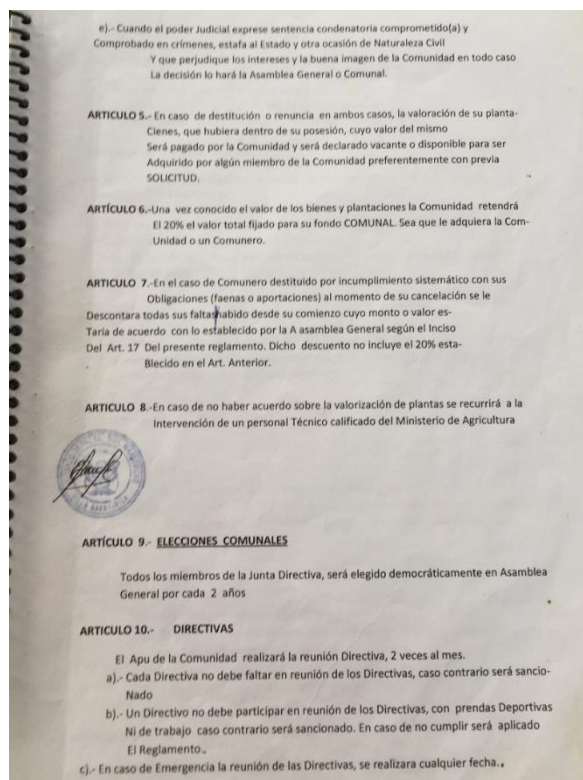
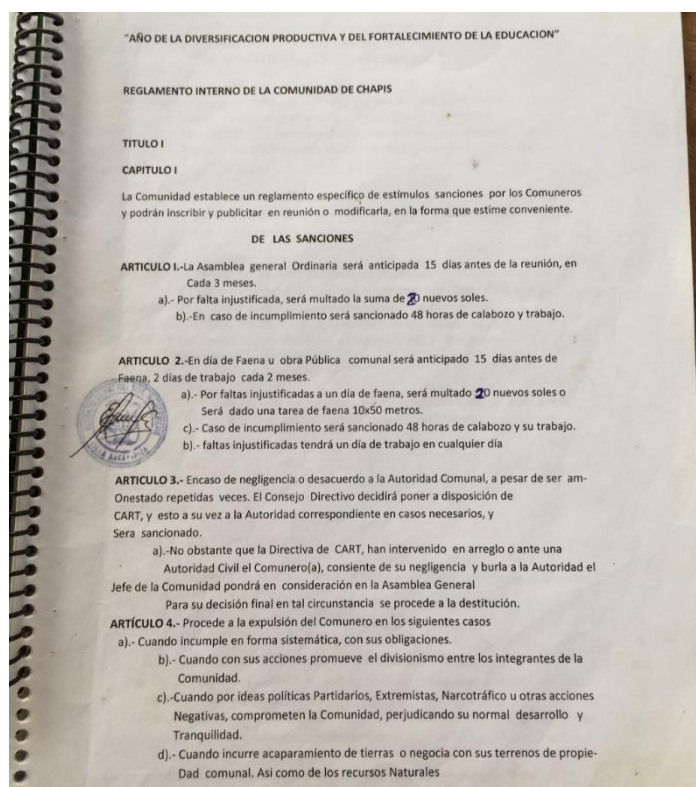
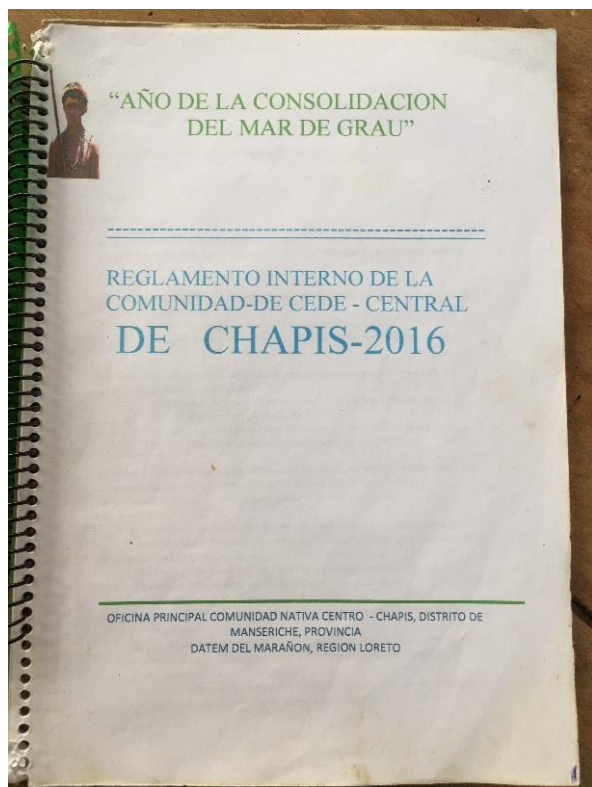
b) frecuencia: c) como/donde: d) especies: e) <input type="radio"/> Consumo propio <input type="radio"/> Cons. prop. + venta <input type="radio"/> venta <input type="radio"/> otro f) Tiene su comunidad reglas o pueden hacer lo que quieran? (e.g. apu/asamblea) g) Qué pasa si alguien rompe las reglas / tienes un ejemplo?
10. Caza (carne del monte) a) <input type="radio"/> si <input type="radio"/> no b) frecuencia: c) como/donde: d) especies: e) <input type="radio"/> Consumo propio <input type="radio"/> Cons. prop. + venta <input type="radio"/> venta <input type="radio"/> otro f) Tiene su comunidad reglas o pueden hacer lo que quieran? (e.g. apu/asamblea) g) Qué pasa si alguien rompe las reglas / tienes un ejemplo?
11. Madera a) <input type="radio"/> si <input type="radio"/> no b) frecuencia: c) donde: d) especies: e) <input type="radio"/> Consumo propio <input type="radio"/> Cons. prop. + venta <input type="radio"/> venta <input type="radio"/> otro f) Tiene su comunidad reglas o pueden hacer lo que quieran? (e.g. apu/asamblea) g) Qué pasa si alguien rompe las reglas / tienes un ejemplo?

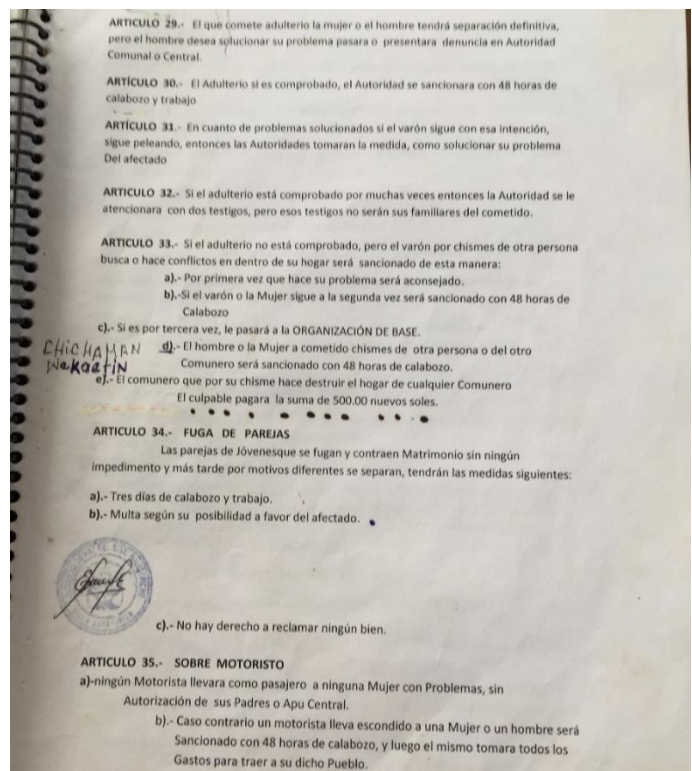
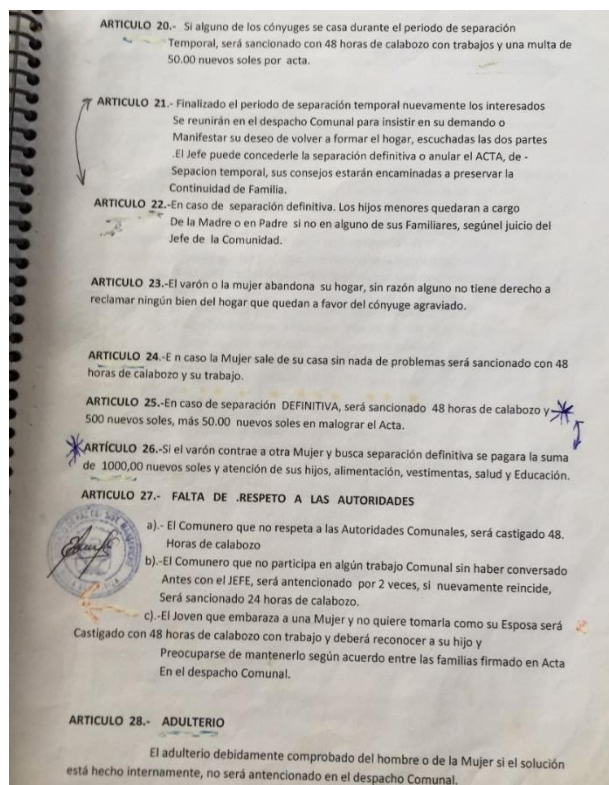
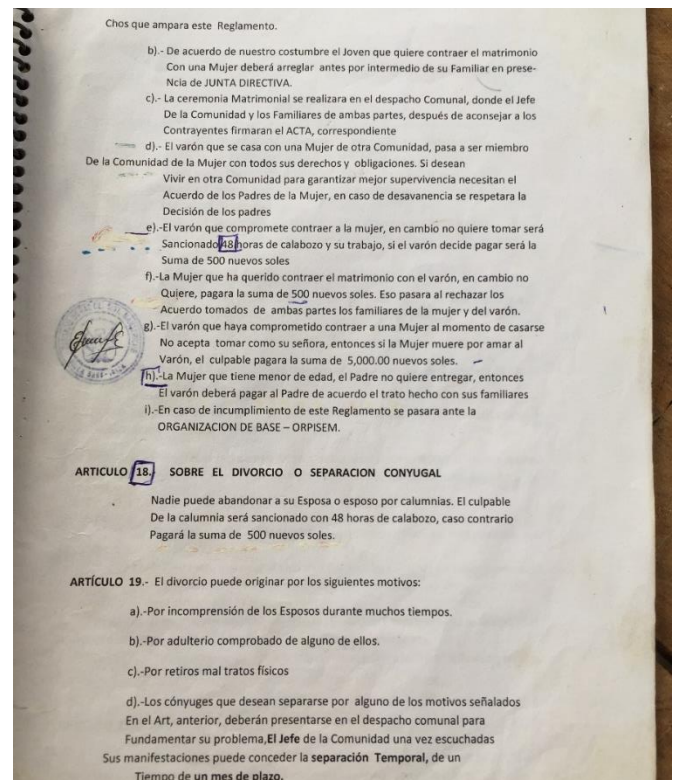
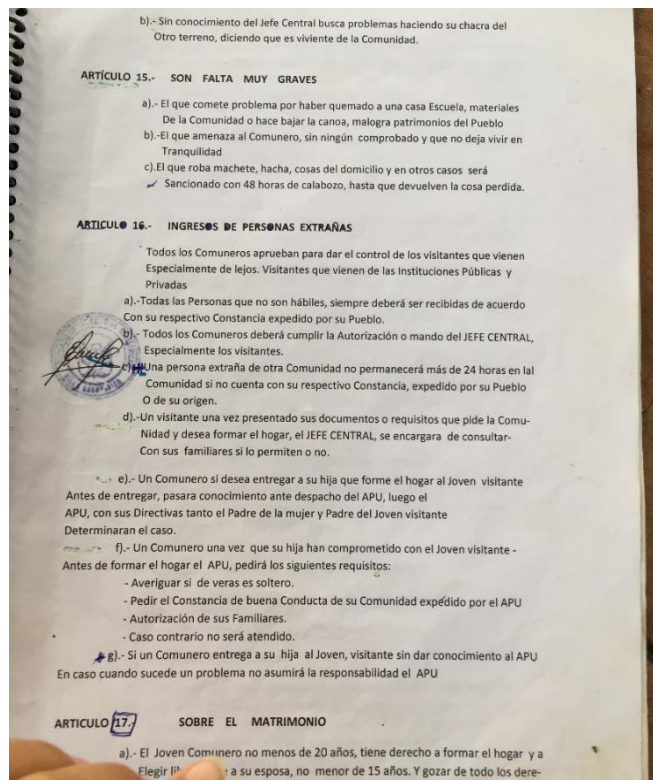
12. Opinión de las reglas
13. Otro trabajo/puesto que crea ingresos?
14. Uso del dinero <input type="radio"/> comida <input type="radio"/> ropa <input type="radio"/> estudio (hijos) <input type="radio"/> asistencia salud <input type="radio"/> gasolina <input type="radio"/> otro:
15. Tienes suficientes ingresos para cubrir tus necesidades?
16. Para qué deseas tener más dinero?

17. Visión de la comunidad en 10 años
18. Como crees que debemos que gestionar los recursos naturales?
19. Como conservan sus recursos naturales?

20. Conocimiento del ACAM/bionegocio/certificación organica.			
	Conocimiento de existencia (si/no)	Efecto en la comunidad	Opinion
ACAM			
Bionegocio			
Certificación orgánica			
Amplificación del título			
21 Techo de la casa: <input type="radio"/> calamina <input type="radio"/> tradicional <input type="radio"/> otro			
22. Religion: <input type="radio"/> Nazareno <input type="radio"/> Evangelico <input type="radio"/> Otro			

Annex IV - Reglamento Interno Chapís





ARTÍCULO 36.- EL ABORTO. El aborto voluntario e intencionado será sancionado con 15 días de calabozo.

ARTÍCULO 37.- La persona que induzca a otra que aborte será sancionada con 15 días de calabozo. Con trabajo.

ARTÍCULO 38.- Si el varón por maltratos físicos provoca el aborto a la Mujer será sancionado por 15 días de calabozo y trabajo.

ARTÍCULO 39.- AMENAZAS.- Los que amenazan a otra persona con cualquier clase de armas será sancionado de esta manera:

- Por primera vez con 24 horas de calabozo
- Segunda vez con 48 horas de calabozo
- La tercera vez con el decomiso de armas por 3 meses.

ARTÍCULO 40.- Toda arma decomisada se remitirá al departamento Legal de nuestra ORGANIZACIÓN DE BASE.

ARTÍCULO 41.- LA PEZCA.- Está prohibido altamente echar venenos a las quebradas o cochas que es del Pueblo como: Sawi Entsa, kagkas, cochas, como también con chinchorros, trampas.

ARTÍCULO 42.- SOBRE RECURSOS NATURALES

- El Comunero que desea vender como tornillos o maderas blancas, será multado de Acuerdo de cantidad de piateje de madera.
Apartir de 1,000 pies pagara 10% para el fondo Comunal. Y menos de 1,000 pies Pagará 5% de multa.
Si el Comunero vende la canoa por 1,000.00 nuevos soles, dejara la suma de 100.00 nuevos soles, si en caso vende por 800.00 pagara 80.00 nuevos soles así Sucesivamente (se incluye sea todo tipo de venta de maderajes que va ser Beneficiado fuera de la Comunidad)

ARTÍCULO 43.- SOBRE ABUSOS DE DOMICILIO

- La persona que comete abusos de domicilio, será sancionado con 48 horas de calabozo y trabajo.

ARTÍCULO 44.- SOBRE ROBOS

- La persona que roba una vez descubierta, será sancionado con 48 horas de Calabozo, permanecerá hasta que el o sus familiares devuelvan la cosa robada O pagar el valor del mismo.

ARTÍCULO 45.- INCESTOS DE VIOLACION DE MENORES

La persona que comete incestos será sancionado según su grado de parentesco, con la agravada de esta manera:

- Padre con su hija 30 días de calabozo y trabajo

- Abuelo con Nieto 30 días de calabozo y trabajo
- Padrastro con su entenada 15 días de calabozo
- Todos estos problemas se solucionara en CEDE CENTRAL.

ARTÍCULO 46.- Si el incesto es entre menores, se les llamara la atención y se les aconsejara delante de sus Padres y estos quedan responsable de tomar todas las medidas que consideren conveniente

ARTÍCULO 47.- El varón que viola a una mujer de 12 años será sancionado 3 meses de calabozo. Pero el varón si tiene la plata pagara la suma de 2,000.00 nuevos soles.

ARTÍCULO 48.- INTEENTO DE VIOLACION

En caso de intento de violación será sancionado con 15 días de calabozo y trabajo.

ARTÍCULO 49.- Problemas graves en violación hecho será sancionado 45 días de calabozo, sino pagara la suma de 2,000.00 nuevos soles.

ARTÍCULO 50.- SOBRE MALTRATOS FISICOS

- El hombre por su maltrato físicos o por intensión, muere una Señora, Multa será la suma de 2,000.00 nuevos soles.
- El varón o la Mujer muere por su causa de su problema, no tendrá derecho De reclamar sus familiares por la muerte.
- el comunero que no desea entregar a su hija al varón cometido, en caso de Muerte, no asumirá el cargo el APU ni el Varón.
- En caso los PADRES de la Mujer, quiere entregar a su hija, el varón y sus Familiares niegan por su matrimonio, y muere la mujer por amar al hombre Serán culpables los Padres y tendrá una multa de 5,000.00 nuevos soles

ARTÍCULO 51.- SOBRE BRUJERIAS Y MAFIAS.

- La Persona comprobado como brujo o mafioso será retirado Inmediatamente de la Comunidad con un plazo antes de 24 horas.

- No habrá reclamos alguno en caso de la Muerte de brujo o mafioso, netamente Comprobado, habiendo anticipado su retiro en la Comunidad

- Un Comunero (a) demuestra o practica secretos para hacer daños a la persona Mediante las plantas u otros medios, serán sancionados por 15 días de calabozo, Luego se investigara de cómo consiguió y con quienes practican.

- Una persona sospechada como brujo y despojado de su Comunidad, no será Aceptado el ingreso a nuestra Comunidad.

- Una persona nunca será recibido para que viva o naturalice en nuestra Comunidad, sin su Documento de traslado de su Comunidad.

ARTÍCULO 52.- SOBRE APOYO DE EMERGENCIA

- El Comunero (a), que está mal de salud y no cuenta con las posibilidades, se Presentará inmediatamente hacia la Directiva de la Comunidad.
- Si el Comunero(a), quiere operación u otro tipo de enfermedad muy grave, se le apoyara en cuanto de Economía (Fondo Comunal).
- Si en caso de no haber fondo Comunal, el APU se encargara de buscar el Apoyo, para el paciente.

ARTÍCULO 54.- BRINDAR CON APOYO A LA AUTORIDAD

- El APU es el Gestor para el desarrollo del Pueblo.
- El APU trabaja con amor al Pueblo y no cuenta con fines de lucro
- Reconocer por medios Económicos o en trabajos.

ARTÍCULO 55.- SOBRE FALTAS Y MULTAS EN LOS TRABAJOS Y REUNIONES

- El Comunero(a) que no participa en las reuniones Ordinarias y Obras Publicas Anticipado plazo de 15 días de aviso será multado la suma de 20 nuevos Soles. En caso de enfermedad será justificado.
- Un Comunero debe discutir de la casa 15 metros atrás o fuera, si una vez se Dentro de su patio de 15 metros es un abuso, será sancionado 24 horas de Calabozo.

ARTÍCULO 56.- DE LOS EXONERACIONES Y PERMISOS

Todos los Comuneros serán exonerados de los siguientes problemas:

- Comunero que está en alta Enfermedad
- En cuanto del fallecimiento de su Mujer o su marido, será dado 3 meses de Permiso.
- Los Estudiantes o que están en Servicio Militar.
- Todos los Comuneros que desean ausentar por motivo de necesidad en Cuanto de Obras Publicas y Runiones, deberá presentar ante despacho Comunal, para hacer conocer los siguientes:

- Que tiene enfermedad avanzada, (frente a los Comuneros)
- El Comunero tiene cuentas o deudas.
- Toda la persona se le dará permiso que tiene la deuda Apartir de 500.00 nuevos soles, por Un plazo de 3 meses
- El Comunero tendrá libertad en cuanto del muerte de su Padre y su Madre.
- Si una Comunera da luz tendrá el permiso de 2 meses y 15 días de permiso el esposo.
- Las Mujeres embarazadas no participaran en trabajos Comunales Apartir de 6 meses de Embarazo.
- Un Comunero (a) tendrá permiso de 3 meses cuando su hijo(a) muere.

ARTÍCULO 57.- USO DE LA TIERRA

Todos los vivientes de la Comunidad de Chapis, tiene derecho de trabajar y hacer uso de la tierra TITULADA.

a).-Todos los Comuneros, no deberá negociar su terreno ni tampoco pueden quitar por deudas Comunales, ni el JUEZ, no encargara de ese terreno, queestá ubicada del otro Comunero, según la LEY Nº 22175 y el ART. 13.

b).- El Comunero diciendo que es nuestro tierra no deberá trabajar en terreno que está ubicada del otro Comunero

c).- Los Empleados del Estado o personas que tienen cargo en dentro de la Comunidad deciden construir una Escuela, Posta, Iglesia, Tienda y otros, siempre hará coordinación con el JEFE CENTRAL, para no tener problemas en dentro dela Comunidad.

d).-Todo Comunero, tendrá coordinación con la Autoridad Central, cuando desea abrir su pasto, sin conocimiento del Jefe no podrá lograr su trabajo.

ARTÍCULO 58.- DE LOS PROFESORES

a).- Profesores(as), censados y empadronados, que sale a otra Comunidad por Motivo de trabajo, pagara su multa de 100.00 nuevos soles Anual. Y su Mujer Pagará 50.00 nuevos soles.

b).- En caso de los dos Empleados Esposo y Esposa pagara 100.00 nuevos soles Cada uno.

c).- En las obras Publicas y trabajos Comunles los Empleados del estado no deberán participar sólo colaborarán en cualquier necesidad que el APU pida

d).-En caso de reuniones Ordinarias, que la Comunidad programe en los días laborales, solo participara el Director del C.E. para no perjudicar los niños.

e).-en caso la Reunión Ordinaria se realiza en los días sábado o domingo todos los Profesores participaran para Intercambiar ideas. (Obligatoriamente).