Reshaping Institutions

Bricolage Processes in Smallholder Forestry in the Amazon

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Reshaping Institutions
Bricolage Processes in Smallholder Forestry in the Amazon

Jessica de Koning

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I have always wanted to write a book. I only never expected it to be a PhD thesis. You can image my surprise that I finally finished it, for those who know me long enough know that my educational career has been – to say the least – "rocky". I have memories from my childhood of my father trying to generate some of my interest in the multiplication tables. I remember my grandfather – who was a teacher – looking at me with stern blue eyes doubting me whether I had studied enough for the day. Who knew that I would end up one day writing my acknowledgements for my doctoral thesis? I can honestly say that, back then, I did not know. But here it is.

This thesis is a result of an undertaking full of heights, lows, doubts, adventures and plain stubbornness. Although the final product is a neat academic write up of four years of research, these four years are a mixture of both professional and personal moments in time. Lines get blurred when new friends are made through work in the various countries and of course also in my home country. It is at this moment that I finally have the opportunity to thank a few people on both sides of this work: the professional and the personal. And I have a lot of different people to thank.

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INTRODUCTION

The vastness of the Amazon rainforest is impressive when seen from a plane. I look down on the green, broccoli-like landscape, curious about what I will find on the ground. Brought up with all kinds of fascinating stories about the indigenous communities, cures from the forest for cancer or AIDS, immense biodiversity, or the 'lungs of the world', I am eager to find out for myself what the Amazon is really like. How great the contrast when I finally do land and find myself surrounded by pastures, bush-like vegetation, villages, and dust. I do not see the forest I remember from pictures. When people point out the Amazon to me, all I see is agriculture, plantations, chickens, and cows.

There is a big difference between what I actually see in the villages and the image that is often portrayed in general, popular discussions about the Amazon. Although these popular images picture the Amazon as a paradisiacal place with a focus on ecological virginity and high biodiversity, I discover that the Amazon is not that tranquil and undisturbed. It turns out to be a mosaic of people, types of forest and land use, and landscapes. It is clear that this area is shaped by centuries of human existence. This human dimension of the Amazon is what I directly notice after arriving. It also puts a strain on the popular ecological discussion focusing only on conserving the biodiversity of the perceived virginal Amazon. It cannot be ignored that communities living in the Amazon are poor, highly dependent on the income derived from their forest practices and cannot completely be denied access to forest resources (Byron and Arnold 1999; Shanley and Gaia 2002). This human presence in the Amazon has created a big challenge for today's forest policy and national governments. There is a need for regulations that not only consider biodiversity conservation and sustainable management but also respect and acknowledge local livelihoods, with their histories and focus on income generation.

Discussions on conservation and development have resulted in changes in the regulative frameworks of the Amazon countries. Over the years, many countries have changed from state-driven forest government to stakeholder-inclusive forest governance that aims to include both conservation and development. These decentralised forest regimes try to achieve more sustainable forest use by increasingly involving local communities and stimulating their feelings of responsibility towards the forest (Kaimowitz, Pacheco et al. 1998; Leach, Mearns et al. 1999; Perz, Aramburu et al. 2005).

Although the reforms in the Amazon have resulted in certain successes, their effectiveness is often questioned as their outcome is not always as expected. Various reasons can be identified as to why reforms do not appear to have the expected results. One of the main criticisms is that new formal regulations often do not link up with the socio-cultural dynamics at the local level (Long 2001; Mosse 2005). Often, the reforms focus solely on designing formal institutions for forest practices without taking into account that informal and non-forest institutions may just as well be important for forest practices. For example, the regulations concerning agriculture may offer smallholders alternatives that are far more attractive than the frequently restrictive forest laws (Ibarra, Romero et al. 2008; Wiersum 2009). Furthermore, governments appear to lack the necessary resources to monitor and control the implementation of their policy regulations. Finally, the effectiveness of the institutional reforms in forest management is influenced by the great variety in perceptions about the Amazon. I was caught off guard on my arrival in the Amazon and could not directly relate the things I saw with the image I had created in my mind. Images created at the global, national, or even the regional level can differ greatly from the local reality.

These factors have contributed to a fuzzy institutional framework for local communities in the Amazon. The shift from government to governance has led to a multiplicity of rules. On top of that, old government regulations and informal institutions, such as traditions, remain important for people living in the Amazon. In this situation of institutional coexistence, it is hard to steer the decisions of local forest users in a direction that is considered more favourable by governments. Nevertheless, many governments still have great confidence in the functioning of transparent formal institutional arrangements as a means to protect the forest. This trust, however, does not seem to correspond with reality as people's choices about whether or not to comply with laws are based on many factors that never seem to be related in a visible and simple linear fashion (Scott 2001; Poteete and Ostrom 2002; Becker 2003; Perz, Aramburu et al. 2005).

Can we therefore say that institutional reforms in the Amazon have been ineffective? It is rather easy to criticise these institutional reforms. However, one has to realise that formal institutions often have no choice but to turn to idealised and general concepts such as sectoral approaches and makability of society in order to formulate a law. A government simply cannot take into account all the local dynamics as laws have to be simplified extractions of reality. These generalisations in formal forest regulations do not automatically imply that government rules will not have any effect at all. A law can be more than just a rule; it is also a reflection of political development and changes, as it seems that people often respond more to this aspect of the institution than the actual regulative part. This is also known as the social working of a law (Griffiths 2003).

The quest to develop a framework for governance that stimulates both community development and forest conservation takes place within a complexity that I could not have imagined when flying into the Amazon. All these questions, dynamics, and problems seem distant and vague from the aeroplane. The forest seems to stretch out as far as the eye can see, and big rivers lazily cut through the dark green landscape. As the plane lands, I prepare myself for the reality that will hit me when I step out of the plane into the heat of the Amazon – a reality that will provide answers to the many questions I have on institutions, actors, and forest practices. I have landed in unknown territory where everything is different and where there is more than meets the eye.

1.1 Forest governance and forest practices

The global discussion of sustainable forest management has often focused on the development of the 'right tools' to achieve sustainable forest management. Over the years, politicians and scientists have been discussing many technical and institutional solutions to the degradation of natural resources. Each of these solutions can be placed somewhere between the extremes, on the one hand, of restrictive ecological views embracing 'fines and fences', and, on the other, the more open views focusing on integrated conservation and development. The choice between the restrictive and integrative approach to fighting natural resource degradation depends on dominant ideals within the global debates. Ideals that influence current natural resource management in most developing countries entail concepts such as democratic decentralisation or environmental governance (Sampford 2002; Paavola 2007; Tacconi 2007). It is believed that such decentralisation will enhance local participation and that feelings of local responsibility towards a sustainable management of forest resources will grow (Larson and Ribot 2004; Tacconi 2007). Forest governance, in this perspective, is thus seen as the current solution to forest resource degradation (Leach, Mearns et al. 1999). It is also believed that, through effective forest governance, forest practices could change and become more sustainable. This section discusses the current debates on forest governance and its relation to forest management practices.

1.1.1 Forest governance

Many definitions of governance exist. This thesis follows the definition of Lemos and Agrawal (2006, p. 298) who define environmental governance as "interventions aiming at changes in environment-related incentives, knowledge, institutions, decision-making, and behaviours." More specifically, political actors use governance to influence environmental actions by using a set of regulatory processes, mechanisms, and organisations. These sets of regulations and interventions do not solely concern the government but are also linked to other agents such as market organisations and civil society (Lemos and Agrawal 2006).

Forest governance addresses collective problems by drawing up sets of rules and regulations that define and guide forest practices, roles, and interactions (Gueneau and Tozzi 2008). As already explained, forest governance has been proposed as a solution to resource degradation as it creates an interdependent world with different responsible stakeholders involved. Furthermore, governance would diminish the environmental conflicts, promote collective ownership, and lead to social justice (Paavola 2007). Finally, forest governance has also led to processes of privatisation. This, in turn, has led to an increase in the role of non-state organisations such as market actors or non-governmental organisations (NGOs) (Gueneau and Tozzi 2008).

Forest governance, hence, is not only characterised by bureaucratic decentralisation from state agencies to local bureaucracies and at least partial devolution of forest management responsibility and decision making by local communities. It is also characterised by increased involvement of civil society groups. The role of these non-state agents, such as markets, community organisations, or NGOs, and their effectiveness in governance, is often highlighted in literature on governance (McDaniel 2002; Lemos and Agrawal 2006; Benneker 2008). However, their political role is not that clearly defined. For example, market instruments are important in forest governance in developing countries. They provide much needed income-generating opportunities and are thus an important stimulus to local compliance with forest regulations. However, the policy role of these market actors remains somewhat unclear as government agencies continue to be the authorities in terms of legislation, sanctions, monitoring, and control. Consequently, market agents' role in governance is rather limited or fuzzy (Lemos and Agrawal 2006).

A similar important but fuzzy role in forest governance in the Amazon is assigned to NGOs. Frequently, NGOs not only operate as organisations aiming at developing local communities or preserving the environment but are often regarded as promoters, facilitators, or brokers of forest law. Although NGOs lack government instruments of monitoring and control, some NGOs are increasingly becoming government-like 'inspectors' for compliance with the forest law. However, the difference is that NGOs do not have to report back to the government. Rather, they check to see whether local communities are complying with the perceived objectives of the forest legislation as NGOs see it. In many cases, NGOs link the forest regulations to their own agenda and ideologies regarding rural development or social justice and thus create their perception of the intentions of the forest law (Benneker 2008). This interrelation between state and civil society is interesting as both parties – although with different ideas and motivations behind it – seem to collaborate in stimulating community-based management of natural resources (Lemos and Agrawal 2006).

The role of NGOs in forest governance in developing countries should therefore not be underestimated as in some cases NGOs prove to be almost more powerful than the state. In many of these countries, the state is regarded as a distant institution as it cannot visit communities as often as local NGOs can. This is not only because of large geographical distances but also because of the state's lack of resources. This frequently results in relationships between the NGOs and local communities that are more intense and stronger than those of the government (Jong 2004).

In the Amazon countries of Bolivia and Ecuador, decentralised forest governance has also been implemented. These countries have developed their own specific form of forest governance in which multiple actor categories play different roles. In Bolivia, for example, community initiatives to manage forests have, in some cases, increased, and NGOs and markets are focused on these community forest management plans (Pacheco and Cronkleton 2005). In contrast in Ecuador, stimulation at grass-root level and attention to the local social situation has resulted in the rapid establishment of individual forest management plans (Becker 2003).

Despite the emergence of different forest governance regimes, there is still a lack of knowledge on their effectiveness and efficiency in terms of forest conservation and local development (Kaimowitz, Thiele et al. 1996; Kaimowitz, Pacheco et al. 1998; Lemos and Agrawal 2006). It is still unclear whether policy reforms even result in changes in the use and management of land and forests (Perz, Aramburu et al. 2005), as it appears that policy rules do not always lead to the intended outcomes of the policy reforms; people can just as easily continue as they have always done, or simply reject these rules (Andersson and Ostrom 2008).

This failure to achieve the intended impact of policy objectives may partly be explained by societal characteristics: local people are not likely to simply follow governance rules, because their behaviour is also shaped by social norms and traditions. For instance, they are used to perceiving social interactions as involving interdependent relationships (Becker 2003). It may also be that the local institutions and regulations lack legitimacy (Scott 2001). As a result of such local institutions, there is great variety in the responses of local communities to political reform of natural resource management. Many factors influence these responses, and these factors are rarely related in a simple linear fashion (Poteete and Ostrom 2002). One wonders whether decentralisation leads to sustainable resource management and whether or not it is even achievable (Tacconi, Siagian et al. 2006).

1.1.2 Forest practices

The unforeseen effects or limited impact of current approaches to forest governance in the Amazon call not only for more attention to the process of policymaking, but also for a focus on the actual forest practices of local communities. It is at the local level that farmers make decisions about their practices. These decisions are based on various social, economical, cultural and institutional aspects. Forest practices in this research imply forest-related activities of local farmers. These practices are based on a set of norms, beliefs and regulations (Wiersum, 1995). Hence, they can be used as a yardstick to measure the extent to which forest governance has affected forest practices.

The nature of local practices is under continuous discussion. Often, policymakers and organisations believe that local forest practices are inefficient and unsustainable. Furthermore, they assume that local communities lack the know-how to improve or optimise their resource use, and therefore they introduce these external packages to make local resource use more efficient and sustainable (Long 2001). These local practices, however, are not just ‘doings’ relating to the technical aspects of forest use, such as the technical requirements for tree logging, the kind of chainsaw to use, or how to drag the log out of the forest. They are embedded in socio-cultural life and networks and based on local knowledge that has been developed throughout history (Long 2001; Cleaver 2002).

For a long time it has been believed that traditional normative systems stand in the way not only of sustainable natural resource management, but also of local economic development. In this view, these institutions are not deemed relevant or in need to be replaced by new, externally imposed institutions. However, research on local economic development has revealed a lot of evidence that suggests otherwise. Local institutions, such as customary land rights for example, do not constitute an impediment to economic development (Benda-Beckman and Meijl 1999; Dore 2001). Nevertheless, the view often prevails that traditional rules are not in accordance with the present and required rules for sustainable resource management and that the gap between the two is simply too big. Traditional institutions are perceived to change too slowly as they follow a particular path of change over time. Therefore, in order for local governments to obtain the desired form of forest management, long-term and balanced approaches that acknowledge this historical path dependence are needed (Dore 2001; Grootaert and Narayan 2004).

This lack of acknowledgement of local institutions could be one of the explanations as to why decentralisation has led to different outcomes. Furthermore, the institutional pluriformity and the entrance of different governance agents have contributed to a general fuzziness of the institutional framework (Wiersum 2009). Local actors have various institutional options to choose from when making decisions about their forest practices. This has created room for manoeuvre for local actors and can result in processes in which actors, consciously or unconsciously, adhere to local, appropriate, or traditional institutions instead of the forest regulations.

The implication thus is that research on institutional influences on forest practices should not only concern formal regulations of forest governance. Although it is interesting to see the effect of these regulations on forest practices, it is equally important to recognise the role of informal and embedded institutions. Local actors have their own institutionalised ideas and knowledge about how to manage the resources. When newly introduced knowledge and ideas influence forest practices that have been structured by existing local institutions, 'something' happens. This something is a rather dynamic process that determines which institution structures what practices and is thus responsible for the different outcomes and the variety in forest practices. This something is what this research is all about.

1.2 Studying institutions

During all the aeroplane flights I took over the Amazon, I looked down on the seemingly tranquil and green landscape. This rather peaceful bird's-eye perspective formed a strong contrast with the reality on the ground. I was often puzzled by the complexity of it all and wondered how I was going to deal with all the local specifics and aspects that all seemed to play a role in the lives of smallholders living in the forest. The contrast between the discussion among scientists and politicians on forest governance and the local reality of forest practices reveals similar discrepancies.

Scientifically, there is a lack of understanding of the institutional effects of policy reforms at the local level (Andersson 2003). Although much research has been undertaken on institutions and natural resource management, the exact effect of institutions on the local society and their interaction with that society remains to a certain extent unpredictable. Generally, there is a lack of understanding on the effects of institutions at the local level and more attention could be given to the mediating role and dynamics of these institutions (Leach, Mearns et al. 1999; Cleaver 2002; Andersson 2003).

Consequently, for me, an interesting point of departure for research is to see how these local smallholders deal with all these institutional influences. What aspects of forest governance influence forest practices? How do local actors respond to forest governance? What is the influence of the so-called informal institutions compared to the formal ones? How do these different institutions emerge in the daily lives of local smallholders? These questions are part of the initial idea behind this research and relate to the confusion I experienced when getting off that aeroplane.

This research, therefore, aims at opening up this 'black box' of institutional influence at the local level and aspires to reveal how people respond to institutional influence. This research not only aims to fill a scientific gap, it also has societal relevance in terms of policy influence. By looking at the result of policy changes and the way in which local actors manage these influences, this research sheds light on a problem relevant to society and policy: the intended and unintended effects of policy and the unpredictable nature of humans dealing with policy. This research can therefore contribute to discussions on sustainable use of forest resources by addressing the question of the extent to which global concerns about sustainability percolate through the various layers and agents of governance and impact on local forest practices.

1.2.1 Objectives of the research

The primary objective of this research is to identify the different institutions affecting local forest practices and to assess the perceived importance of both formal and informal institutions impacting on forest practices.. This involves assessing the role of not only formal institutions but also of local institutions such as culture, community norms, and tradition. As institutions operate at multiple levels, this research also looks at how certain institutions at the national level, such as legislation and rules at national or even global level, emerge at the local household level. Consequently, one can draw conclusions on how different types of institutional influence are affecting certain forest practices and what the relative importance of formal and informal institutions in these practices is.

The second objective is to research how local smallholders respond to different institutions affecting smallholders' forest practices. As stated by Long (2001), practices and their related knowledge are likely to be reshaped by the intervening policy regulations. It would, however, be interesting to see how local actors themselves also reshape these institutions affecting their forest practices.

A third and final objective of this research relates to the global concerns on natural resource management. Because decentralised forest governance is implemented to achieve a more sustainable use of resources, it is interesting to reflect on the concept of sustainability. This research adds to the discussion on sustainability by reflecting on the different institutions influencing forest practices and the way people respond to them.

1.2.2 Outline

This thesis has the following outline. The first three chapters are the introduction to the research: the problem statement, the framework, and the methodology for this research. In this chapter, I have introduced the problem statement of the research: the intended and unintended effects of governance and process of decentralisation and the relatively unpredictable way local smallholders manage the various institutional influences. I furthermore explain the issues at hand when researching institutions and actors and present the objectives, line of argumentation, and outline of this book. In Chapter 2, I describe the theory and concepts used in this research. I place the theory in the scientific debate on institutional theories and introduce the research questions and the conceptual framework. In Chapter 3, I explain the methodology and methods for this research, which are based on qualitative case study research entailing ethnographic methods. I furthermore give an overview of the collected data.

The second part of this thesis consists of the empirical part of the research starting with the wider institutional and social context while moving into the forest practices of individuals. As such, I introduce in Chapter 4 the research area in Bolivia: the Northern Bolivian Amazon. I describe not only the inhabitants of the area but also the institutional context of the research by introducing the developments in the decentralisation processes relating to forest governance in Bolivia. Furthermore, I introduce the three Bolivian research cases. In Chapter 5, I give an overview of the many ways local smallholders deal with the various institutions affecting their forest practices. In Chapter 6, follow a similar structure as in Chapter 4 by introducing the research area in Ecuador: the South-western Ecuadorian Amazon. In Chapter 7 and similar to Chapter 5, I describe the local processes for dealing with institutional influences in Ecuador.

The final part of the thesis consists of Chapter 8 and 9. In Chapter 8, I focus on the comparison between the local processes happening in both Bolivia and Ecuador. I look for the similarities and differences between the two countries. Furthermore, I consider the main findings of the empirical data. Finally, in Chapter 9, I reflect on the research, its findings, and the theories and methodologies used

1.3 The ForLive project

The context of this study was not only shaped by the considerations discussed above, but also by the actual research setting. The research was carried out within the framework of the ForLive project – forest management by small farmers in the Amazon, an opportunity to enhance forest ecosystem stability and rural livelihoods. Started in 2005 and funded by the INCO programme of the European Commission, ForLive focused on an intense collaboration with various partners to analyse promising local initiatives in the Bolivian, Brazilian, Ecuadorian, and Peruvian Amazon in order to identify viable and sustainable examples for small farmers to use the forest. From a large database, seventeen cases were selected by local partners as representing successful cases of smallholder forest management. These cases served as basis for intensive research. They varied in nature from smallholder arboriculture and agroforestry to community management of natural forest (ForLive 2005). In order to assess these cases, ForLive incorporated a relatively new approach that mixed the methods of participatory action research and academic research. The ForLive project ended in 2009.

Several partners, consisting of several Latin American NGOs and three European universities, cooperated in the project. Each of these partners was responsible for contributing to the identified working packages. The research was structured to include various and interlinked working packages, such as livelihoods, environment, and institutional framework. Data collected through the working packages and integrated in the synthesis phase should shed new insights on viable management practices of small producers in the Amazon. Within this international project framework, this research is part of the working package on the institutional framework (ForLive 2005).

The objective of the working package on the institutional framework was to identify the institutional basis of decisions made by small farmers concerning their forest practices. This included an overview of the general institutional processes and issues relating to forest practices of smallholders in the Amazon and a discussion on the main institutions impacting on these practices (Wiersum 2009). My research fits in this working package as it looks at institutional influences on local practices.

2 THEORY AND CONCEPTS

2.1 Introduction

This research aims at opening up the black box of institutional influence at the local level by researching the impact that various types of institutions may have on forest practices. This focus raises various questions. How big is the influence of a forest law on the practices of local smallholders? To what extent are these practices structured by informal traditions? How do these smallholders deal with the different types of institutional influences? All these questions arose at the beginning of the research. Here, I elaborate on them by describing what is meant by institutions and how they affect forest practices.

In this chapter, I focus on the concepts and theories underlying this research by describing the institutions, forest practices, and the theory specifically used in this research. First, I give a description of the commonly existing definitions of institutions; I then provide an overview of the main institutional perspectives and demonstrate that these institutional theories have affected scientists' thinking on natural resources management. Second, I elaborate on the concepts of forest practices by focusing on sustainable forest practices and the relation with institutions. Third, I introduce the theory of institutional bricolage as the main theoretical framework for this research. On the basis of these theoretical considerations, I finish the chapter with an overview of the research questions.

2.2 Institutions and institutionalism

This research focuses on the interaction between actors and institutions and attempts to describe how this interaction is shaped and expressed in forest practices. Actors and institutions directly relate to the well-known agency structure debate propounded by Giddens (1984): institutions provide the boundaries for agency, and agency, through the practices of people, reproduces these same institutions, transforms them, or creates new ones. Reproduction of institutions takes place when these practices become routines. The creation of new institutions relates to agency initiating institutional change (Giddens 1984; Leach, Mearns et al. 1999). This section introduces the concept of institutions, the developments in institutional theories, and their relation to natural resource management.

2.2.1 Defining institutions

The concept of institution has several interpretations and is under continuous discussion. The term is often used in a casual manner and can therefore refer to a great variety of things. What institutions mean and how they are defined depends much on the school of thought to which one belongs. As there are many different schools of thought, there are numerous definitions and descriptions of what institutions are and how they function (Mehta, Leach et al. 1999; Fabricius 2004; Ostrom 2006). It is clear, however, that all these definitions perceive institutions as structures likely to impact on the behaviour of individuals or groups of individuals.

One of the most commonly known definitions of institutions is the 'rules of the game' (Lowndes 2002). Rules are often a common aspect of definitions of institutions. This implies that scholars who subscribe to this definition of institutions tend to focus on the structural, stable, and regularising side of institutions. Institutions are seen by some scientists as standardised procedures (Hall and Taylor 1996) that are stable, valued, and recurring (Huntington 1968). Leach, Mearns et al. (1999) refer to this relatively stable and structural aspect in their definition by stating that institutions are stable, regularising structures that influence people's behaviour. In this context, much attention is thus given to the formal role of institutions.

Formal rules are not, however, the only stabilising influence on human behaviour. Whereas rules often relate to formalised, written-down regulations, there are also structurising influences on behaviour. These can be less formal and are not always written down (Hall and Taylor 1996). Scott (2001) defines two other types of institutions besides rules: norms and beliefs. Informal norms and beliefs relate to social relations, culture, normative conventions, and cognitive beliefs (Scott 2001). Each of these institutions has a structural effect on human activities (Shepsle and Bonchek 1997). As Giddens (1984, p. 42) states, "Institutions by definition are the more enduring features of social life." However, this does not imply that institutions never change. Institutions are not static; they go with the flow as they gradually respond to the external environment and internal pressures (Shepsle and Bonchek 1997).

A final important distinction to make in defining institutions is to separate institutions from organisations. Institutions and organisations are not the same. Organisations are different in the sense that they are defined as groups of people with a common purpose to achieve objectives, whereas institutions create the framework upon which these organisations are based (Leach, Mearns et al. 1999; Fabricius 2004).

Organisations require more than material resources and information if they are to survive and thrive in their social environment. Like institutions, they need to be perceived as legitimate by society (Scott 2001). To put it differently, if institutions are the rules, norms, and beliefs of the game, organisations are the players of that game. Organisations are important because they are seen as collective actors that are subject to institutional incentives and constraints. Furthermore, organisations play an important role in creating, changing, and articulating institutions (Lowndes 2002, 2005).

2.2.2 Scientific perspectives on institutions

Scientific perspectives on institutions and institutional processes have changed over time. In general, these schools of thought with specific focus on, and definitions of, institutions can be divided into three consecutive periods called traditional institutional perspectives, new institutionalism, and post-institutionalism (Lowndes 2002).

The traditional institutional perspectives, also known as old institutionalism, focused on the formal institutions and in particular on the functioning of the state, laws, and regulations (March and Olsen 1984; Lowndes 2002). The belief was that institutions were able to determine the behaviour of individuals simply through their functioning. Several authors, such as Weber, Marx, Durkheim, and Veblen, are linked to these traditional institutional perspectives (DiMaggio and Powell 1983; March and Olsen 1984). These authors focused mainly on the functioning of formal institutions in which the role of individuals was highlighted. Weber, for example, focused on bureaucracy, which he regarded as a strong and irreversible instrument to control humans (DiMaggio and Powell 1983). The focus of this approach was on the formal rules, procedures, and organisations of the government and state (Lowndes 2002).

This traditional institutional perspective was criticised as it was seen as too functionalistic and deterministic. For example, DiMaggio and Powel (1983) criticised Weber's 'iron cage' concerning his visions on the increasing rationalisation of human life. The cage in this perspective is rule-based, rational control. DiMaggio and Powel stated that rationalisation is not the main drive for organisation and bureaucratisation as it is more related to the process of structuration. The process of structuration introduced by Giddens (1984) states that human action is structured by institutions that are part of a specific social structure. Therefore, human action is to a certain extent already predetermined by the specific context in which it occurs. In other words, political institutions are no longer regarded as independent factors but as part of their social context (March and Olsen 1984). One of the consequences was a change in institutional perspectives that moved away from a focus on the government and state and turned instead to the individual. There was a need for a deeper explanation of the role of institutions in daily actions of individuals (March and Olsen 1984; Lowndes 2002).

These new institutional perspectives, also known as new institutionalism, emphasise the social, normative, or rational character of institutions rather than focusing on the formal political aspects. This implies a more dynamic view of institutions in which institutions are seen as actors in their own right (March and Olsen 1984). The scholars of new institutionalisms do not just look at the impact of institutions on individuals but rather focus on the specific interaction between them. Rather than investigating the government as a whole, new institutionalism looks more at specific rules, procedures, or political behaviour (Hall and Taylor 1996; Scott 2001).

There are more differences between the traditional perspectives and new institutionalism. Whereas the traditional approach perceived institutions more as 'things', new institutionalism regards them as dynamic structures. Old institutionalism was also concerned with particular sets of submerged values, such as good government. New institutionalism has changed this view and focuses more on the ways in which institutions affect and embody societal values. A final difference between old and new institutionalism is the fact that new institutionalism has shifted from the view of institutions as independent to a more embedded view of institutions (Lowndes 2002).

Although there are many theoretical specialisations in these new institutionalisms, four main forms of new institutionalism can be distinguished (Scott 2001; Lowndes 2002). These are rational choice institutionalism, sociological institutionalism, historical institutionalism, and discursive institutionalism (March and Olsen 1984; Hall and Taylor 1996; Schmidt 2005). Each of these institutional perspectives has its own definition of institutions. In addition, they all incorporate their own specific ideas on interaction between institutions and actors.

Rational choice institutionalism takes an economic perspective on organisational theory as its point of departure and incorporates certain assumptions on individual behaviour. It conceptualises actors as having a fixed set of preferences and behaving in an instrumental, calculated manner in order to maximise these preferences. The actor is able to identify the best means to serve his own goals since he has complete information on his own interest, possible choices, relations between means and ends, and possible side effects. In other words, the actor has clear expectations for each choice he makes.

The role of institutions in this perspective is that institutions affect the range and the order of the alternatives that the individual can chose. They do so by providing information that reduces the uncertainty about the behaviour of others. Rational choice institutionalism follows a logic of consequences (Hall and Taylor 1996; Thelen 1999; Lowndes 2002).

Sociological institutionalism is also described as norm-guided behaviour. It emphasises that actors are embedded in a social context in which norms exists about how to act appropriately. Therefore, actions are guided by the expectations of others. In order to reduce risks and uncertainties, actors follow a logic of appropriateness. Institutions are seen as expectations that have crystallised over time in normative rules or values. These rules are related to culture and have an impact on the role of an actor. A result of this is that actors may not always behave in the most efficient way given the specific circumstances. Furthermore, sociological institutionalism does not include a clear-cut distinction between institutions and culture, as its definition of institutions is quite broad. Instead of focusing on only procedures and rules, institutions are also systems of symbols, myths, and morality (March and Olsen 1984; Hall and Taylor 1996; Lowndes 2005).

Historical institutionalism explains behaviour and change in terms of history. Individuals have a preference for following the known paths and choosing solutions that have already been tried. Hence, institutions mostly express traditions, and actors follow a logic of sequentiality, also described as path dependency. Path dependency states that choices made in the past will continue to influence choice in the present as well as in the future. These choices form a chronological path to which the actor prefers to stick. Institutions in historical institutionalism are defined as formal and informal routines and procedures embedded in the organisational structure (Hall and Taylor 1996). Furthermore, this theory is also characterised by a dislike of change as it is regarded as too expensive, emotionally as well as materially (Hall and Taylor 1996; Pierson 2000).

Discursive institutionalism is the most recent addition to new institutional theories and is born out of the incapacity of the other three new institutionalisms to explain institutional change (Schmidt 2005). Discursive institutionalism focuses on the role of ideas and discourse as explanatory of change (Schmidt 2005, 2008; Arts and Buizer 2009). Ideas, in discursive institutionalism, can be normative or cognitive and exist at different levels, varying from abstract philosophies to programmes. Discourse is the interactive process of conveying these ideas. Institutions in this theory are not as static as in other new institutional theories. They are regarded as both structures and constructs that are internal to actors. The ideational abilities, or ideas, of an actor maintain or create these institutions in the background. In the foreground, the actor's discursive abilities then enable him to communicate these institutions; this can lead to maintenance or change. Hence, actors follow a logic of communication (Schmidt 2005, 2008).

All these major forms of new institutionalism have both strengths and weaknesses. Although rational choice theory provides a clear definition of the relation between institutions and actors, it does not provide a satisfactory explanation of practice in the event of people not acting according to the assumptions of rational choice, since not all choices are rational. Sociological institutionalism does include culture in the analysis of institutions, and this explains the irrational parts of behaviour quite well. However, it ignores the instrumentality that sometimes determines decisions. Historical institutionalism incorporates both an instrumental and a cultural view; however, it does not give a specific definition of the relation between institutions and agency (Hall and Taylor 1996). Finally, although discursive institutionalism explains institutional change very well, it runs the risk of appearing voluntaristic and without much structure (Schmidt 2005).

Overall, all four theories entail interesting aspects that are vital in explaining the relation between institutions and behaviour. Hall and Taylor (1996) propose therefore a greater interaction and exchange between rational, sociological and historical institutionalism. Scott (2001) makes an attempt to overcome the strict boundaries by introducing three pillars of institutional thinking that resemble these new institutionalisms. Institutions are set in motion by rational rules, sociological norms, or historical beliefs. These form the building blocks of institutions. Therefore, an institution can be based on either of the three or a combination of these building blocks since "rules, norms, and meanings arise in interaction" (Scott 2001, p. 49).

Recently, new institutional perspectives have been emerging, especially in the field of natural resource management. Although they are not considered to be fully developed yet, these perspectives critique new institutionalism. These emergent so-called post institutionalist approaches state that conventional understandings of new institutionalism do not fill the gap between theories and current realities. New institutionalism neglects, for example, the many everyday contexts in which institutions are located and the roots they have in local history and society. Furthermore, new institutionalism still tends to promote a rather homogenous view of the community in which local differences, power, and politics are downplayed. Finally, new institutionalism neglects the interaction between formal and informal institutions and does not acknowledge the rather messy overlap of institutional domains that may result in ambiguous institutions. Post-institutionalism claims to fill those gaps by including approaches such as anthropology and legal pluralism in research on institutions and natural resource management (Mehta, Leach et al. 1999; Cleaver and Franks 2005). The next section focuses on institutional perspectives in the context of natural resource management and explains an institutional theory part of post-institutionalism: institutional bricolage.

2.2.3 Institutionalism and natural resources

Institutional theories have been intensively applied in the field of natural resource management. Similar to the developments in general institutional theories, theories on the basic rules of the game concerning the management of natural resources have undergone a shift from a focus on deterministic formal institutions to more dynamic views that incorporate aspects of new institutionalism and even recent post-institutional thinking. Major contributions to institutional theories in the context of natural resource management have come from Hardin's (1968) tragedy of the commons, theories on common property management, and insights from new institutional economics.

One of the first authoritative authors to contribute to insights into institutional theories in the context of natural resource management is Garret Hardin with his article "The Tragedy of the Commons", published in 1968. This article focused on the effects of population growth in a finite world and why it leads to an over-exploitation of resources. Hardin used the now famous example of a common property pasture on which herdsmen keep as many cattle as possible. However, as each herdsman seeks to maximise his profit, he wonders what the utility might be of adding one extra cow to the herd. The effect of this extra cow is twofold: the single herdsman profits from the fact that he has an extra cow; however, the pasture becomes overgrazed due to that extra cow. The tragedy lies in the fact that actors are locked into a system in which they seek to maximise the benefits accruing to themselves despite the fact that the world around them is limited.

Hardin criticised common property as he regarded it as a free access system in which no individual was responsible. Because of this lack of structure and responsibility, common property leads to resource degradation. Hardin was perhaps the first theorist to connect the management of natural resources with institutions. He saw the local resource users as being unable to create institutions to structure the resource use in such a way that it did not lead to destruction. Consequently, his article can also be regarded as a plea for privatisation or state regulation. In order to avoid over-exploitation, local resource users should recognise their responsibility in resource use, and this requires management. Hardin was of the view that this could only be achieved by either privatisation or government regulation of access.

However, while general institutional theories developed into new institutionalism, insights on natural resource management changed as well. These new insights critiqued Hardin's views. The main critique was that Hardin defined common property as an open access system. Many scientists demonstrated that common properties are not mere open access systems without any type of organisation but are more likely to be structured by formal and informal institutions (North 1990; Ostrom 1990; Becker and Ostrom 1995; Leach, Mearns et al. 1999). These critiques on Hardin marked the beginning of new lines of thinking within natural resource management. Although there were many contributions, it is believed that the main inputs came from Ostrom's common property or common pool management, and new institutional economics in which North became an authority. Furthermore, Agrawal (2001a) significantly contributed to the discussion on sustainable resource management. Similar to general new institutional theories, their focus was more on the individual than on the deterministic influence of the state. It became important to look at the resource user and to find out what his incentives were with reference to his position in the community or society, and how the interaction between the actor and the institutions could be described (Haller 2002).

Ostrom (1990) criticised Hardin, stating that common pool resources could contribute significantly to sustainable resource management. She stated that humans have created their own institutional arrangements regarding natural resources over the years. Although they have not always been sustainable, they do demonstrate that common property cannot be regarded as an open access system without any structure. Some of these local institutional arrangements do lead to resource degradation however. On the basis of observation in successful resource management cases, Ostrom formulated eight design principles that ensure the sustainable management of common pool resources. There need to be clearly defined boundaries for resource systems and access rights, equivalence between benefits and costs, collective choice arrangements for resource users, monitoring, graduated sanctions, conflict resolution mechanisms, recognition of the right to organise, and nested enterprises for resources that are part of large systems (Ostrom 1990; Anderies, Janssen et al. 2003).

Agrawal's (2001a) contributions to theoretical insights on common pool resource management concern summarising the variables that should be met in order to achieve sustainable management of common pool resources. These variables relate to aspects such as size of land, group characteristics, institutional arrangements, and the external environment. They are important in order to understand the conservation of natural resources by a community. Although these variables also entail internal attributes and processes that are based on previous work of Ostrom and colleagues, Agrawal focuses mostly on the relationships between the community and outside institutions. Especially in the context of decentralised natural resource management by the government, the relationships between government, communities, and markets are considered important (Agrawal 2001a, 2001b, 2003).

Perspectives on new institutional economics have also influenced views on natural resource management. Economic perspectives contributed, for example, to the discussion on how institutions operated in relation to local resource users. In this perspective, North (1990) is an important scholar who stated that institutions, when functioning properly, are able to reduce the transaction cost of natural resource management. The optimal functioning of institutions is important in the economic perspectives, and these institutions consist of idealised rules regarding private property, government ownership, or community control, and stimulate sustainable resource use (Luckert 2005; Ostrom 2006). Linking economic behaviour to these optimal institutions will stimulate communities to engage in sustainable practices (Luckert 2005). In this view, robustness of formal institutions is seen as necessary to achieve sustainable management and use of natural resources (Crawford and Ostrom 1995; Anderies, Janssen et al. 2003; Gibson, Williams et al. 2005).

These insights have directed much attention to the functioning of local institutions and have demonstrated the various institutional influences that affect resource management. Ostrom, for example, has contributed to a greater focus on informal institutional arrangements and their important role. However, the focus has primarily been on purposeful institutions, assuming that institutions are designed for a specific goal (Ostrom 1990, 1991). This assumption has resulted in a focus on the more visible, formalised institutional framework of natural resource management, such as local committees or associations. Although these insights acknowledge the existence of informal institutions, there is a preference for formalised arrangements in order to achieve optimum resource use. However, this neglects the fact that institutions can also be deeply embedded in history or the social context (Mehta, Leach et al. 1999).

This neglect of the local embeddedness of institutions in social life and history has resulted in a new shift in institutional theories towards post-institutionalism. This perspective developed because of discontent among certain scientists regarding dominant institutional perspectives. Advocates of post-institutionalism critique the common pool resources and institutional economics perspectives by stating that the assumptions made in these theories do not always reflect reality. Luckert (2005) argues that the search for the optimal institution has not been successful because the complexities and the various social objectives that people may have are not incorporated. These objectives are usually not economic; however, they are variable and ambiguous. Many institutional views in the context of natural resource management are based on assumptions that resource users have simple dominating productive concerns, and an instrumental approach towards culture and social structure that are tapped to inform and guide good management decisions. These assumptions, however, do not reflect the local reality (Cleaver 2002).

This rather simplistic view of resource users also reflects the corporate homogenous view that the new institutional theories have of the community. These views often neglect the local specific situation in which power inequalities, gender issues, and resource users' diverse interests occur. Although great faith is placed on institutions promoting collective action, they can also reproduce conflict and further widen social division and inequalities (Mehta, Leach et al. 1999; Cleaver and Franks 2005). Furthermore, economic and common property theories also disregard the embeddedness of institutions in local history. This holds especially true when those institutions regarded as part of culture and considered as local structures on forest use are ignored. These institutions are expected to be equally important and as influential as the more formal institutions (Mehta, Leach et al. 1999; Dore 2001).

Recently, these critiques have increased in intensity and have resulted in a new body of thought. Post-institutionalism seeks to find answers to the less explained aspects of new institutionalism and the environment. It does so by exploring the fields of anthropology, sociology, and legal pluralism. These disciplines opt for an open, dynamic view that moves away from the formal–informal discussion and sees institutional influence as a dynamic and nonlinear process. They challenge the faith in robust institutions and recognise the social and historical context in which institutions are embedded. However, following these disciplines means adopting new theories and methodologies that require an open mind and an exploration of boundaries. Furthermore, the focus on local settings and socio-cultural concepts obliges researchers to concentrate on local institutions, local actions, or local practices.

2.3 Forest practices and sustainability

The focus of this research is specifically on institutions in the context of the forest practices of local users. These forest practices can be seen as relating to both forest use and forest management. Many institutions affect these forest practices; over the years, local actors have created their own institutional framework, and governments and other external organisations have tried to regulate these practices from the outside to make them more sustainable. Forest practices are in this sense the outcomes of dealing with all the institutional influences, both formal and informal.

2.3.1 Forest practices

Forest practices, like general practices, can be purposeful and rational, or they can be routinised and taken for granted. Practices are embedded in a particular context, articulated in specific behaviour, and socially developed through learning (Corradi, Gherardi et al. 2008). In this respect, practices are bounded; they are related to one thing and not the other. They relate not only to agency but also to institutions as they are shaped by routines, traditions, or regulations.

Forest practices are those practices relating to forest use and forest management. However, the difference between the two types of practice needs some clarification, as the line between the two concepts is often vague. Wiersum (1997) states that opportunistic forest use ends and forest management begins when rules and regulations are involved in the use and maintenance of forest resources and the organisation of related activities. This definition acknowledges a difference in level of organisation between forest practices, and this serves as a good starting point for further conceptualisation.

Forest use frequently has a negative connotation since it often entails forest destruction and extractive practices. For example, strategies such as the conversion of forest into pastures, timber extraction, collection of non-timber forest products (NTFP) are often regarded as forest use and seen as having a negative impact on conservation (Sunderlin, Angelsen et al. 2005). Consequently, there is continuous debate about whether forest use and forest resource extraction are good for the forest, and whether or not there are alternatives (Stoian 2005).

These views imply that forest use does not entail practices involving the management or conservation of the forest. If we argue that forests can be either used or managed, than we can say that forest management does imply conservation or regeneration practices. This distinction is also supported by other scientists who include some aspects of regeneration or general forest developing activities in the definition of forest management (Wiersum 1997).

There are many categorisations of forest management. However, in this research, forest management can be best categorised in terms of organisation, as exemplified in the distinction between private forest management, community-cooperative forest management, and collaborative forest management. Moreover, it must be borne in mind that forest management at the local level often takes place in combination with an integrated farming system. As a result, great variety may exist in the role of the forest in relation to the land use and livelihood systems of smallholders (Wiersum 2009).

Forest practices are strongly related to institutions, as practices entail structuring patterns of behaviour. These patterns concern not only formal regulations, but also norms or cultural beliefs. In a sense, forest practices can be regarded as the embodiment or outcomes of the combination of human agency and all the different institutional influences. Those institutions that affect forest practices do not necessarily have to be directly related to the forest. It is possible, for example, that informal norms on more general livelihood aspects or agricultural practices will have a big impact on certain forest practices. Furthermore, the regulations that affect forest practices do not consist only of formal forest regulations such as forest law. Forest practices are affected by pluriform institutional arrangements that consist of much more than just government policies or institutions directly linked to the forest itself (Wiersum 2009)

2.3.2 Sustainable forest practices

With its continuing important role in discussions on natural resource management, the concept of sustainability remains relevant. For decades, countries have been trying to adapt the legislative framework in such a way that it stimulates sustainability (Leach, Mearns et al. 1999). However, it remains unclear what sustainability means, for which persons it is intended, and what it does or does not include.

Many social actors view the notion of sustainability in many different ways (Leach, Mearns et al. 1999; Schanz 2004; Kant and Berry 2005). Perhaps the best known definition is that given by the Brundtland Commission (1987, p. 54) which states that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition became popular as it was perceived as an objective and practical definition. However, even in this definition, the concept remains vague, and the debate therefore continues. Questions that rises are: what is to be sustained and for whom?

Sustainable forest management is often perceived as the ideal way of managing the forest. However, in addition to the discussions on its definition, great variety also exists in relation to its implementation (Wiersum 1995). Although the motivation for sustainable forest management is mostly ethical and perceived as necessary, the concept tends to be controversial as it has many meanings and consequences. Definitions of sustainable forest management seem to be divided between the ecological approach in which forest management focuses on farmers maintaining ecological integrity, and the sociological approach in which forest management is linked with income-generating activities in order to improve livelihoods and to conserve forest-based livelihoods (Wiersum 1995; Burgers 2004).

It is generally agreed that the concept should entail aspects of both ecological values and socio-economic dimensions (Wiersum 1995). However, what is more frequently overlooked is that, besides the ecological, economic, and sociological dimensions, the concept of sustainable forest management also includes a temporal and spatial dimension. In this perspective, issues such as the levels of analysis and the incorporation of social and ecological changes become important (Wiersum 1997). Consequently, defining sustainability becomes a nearly impossible task, as every definition seems to be at the expense of one of these five dimensions of sustainability. On top of that, definitions of sustainability are also informed by dominant views in a society, often linked to political power and ideology (Schanz 2004).

The focus on formalised arrangements as tools to achieve sustainability implies that formal institutions are often regarded as a major dimension of sustainability. As mentioned in section 2.2.3, discussions in the past often focused on the identification of design criteria for local robust institutional arrangements; but, in view of the importance of external institutions, in order to arrive at the appropriate institutional design, it seems more relevant to create institutional arrangements for sustainable forest use by linking local institutional arrangements with external standards on what sustainability means (Kant and Berry 2005). As stated in section 2.2.3, many efforts to do so focus on the formal regulatory and organisational framework. However, these institutions are limited in their influence, especially when dealing with isolated smallholders living far away in Amazon areas (Koning 2007).

Policies on sustainable forest use or sustainable livelihoods should look at the social dimension of the concept. In order to make sustainable forest use practicable, the local settings must be acknowledged. Technical scientific norms implemented without consideration of the local environment can easily result in a loss of local incentives based on social aspects and knowledge. Valuable traits should be included in policy through the examination of the various production systems (Murdoch, Ward et al. 1994).

Because of the popularity of the sustainability concept, it is necessary to maintain a critical attitude towards sustainable forest management and to try to find its meaning in, and impact on, local practices and perceptions. In this research, it is important see how the concept is perceived and whether or not it links up with existing local perspectives and practices, or the extent to which it has become the subject of change and transformations. It could be that a pre-existing internalised concept of sustainability in socially embedded institutions is in competition with the sustainable approach enshrined in legislation. In this context, an interesting question is how much of the international debate on sustainability, as stated above, has percolated through all the institutional layers to the local forest user.

2.4 Institutional bricolage

In order to analyse the interface between institutions and actors' forest practices, this research makes use of a dynamic institutional approach called institutional bricolage. This post-institutional approach explaining the interaction between actors and institutions focuses on the dynamics of institutional arrangements surrounding natural resource management. This approach, developed by Frances Cleaver, views institutions as not only constraining but also enabling human agency: institutions provide boundaries that actors, in turn, reshape (Cleaver 2002).

Institutional bricolage means constructing and borrowing disparate existing institutional elements in order to create different frameworks for decisions and practices (Cleaver 2000, 2002). Institutional bricolage is originally derived from Levi-Strauss' intellectual bricolage as elaborated on by Douglas. Douglas (1987) presents this concept in the following manner: although institutions do the thinking for the people, they are constructed through a process of gathering and applying styles of thought that are already part of existing institutions.

The theory in general draws upon the work of Giddens, Long, and the aforementioned Douglas to explain the relation between agency and structure (Giddens 1984; Long 2001) and the role of institutions in shaping human perceptions (Douglas 1987). Giddens' contribution to the structure-agency debate tries to avoid the determining role of either agents or structures. He argues for the duality of structure that implies that social structure enables but also limits human action and that human action creates these structures. In this view, the actor has an active role in the formation of institutions as he has an agency that can reinforce structure or even break away from it (Giddens 1984). A somewhat comparable view is presented by Long (2001) who looks at interfaces as kinds of encounters between actors and structures in which the actors' goals, perceptions, interests, and values are reshaped or reinforced. Douglas focuses more on the influence of culture on institutional construction. She rejects the idea of rationality as the leading principle in the founding of common ideas within groups of people. She argues that close interrelationships of kinship and reciprocity play a more important role in institutional construction. In addition, she states that institutions are often metaphorically connected. This allows for the transfer of meaning from one institution to another along the formal similarities that they possess.

Institutional bricolage is conceived as an active process in which actors piece together different institutional elements as some sort of patchwork or crafting. In this process, institutional components are re-used, reworked, or refashioned to perform new functions (Lanzara 1999; Sehring 2009). A similar approach is presented in the work of Swidler (1986) who states that culture can be seen as a tool kit used by actors to construct their livelihood strategies and perceptions. Institutional bricolage also resembles views from religious anthropology on institutional syncretism. Institutional syncretism is an outcome of institutional bricolage and involves the recombining of institutions from different socio-cultural origins (Galvan 1997; Sehring 2009). Institutional syncretism, however, implies more than the recombination of institutional elements; the process also implies an ongoing and creative transformation of the various institutional elements (Galvan 1997). This ongoing institutional transformation is also important in institutional bricolage. As time evolves, institutions change in response to the external environment and internal views (Shepsle and Bonchek 1997; Cleaver 2002).

Institutional bricolage is a relatively new outlook on the interface between institutions and actors. It assumes that institutional influence is less formal and transparent than usually assumed in the field of natural resource management. Furthermore, it also acknowledges the rather messy interaction between formal and informal institutions. This has some implications for institutional influence and design. First, it acknowledges another Douglas concept called institutional leakage, in which meaning from one context leaks to the other alongside a set of metaphorically connected rules. Second, it implies that, besides the vague and informal process in which institutions are formed, there is also the aspect of dynamic movement and continuous change (Douglas 1987; Cleaver 2002). Third, the actor has in principle the room for manoeuvre to reshape the different institutional influences (Leach, Mearns et al. 1999; Arce and Long 2000; Cleaver and Franks 2005).

In conclusion, institutional bricolage is a concept emphasising the need to consider the nature and process of institutional formation and adaptation at the local level. As Cleaver (Cleaver 2002, p. 16) states, it is a tool to research "how mechanisms for resource management and collective action are borrowed or constructed from existing institutions, styles of thinking and sanctioned social relationships". The concept also implies that institutional construction and reshaping happen in an environment that is less transparent and therefore challenging to investigate. In this research, institutional bricolage is defined as processes of reshaping the nature and meaning of rules, norms, and beliefs. These processes occur at the interface of disparate institutional systems and affect local resource practices.

2.4.1 Characterising institutions

Much of the literature on institutions employs the usual classification of formal and informal institutions, implying that the institution is either one or the other. Cleaver (2002) presents a different categorisation; she distinguishes between bureaucratic and socially embedded institutions. Bureaucratic institutions are those institutions that are characterised by formalised arrangements. These arrangements are based on specific organisational structures, contracts, and legal rights. Bureaucratic institutions are often introduced by external organisations such as governments or development agencies. Institutions that are regarded as socially embedded are based on culture, social organisation, daily practices, and are usually referred to as informal institutions. These institutions are not newly introduced and have already been in existence in the community for a certain amount of time.

The preference for distinguishing between bureaucratic and socially embedded institutions rather than between formal and informal institutions is based on the assumption that formal and informal institutions imply a false polarisation. In reality, the distinction between formal and informal institutions is neither that rigid nor that unchangeable. Formalised arrangements may become socially embedded over time, and traditional cultural values can have a bureaucratic character. The added value of distinguishing between bureaucratic and socially embedded institutions is twofold. First, it differentiates between institutional structures that are already part of the socio-cultural livelihoods of local resource users and those bureaucratic institutional structures that are introduced by external organisations. Second, it does not regard this categorisation as fixed and static. Bureaucratic institutions may become embedded in society. For example, facilitating regulations of governments, such as credit systems and land titling, are often embedded in society. Socially embedded institutions may become formalised over time. An example of this can be found in the formalisation of social indigenous organisations because of political developments and social movements. This categorisation, therefore, must be seen as a gradient rather than the two extremes of a scale. Consequently, research aimed at institutions should be based on a social analysis of the content and effects institutions have, rather than on their appearance alone (Cleaver 2002).

Bureaucratic and socially embedded institutions, however, can consist of many different structural influences. A government usually tries to influence behaviour through regulations and control. A development agency does not have the authority to sanction and often appeals to the morality of communities. Furthermore, traditional institutions operate on the basis of culture, symbols, and meaning, and are, therefore, almost invisible. Consequently, a further conceptualisation of the two institutional categories is needed that better explains the different types of institutions affecting forest practices.

Scott (2001) distinguishes three different types of institution: regulative, normative, and cultural-cognitive. Regulative institutions are political systems of rules and are based on the assumption that compliance is in the best interest of the actor. Normative institutions include both values and norms that define goals, impose constraints on social behaviour, and empower social action. Finally, the cultural-cognitive institutions are characterised by the cognitive dimensions of human existence. In this latter view, symbols play an important role since they shape the meanings people attribute to objects and activities. These meanings arise in interaction and are maintained and transformed as they are employed to make sense of happenings. Therefore, it is not only objective conditions that are included but also actors' subjective interpretation of them (Scott 2001). In this research, the regulative institutions are designated by the term rules, the normative institutions by the term norms, and the cultural-cognitive institutions by the term beliefs. Table 2-1 gives an overview of the main characteristics of each type of institution.

Table 2-1 Three types of institutions

	Rules	**Norms**	**Beliefs**
Compliance	Expedience	Social obligation	Taken-for-grantedness
Order	Regulative rules	Binding expectations	Constitutive schema
Legitimacy	Legally sanctioned	Morally governed	Culturally supported
Pillar	Regulative	Normative	Cultural-cognitive

Source: Scott (2001)

2.4.2 Actors as bricoleurs

The theory of institutional bricolage emphasises the active and crucial role of the actors; the actors in processes of institutional bricolage are defined as bricoleurs (Cleaver 2002). A bricoleur is "a man who makes an umbrella stand out of a broken table and a lamp of the umbrella stand" (Levi-Strauss 1962 in Douglas 1987). In other words, creativity is an important aspect of a bricoleur. However, these capabilities are not unlimited; they are constrained by specifications and characteristics of the subject; a man is not able to make a space shuttle out of the broken table. This observation links to the ideas of Giddens relating to the institutional limitations of agency (Giddens 1984).

The definition of the actor as bricoleur is related to the notion of Long (2001, p. 49) who defines actors as having the "capacity to process their and others' experiences and to act upon them." Cleaver builds on this definition by arguing that actors are not just rational agents who respond to institutions in a predictable and clear manner. She sees them as conscious and unconscious social agents who are deeply embedded in their social life but still able to analyse and react to situations that confront them. According to her, it is important to embrace a more embedded view of natural resource management in which socio-historical aspects and the interface of structure and agency are given a central place in trying to understand natural resource practices (Cleaver 2000, 2002).

Social action should not be seen as completely rational nor as an individual ego-centred pursuit. Actors' behaviour is embedded in networks of relations; shaped by routine and practices; and bounded by social norms, values, and institutional constraints (Long 2001). Therefore, actors' role in adhering to, or constructing, institutions should be seen in the wider socio-cultural context, such as ideas about an ideal type of life, daily practices, social networks, and aspirations that are full of symbolic meaning (Mehta, Leach et al. 1999; Cleaver 2002). In other words, actors have embedded understandings of a certain way of doing things that are linked not only with ethical norms, such as the appropriate way, but also with beliefs or traditions. These norms and beliefs influence forest practices to the same extent as rational survival strategies or actions based on expedience.

An important aspect in the definition of actors as bricoleurs is the possession of authoritative resources (Cleaver 2002). Authoritative resources are attributes that justify institutional position or influence. An actor can have access to various authoritative resources. Some such resources are linked to an actor's socio-political position, for example, an official position, formal function, kinship relations, or a social network. Authoritative resources can also be economic resources such as wealth. Finally, resources can entail personal characteristics of an actor, such as knowledge, inventiveness, eloquence, strength, or honesty (Cleaver 2002). The more authoritative resources an actor possesses, the more he is able to call on these attributes and reshape institutions. If roles or social identities overlap, an actor can draw upon an even greater variety of resources. If an actor has a large number of authoritative resources, he can become a local change agent and will consequently have the capacity to influence the whole community. In this way, his norms, beliefs, and rules rub off on the community. This makes bricolage an authoritative process in which the people with fewer authoritative resources are less likely to be bricoleurs and less likely to play an important role in processes of institutional bricolage (Cleaver 2002).

Active bricoleurs shape or reshape institutions affecting forest practices. Regulative institutions, such as legislation, are viewed as entering the life worlds of these actors and becoming part of the resources and constraints that affect people's behaviour. This does not imply that external interventions have the same meaning for all local resource users; they may come to mean different things to different people. As bricoleurs, local people reshape the institutions and often substantially transform them into something different. Interventions change through the interplay of local structures and processes (Long 2001). Bricoleurs are continuously collecting elements of various institutions and applying them to various situations. Individual action is therefore characterised by agency and structure that results in a rich diversity of institutional arrangements.

Although this process appears to be active, the actions of the bricoleurs can contain many unconscious elements. Sometimes the acceptance of, in particular, socially embedded institutions happens unconsciously since they relate to certain routinised practices. Some traditions are so deeply embedded that it is virtually impossible to question them. As Douglas (1987) stresses, some institutions are so deeply rooted in a society that they are never re-evaluated or researched by the community. These institutions have become invisible and are therefore rarely openly questioned or reshaped; they are the unconscious elements in the processes of institutional bricolage (Cleaver 2002).

2.4.3 Processes of institutional bricolage

Institutional bricolage occurs particularly when new bureaucratic institutions are introduced to local practices already structured by socially embedded institutions (Cleaver 2002). Three types of processes can be identified when these new bureaucratic institutions are introduced. These processes – aggregation, alteration, and articulation – concern both socially embedded institutions and/or bureaucratic institutions. Furthermore, these processes can be more or less conscious. In some cases, institutional bricolage is an active and conscious process of reshaping institutions, whereas in other cases it contains more unconscious elements as some institutions are deeply embedded. They are taken for granted.

The first process of institutional bricolage is the aggregation of socially embedded and bureaucratic institutional elements. In this research, aggregation is defined as the recombination of various institutional elements. Related to the aggregation of institutional elements are processes of mediation of various rules, norms, and beliefs (Cleaver 2002). Another characteristic of this process is the creation of multipurpose institutions. Examination of the bureaucratic institutions reveals that most such institutions appear to be constructed for a specific purpose. However, Cleaver (2002) suggests that single purpose institutions do not have a long life span. In fact, local actors do not favour single purpose institutions and therefore transform them into institutions with multi-purposes. As a result, these formally single purpose institutions become embedded in the social life because they are combined with social and cultural institutional elements. These institutions draw on both traditional and modern forms of interaction (Leach, Mearns et al. 1999; Cleaver 2002).

The second process of institutional bricolage is called the alteration of both socially embedded and bureaucratic institutions in this research. This process can be defined as the adaptation or reshaping of both bureaucratic and socially embedded institutions. This process happens in order to better adapt the institutions to the local specific context or because of disagreement with certain institutions. There is a difference between the process of alteration concerning socially embedded institutions and that of bureaucratic institutions. The alteration of socially embedded institutions contains more unconscious motivations. This can be explained by Douglas' (1987) assertion that socially embedded institutions can become so deeply embedded that they are almost invisible. Processes of articulation, however, can also provoke alteration of socially embedded institutions. As already stated, the articulation of local institutions can result in a leakage of meaning. This leakage of meaning, when persistent and recurring, can become the start of a process of alteration of socially embedded institutions. In recurring situations in which certain claims on traditions lose their meaning, people start to reinterpret these meanings, and this leads to a gradual change in the socially embedded institutional framework.

Alteration of bureaucratic institutions is more noticeable as it often involves a situation in which a new regulation is introduced in a local community. It can imply the bending of rules, the negation of regulations, or their renegotiation to make them correspond better with the existing socially embedded institutions (Cleaver 2002). The subtle difference between rejecting because of articulation and ignoring or negation of institutions is that the latter does not imply a complete dismissal of bureaucratic institutions. Ignoring or neutralising bureaucratic institutions implies an acknowledgement of their existence; it is just that they are considered by actors as not applicable to the local situation. Therefore, these processes can be characterised by the less active reshaping or re-interpretation of socially embedded institutions.

The third process of institutional bricolage is called the articulation of socially embedded institutions. Articulation of socially embedded institutions can be defined as emphasising local rules, norms, and beliefs because of disagreement with bureaucratic institutions. This process relates to the actors' deeply embedded understandings of the 'right way of doing things'. Local actors continuously discursively draw upon these understandings: they make claims on traditional beliefs and social norms in order to neutralise the impact and effects of bureaucratic institutions (Cleaver 2002). A result of processes of articulation is that bureaucratic institutions are often actively rejected.

These claims on tradition and identity relate to routinised practices and ideas, implying a certain way in which actors 'have always done things' that does not relate to the new bureaucratic institutional framework (Cleaver 2002). Consequently, by articulating them, the embedded institutions function as a sort of barrier to the introduced bureaucratic institutions. These claims on tradition can appear as an active process, especially when actors feel that their identity is threatened in some way or another by new and often restrictive regulations.

Another effect relating to the articulation of socially embedded institutions, and especially claims on tradition, is that these institutions run the risk of losing their original meaning. This is what Douglas (1987) calls leakage of institutional meaning (see section 2.4), which implies that the traditional beliefs are re-interpreted or even re-invented by different actors in different situations and therefore do not necessarily have the same meaning for each person (Cleaver 2002).

These processes demonstrate the way in which institutional bricolage can take place. It does not imply that each of these processes is a requirement for institutional bricolage; they are not meant to occur at the same time but rather need to be seen as separate processes that can happen either simultaneously or not. Table 2-2 gives a schematic overview of the described processes and their characteristics.

2.4.4 Logics of action

Processes of institutional bricolage are linked with various motivations, or logics of action. These motivations can vary from rational, conscious decisions to less active and more embedded explanations. Often, smallholders' decisions to reshape institutions are likely to link with rather straightforward survival strategies. Especially in developing countries like Bolivia and Ecuador, smallholders' main motivation to act a certain way is often connected to necessary basic needs. Therefore, a dominant logic of action relating to institutional bricolage would be conscious rational survival strategies. However, these seemingly rational motivations are often not the only aspects that play a role in processes of institutional bricolage. As Douglas (1987) states, the first reason why people do things as they do may be linked with straightforward answers such as survival or convenience; however, the final motivation may just as well "refer to the way the planets are fixed in the sky" (Douglas 1987, p 47; 2001b). In other words, forest practices do not solely concern survival or livelihood strategies but can also be affected by those institutions that rest their claims on legitimacy, expediency, identity, or on their fit with something as grand as the universe.

Table 2-2 Processes of institutional bricolage

Processes	Description
Articulation	Accentuation of local institutions: ▪ Claims on tradition and culture ▪ Rejection of bureaucratic institutions ▪ Leakage of meaning
Alteration	Adaptation or reshaping of both types of institution 1. Alteration of socially embedded institutions: ▪ Less conscious, more gradual ▪ Reshaping and re-interpretation 2. Alteration of bureaucratic institutions ▪ Conscious ▪ Renegotiation, rule bending ▪ Ignoring or negation of bureaucratic institutions
Aggregation	Recombination of various institutional elements: ▪ Mediation between different rules, norms, and beliefs ▪ Creation of multipurpose institutions

Scott (2001) relates different kinds of legitimacy to each type of institution: legitimacy related to rules, to norms, and to beliefs. The authoritative legitimacy of regulative institutions derives from conformity to rules. Something is legitimate if it operates in accordance with the legal requirements. The moral legitimacy of social norms stresses a deeper morality that is based on both external and internal ideas. Finally, cultural legitimacy relating to cultural beliefs is associated with the adoption of a common reference framework. This shared framework is also regarded as an orthodox structure or an identity and is considered the deepest level of legitimacy as it is based on taken-for-granted, preconscious understandings (Scott 2001).

Conformity to rules and the acknowledgement of authority are important in the authoritative logic of action. This acknowledgement of authority can relate to any person irrespective of the presence of formal power. People act to prevent negative consequences from occurring when rules are not followed. However, people also act because of force. This implies that powerful bricoleurs have a certain capability to enforce changes. They can do things in order to obtain or secure their authority or to oblige people to conform to the rules. In this context it is important to mention the bricoleurs with authoritative resources that can act as local change agents. Their motivation for acting as such can be related to establishing or improving their authority. Especially in the process of embedding bureaucratic institutions, bricoleurs draw upon local institutions to ensure that things are done in the 'right way'. This right way of doing things involves not only culture or norms but, equally, authority, as it confirms existing patterns of behaviour, dominant views, and relations of authority (Cleaver and Franks 2005). Institutional bricolage, therefore, is not a process that finds a solution to power inequality but rather recognises these differences in authority and power (Cleaver 2002). Therefore, the logic of action relating to authority can also be regarded as a logic of instrumentality in which it is expected that regulating mechanisms and authoritative agents are important (Scott 2001).

As already mentioned, the actions of bricoleurs also relate to the right way of doing things, with all the normative aspects that this implies. These normative aspects give these actions legitimacy. In the process of institutional bricolage, a newly introduced bureaucratic institution is embedded by recombining it with existing institutional elements or bended and reshaped in order to link it to these cultural and normative aspects. By doing so, the institutions are internally legitimised. This linking of bricolage practices with values and norms resembles the more general definition scientists have of legitimacy and links with Scott's (2001) definition of moral legitimacy. Legitimacy connects the external institutional elements with internal values and norms. If a different institution is to be accepted, it needs to have something familiar or moral (Lanzara 1999). This striving for familiarity implies that processes of bricolage can result in forest practices becoming isomorphic in institutional terms. As embedded values and norms are not subject to rapid changes, the practices or organisations become similar in terms of their institutional environment (Meyer and Rowan 1977). The logic of action relating to legitimacy is the logic of appropriateness (Scott 2001).

A final explanatory factor for participating in institutional bricolage relates to cultural identity. This is, as explained earlier, the deepest and most invisible understanding of legitimacy and involves shared cultural meaning and traditions. This can work in two ways. First, identity can be used in order to cognitively anchor new bureaucratic institutions (Cleaver 2002). Second, identity can be a stimulus for claims on tradition and an articulation of socially embedded beliefs, which in turn leads to a rejection of bureaucratic institutions. Consequently, people participate in processes of institutional bricolage in order to protect or maintain their identity. This could also result in the stimulation of social cohesion or solidarity by local change agents. Therefore, the logic of action relating to identity can be described as a logic of orthodoxy. (Scott 2001). Table 2-3 summarises the main characteristics of the logics of action.

Table 2-3 Logics of action

	Rules	**Social norms**	**Cultural beliefs**
Assumptions human action	Preventing negative consequences Act because of force	Appropriateness Act out of desirability	Routines Act out of threat to identity
Logic of action	Logic of instrumentality	Logic of appropriateness	Logic of orthodoxy
Basis of legitimacy	Sanctions	Obligations	Traditions
Keyword	Authority	Legitimacy	Identity

Derived from Scott (2001)

2.5 Conceptual framework and research questions

Cleaver's (2002) theory of institutional bricolage and its processes of articulation, alteration, and aggregation are considered the theoretical core of this research. Furthermore, Scott's (2001) institutional categorisation of rules, norms, and beliefs is a useful addition to the distinction of socially embedded and bureaucratic institutions: it provides a better grip on the concept of institutions. Finally, the three logics of action identified as the actor's reason to participate in processes of institutional bricolage conceptualise the role of actors. These three aspects combined result in the conceptual framework presented in Figure 2-1.

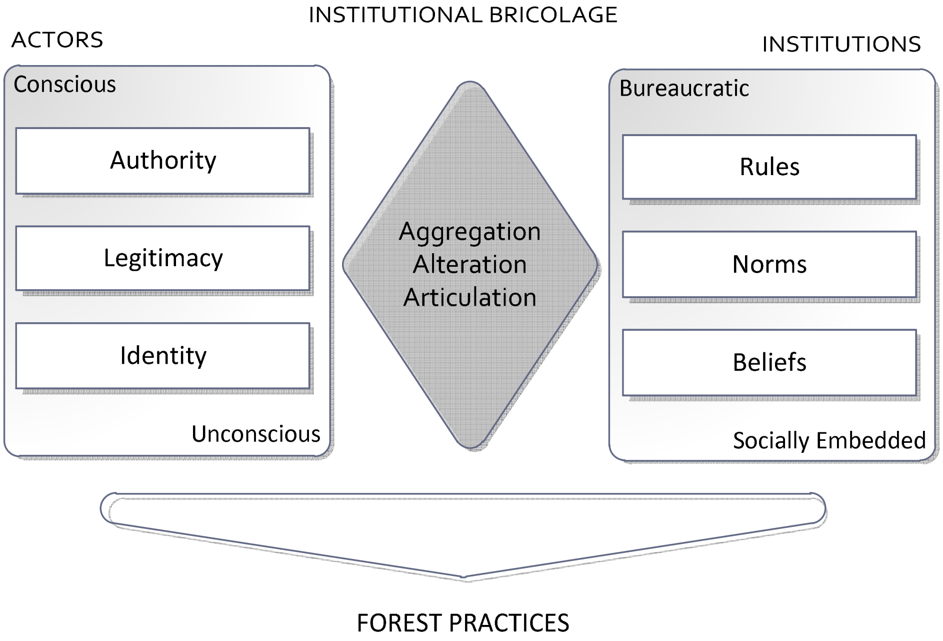

INSTITUTIONAL BRICOLAGE
ACTORS
INSTITUTIONS
Conscious
Authority
Legitimacy
Identity
Unconscious
Aggregation
Alteration
Articulation
Bureaucratic
Rules
Norms
Beliefs
Socially Embedded
FOREST PRACTICES

Figure 2-1 Conceptual framework

2.5.1 Research questions

On the basis of the conceptual framework and the problem statement, this research poses the following research questions:

1. How do institutions, either externally introduced or locally embedded, affect the forest practices of small farmers in the Amazon region of Bolivia and Ecuador?
    a. What is the socio-cultural and political context of forest practices of smallholders in the Amazon region of Bolivia and Ecuador?
    b. Which type of institution, socially embedded or bureaucratic, affects local forest practices the most?
    c. How do the various categories of institutions – rules, norms, and beliefs – affect forest practices?
    d. To what extent do these processes differ from or resemble each other in the two Amazon regions?

2. How do local smallholders in the Amazon region reshape bureaucratic and socially embedded institutions affecting their forest practices?
    a. Which local processes of institutional bricolage take place?

   b. To what extent are smallholders involved in processes of institutional bricolage?
   c. To what extent do these processes differ from or resemble each other in the two Amazon regions?

3. What conclusion can be drawn from the local processes of institutional bricolage in the Amazon region about the role of institutions and actors in developing sustainable forest practices?

3 METHODOLOGY

3.1 Introduction

This chapter is dedicated to the methodology used in this research. In theory, the choice of methodology can be described as linking ontology, epistemology, and methodology. How do we see reality, how do we learn from reality, and how do we study this? These three questions are interwoven and determine the perspective on the execution of any research. They also create an almost philosophical way of approaching the methodology as they hark back to the very basis of what we believe is reality or what we believe reality ought to be (Bernard 1940; Miles and Huberman 1994; Becker 2001; Mason 2002). In practice, the choice of methodology is often based on additional considerations and is not just a matter of philosophical considerations. Researchers already possess specific knowledge of, and preferences for, certain methods. Hence, personal preferences, experience, and even intuition on how to conduct the data collection and analysis also play a role in selecting a research approach (Miles and Huberman 1994; Mason 2002). My choice of methodology is a consequence of both philosophical viewpoints and personal experience and preferences. This chapter describes the choice of a qualitative case study research with ethnographic methods.

3.2 Case study research

For this research I have chosen a case study approach. Yin (1994, p. 13) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident." This implies that a case study rarely focuses on one result, but rather that it relies on multiple data sources selected on the basis of a predefined theoretical framework. My reasons for choosing this type of methodology are various.

First, this research is an exploratory study that looks at processes of institutional influence and their effect on local people's decisions. In this research, I aim to demonstrate the nature and variety of institutional dynamics rather than predict outcomes of institutional change. As a result, this research calls for a holistic approach that acknowledges the reality of actors, their perceptions, and the different processes of institutional bricolage (see section 2.4). A qualitative case study fits this objective best as "the particular value of qualitative research lies in its ability to explore issues in depth and from the perspectives of different participants" (Ritchie and Lewis 2003, p. 267). To understand the actors and their practices, I therefore need flexible methods of data collection that are sensitive to the social context and in which the analysis acknowledges complexity, details, and context (Mason 2002). Second, case study research is very applicable when investigating the so-called 'how' and 'why' questions (Yin, 1994). This research deals with many how and why questions. How does the influence of institutions emerge at the local level? How does bricolage happen and why does it happen? How can these processes be explained? These kinds of questions focus on the role of institutions and actors at the local level and try to uncover the aspects that lie at the heart of institutional bricolage. Doing so enables me to explore and further develop the theoretical insights of institutional bricolage in the context of the Bolivian and Ecuadorian Amazon.

Third, the set up of the ForLive project was already structured around exemplary cases of forest management. The project itself selected examples of promising forest practices of smallholders – both individuals and groups – in the Amazon. Therefore, my choice of case study research is consistent with the design of the ForLive project (see section 1.3).

The choice of case study research also implies that certain methodological building blocks need to be defined as it is not possible to identify boundaries of the research object beforehand. One of these building blocks in ethnography is the 'following' of the research object (Marcus 1995). By focusing on the processes of institutional bricolage that happen in relation to certain forest practices, I try to capture the factors impacting on the nature of these processes. In addition to the focus on processes, another focus of this research is on interfaces. Interfaces are important 'spaces' where different types of institutions 'meet', resulting in a change or discontinuity (Long 1992). These interfaces are important in this research as it is the 'place' where institutional bricolage is mostly visible. Interfaces become more visible and tangible in so-called critical events: situations in which local smallholders encounter externally introduced institutions.

3.2.1 Selection of cases

Case study research can involve a single case study or a multiple case study (Yin 1994). For this research, I selected six cases. In this process of selection, three considerations regarding different methodological and pragmatic issues played a role. The first consideration in case selection was not decided upon by me but rather by the ForLive project. As explained in section 1.3, the ForLive project selected interesting examples of forest use and management in the area of research, namely the Amazon region of Bolivia, Brazil, Ecuador, and Peru. These were examples observed in local communities that were practiced by actors within that community. In other words, the selected cases were communities. As a result, the list of possible cases to choose from was already determined: the project selected 17 cases divided over the four countries (ForLive 2005). However, due to the qualitative nature of this research and its focus on in-depth research methods, it was impossible for me to include all 17 ForLive cases.

The second consideration concerned the issue of representation, the richness of the cases, and the issue of heterogeneity. An important issue in case selection is the question of representativeness. The case selection made by the ForLive project resulted in a great variety of cases. It was impossible to determine beforehand to what extent these cases were representative in terms of representing the average situation in the region or including a fair distribution of all possible variations in forest use. However, strong representation is not always a necessary criterion in case study research (Stake 1995). The nature of the research can be a more important selection criterion than representation. The nature of this research is exploratory. The study concerns an assessment of a variety of processes of institutional bricolage and testing whether and which bricolage processes are occurring in smallholders' forest practices. Case selection was therefore based on a criterion identified by Stake (1995), that is, to maximise what we can learn. Consequently, priority was given to heterogeneous cases that were rich in information (Swanborn 1996).

The third consideration in case selection was based on pragmatic reasons. Pragmatism regularly plays a role in case selection (Stake 1995; Swanborn 1996). Including all four countries would have led to certain practical problems. For example, linguistic problems resulted in the elimination of all Brazilian cases. In Bolivia and Peru, some cases were located too far away to be able to include them in the research and give them the same level of attention as the other cases. Finally, some cases implied getting permissions for access which proved to be too time consuming.

In order to determine whether or not a case had the potential to be rich, heterogeneous, and without practical problems, a pilot study was executed. This pilot phase consisted of a field trip to the different ForLive cases for general data gathering (O'Reilly 2005). The collected data revealed a great diversity in promising forest management practices, institutional settings, and social aspects. It also provided me a sounding board for interview questions. It enabled me to get to know certain people involved in the cases. Furthermore, the pilot field study also contributed to a preliminary identification of interesting institutional aspects present in the cases that might serve the exploratory nature of the research. From this field visit it was possible to select three cases in Bolivia and three in Ecuador.

3.2.2 The six research cases

This first selection of cases by ForLive already ignites discussion on what a case actually is. In a multiple case study, one of the objectives is to compare the cases. In order to compare, the researcher must be clear on what exactly 'the case' is and maintain the same level of analysis and observation in each of the cases. This helps to distinguish between the focus of the research and the indeterminate boundaries, also known as the edge of the case (Miles and Huberman 1994). The ForLive case selection was not so precise in defining the cases, as some of the promising practices were carried out by one or more persons and others were managed by a whole community. In my research, the definition of the case was more precise as it looked at the community as a whole. In this research, the cases are communities. The following six communities were selected for research. In Bolivia, the communities of 12 de Octubre, Buen Futuro and Palmira were chosen. In Ecuador, the communities of Chinimbimi, El Eden, and La Quinta were chosen. See Table 3-1 for an overview of the case characteristics.

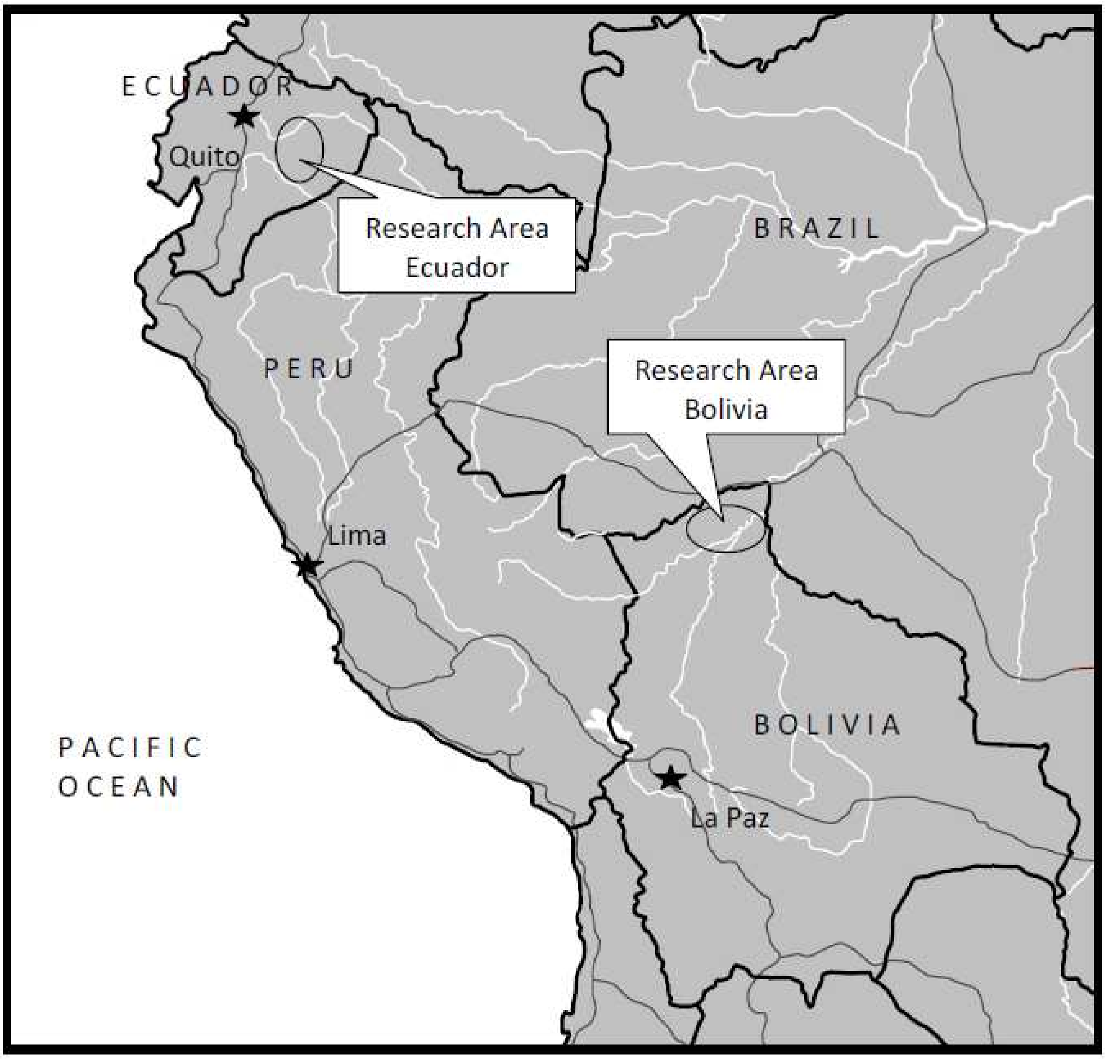
Table 3-1 Selected cases for research

Case	Main livelihood	Reason selection
BOLIVIA		
12 de Octubre (peasant community)	Community forest management Agroforestry	Community association for forest management
Buen Futuro (peasant community)	Brazil nut collection Agroforestry	Innovative role migrant farmer in community
Palmira (peasant community)	Agroforestry	Individual forest use and management

ECUADOR		
Chinimbimi (migrant community)	Palm fibre extraction Cattle farming	Community association for palm fibre extraction
El Eden (indigenous community)	Timber extraction Timber plantation	Plantation projects
La Quinta (migrant community)	Cattle farming Timber extraction	Individual forest management plans

In Bolivia, I selected the 12 de Octubre case because it is characterised by a high level of internal organisation. Internal community organisation is seen by government and NGOs as a vital condition not only for poverty alleviation but also for the sustainable management of natural resources (Pacheco 2002; Benneker 2008). Buen Futuro was selected because of one migrant settler from the Bolivian highlands who has been able to adapt himself to the culture and the characteristics of the Bolivian Amazon. This settler has contributed significantly to the social and economic development of the village by practicing a variety of livelihood strategies that can serve as an example for the community. I selected Palmira as it was characterised by a lack of internal organisation. Because land parcels in this community are small, community members have been forced to develop individual land and forest use systems. Because of the small land parcels, the possibility of cultivating Brazil nut trees and trees for timber is limited, and this has led to a variety of individual livelihoods strategies (ForLive 2005).

In Ecuador, I selected Chinimbimi as an interesting example of a local initiative by Chinimbimi community members to collectively organise the commercialisation of palm fibre, a local fibre they collect from a specific palm tree, *Aphandra Natalia*, occurring only in this area. The community of El Eden was selected because of an NGO initiative to establish a plantation of balsa timber, *Ochroma pyramidale*, as an alternative to the timber extracting activities of the community. Balsa is a fast-growing tree species whose timber is used for handicrafts, models, and other uses. I finally selected La Quinta as it is an example of the (dis-)functioning of the simplified forest management plans initiated by the government among migrant farmers. These simplified forest management plans are especially designed for smallholders as they are low in elaboration costs and quick and relatively easy in use (ForLive 2005). Map 3-1 indicates the research areas in which the six chosen cases are located


ECUADOR
Quito
Research Area Ecuador
BRAZIL
PERU
Research Area Bolivia
Lima
BOLIVIA
PACIFIC OCEAN
La Paz

Map 3-1 Selected Amazon region

3.2.3 Unit of analysis and selection of respondents

The unit of analysis for my research is, similar to the case, the community and the unit of observation are key actors in the context of their community. In this institutional research, the objective is to show the processes of institutional bricolage among smallholders. This implies that one needs an overview of the institutional framework of the community in order to assess how a smallholder responds to these institutional influences. Consequently, I collected my data from not only actors but also from the communities.

In each of the six communities, four key respondents were selected. This selection always took as its point of departure the main actor of the case, the president of the community or of a local association. This selection also ensured that actors carrying out promising forest practices were included as well. Further selection was based on snowball sampling methods and the availability of community members. The key respondents were furthermore expected to have some authoritative resources (see section 2.4.2) that enabled them to act as bricoleurs and participate in processes of institutional bricolage. The respondents were also so-called entry-points for further observations at the community level. Via those key actors, the rest of the community was reached, as these key actors were able to organise community meetings. At the community level, open participative discussions were held. Finally, the NGOs active in the selected communities were contacted for interview. These three different groups of respondents – key actors, community groups, and NGO officials – enabled me to get a clear picture of each case.

3.3 Data collection

A key task of the researcher is to decide on the appropriate methods for data collection and the possible implications of these methods. Furthermore, it is equally important to link the selected research methods to the research questions (Mason 2002). In other words, the research strategy needs to be coherent as case studies produce massive amounts of all kinds of data that need to be structured (Miles and Huberman 1994; Yin 1994). Deciding beforehand on methods can facilitate the structuration of data. However, methods for qualitative data collection, analysis, and validation are perceived to be not well formulated (Miles and Huberman 1994). Sloppy work, absence of a system of data management, and no up-to-date field notes have contributed to these critiques. Case study research is not something to deal with lightly, and good planning is of vital importance (Yin 1994). Furthermore, case study research implies that the data collection is often based on a collection of methods that involve direct contact with actors, preferably in the setting of their daily lives, and requires actively watching what happens, listening, and continuously posing questions (Yin 1994; O'Reilly 2005).

3.3.1 Three phases of data collection

In my research, the data collection was based around three rounds of field periods. The first field period was the pilot field period, as briefly mentioned in section 3.2.1. This field period was followed by two periods of detailed fieldwork in which each case was visited multiple times over a period of two years. During those rounds of field periods, I collected data by means of interviews, observations, exercises, and database and literature research. Table 3-2 gives an overview of the collected data. I explain these methods in the following sections.

Table 3-2 Collected data for research

Data collection	
Interviews	**Phase**
▪ 72 Unstructured repeated interviews with 24 key respondents	1,2,3
▪ 12 Group interviews with members of the 6 communities	2,3
▪ 24 Questionnaire with 24 key respondents	3
▪ Informal chats with members of the community	1,2,3
▪ 4 Interviews with key representatives of NGOs and other organizations active in the communities	2,3
▪ 18 Interviews with ForLive assistants	2,3
Observations	
▪ Participant observations and plain observations on forest practices of key actors	1,2,3
▪ Observations of community events in the 6 communities	2,3
▪ Participation in extension events	2,3
Exercises	
▪ 6 Venn diagram exercise on distribution of local institutions and organisations	2
▪ Extension exercises of NGOs	2,3
ForLive database analysis	
▪ ForLive database on livelihoods, institutions, and environment	1,2
▪ ForLive study on the regulative framework of Bolivia and Ecuador	3
Literature and documents research	
▪ Research on Bolivia and Ecuador and their respective forest laws	1,2,3
▪ Research on documents related to selected cases	1,2,3

3.3.2 Interviews

Data collection for this research is mainly based on ethnographic interviews, semi- or unstructured. The difference between unstructured and semi-structured interviews is that the unstructured ones take place everywhere and go on all the time. Semi-structured interviews, in-depth interviews, are scheduled, open ended, and follow a list of topics drawn up beforehand by the interviewer (Bernard 1940; Gorden 1998). The aim of a qualitative interview is to obtain a personal description of each interviewee's life world and his relation to it, and to achieve a better understanding of local meanings.

Over a period of two years, I followed, interviewed, and observed 24 key respondents in order to obtain information on their daily forest practices, their perceptions on institutions, and their processes of institutional bricolage. This is what I consider the primary data of the research. The interviews with these key respondents were mainly unstructured, open-ended interviews of one to two hours. In total, I conducted 72 interviews with these key respondents. Furthermore, I also executed 24 questionnaires with each key respondent on the role of institutions and forest in their daily lives. These questionnaires mostly entailed questions using a five-point Likert scale. The objective of these questionnaires was twofold. First, they provided some quantitative secondary data for my unstructured interviews. As they were executed at a later stage of the research, they proved to be a great validation tool and a useful instrument to fill some possible gaps in the research. Second, the questionnaires were not just administered in the six research communities but also in the other remaining 11 of the 17 ForLive cases. Therefore, it also had an important role in ForLive data collection and its database as it provided comparative data on each of the ForLive cases.

At the community level, I organised six group interviews that focused on the role of institutions and organisations in their community. These interviews were often combined with rapid rural appraisal tools such as Venn diagram exercises. In addition to these, I also had interviews with smaller groups of people as it proved to be too difficult to include the whole community. On top of the six community interviews, I executed another six group interviews.

In addition to the above, I was also able to engage in informal chats. For example, there were numerous occasions on which I talked to other members of the communities. These encounters can be best defined as impromptu and unstructured. These activities were not counted, but I considered them as important in building rapport and validating information already collected. Validation and clarification of interviews were also conducted with the NGOs present in the communities. A total of four NGOs were interviewed on their work in, and their perception of, the community. Furthermore, each of the three rounds of fieldwork ended with a short interview with the ForLive assistants responsible for the case. This means that a total of 18 short interviews were conducted with these assistants.

3.3.3 Observations

Other methods used in this research include various types of observations and group discussions. Different types of observation exist: only observation, partly participating and observing, and completely participating and observing (Yin 1994). A technique used in observation is shadowing; simply following a person for a determined amount of time. In my research, I used a mix of different observation techniques. I asked all the key respondents to show me their livelihood and forest practices. This implied that I went with them to their forests and observed their practices. I also engaged in their forest practices if possible. This meant, for example, cutting and cleaning palm fibre, helping to log a tree, accompanying key respondents to the market, and more. I also accompanied local NGOs to observe their extension practices in the communities. Furthermore, I was present at a couple of social events in the communities. These observations were a rich source of information and made my comprehension of the lives of smallholders easier.

3.3.4 Exercises

Six Venn diagram exercises were conducted in the researched communities. The main objective of this exercise was to know more about the distribution of certain institutions in the community. The Venn diagram exercise proved to be an excellent starting point and a good opportunity for a community interview. Furthermore, this Venn diagram was executed not only in the six communities but also in the other ForLive cases. In addition to these exercises that focused solely on the institutional part of the ForLive project and my research, I also co-organised other exercises with the partner NGOs on, for example, cultivating and managing techniques relating to the forest practices.

3.3.5 Analysis of ForLive databases and literature

In addition to the interviews, observations, and exercises, the data collected through the ForLive project were useful for my research. During the project, various databases had been built up by research assistants on livelihoods, institutions, and environment, ranging from regional conditions to detailed local studies. The most practical database was the one concerning the institutional framework. This database consisted of three data sets of which two have already been mentioned above: questionnaires with the five-point Likert scale and Venn diagrams. The third set of data consisted of comparative research on the regulative frameworks in all the Amazon countries in the ForLive project.

These three data sources were of a quantitative nature. When using both qualitative and quantitative research methods, one cannot ignore the discussions on combining the two different types of data. Linking qualitative and quantitative data is an issue discussed by many researchers, and opinions on the possibility of linking these two types of data differ. Since the ForLive data were mostly secondary and supportive of the qualitative data, there were no problems in using these sources of data in an alternate design in which the quantitative data somewhat structured and focused the qualitative explorations (Miles and Huberman 1994).

3.4 Data coding and analysis

Data analysis in qualitative research can be defined as the process of bringing order to the data and looking for relationships between the various types of data (Brewer 2000). What meaning can be attached to the data? Ritchie and Lewis (2003, p. 216) state that "qualitative explanations attempt to say why patterns and outcomes in the data have occurred. These explanations may use causal logic in a loose, non-universal, non-deterministic sense, but the logic is not based on linear variable analysis. They rarely cite a single cause or reason, but set out to clarify the nature and interrelationship of different contributory factors or influences."

Mason (2002) distinguishes three ways of analysing qualitative data: the literal analysis, in which the researcher looks at the literal form of the data; the interpretative analysis, which includes the interpretation of the researcher; and the reflexive analysis, in which the researcher looks at her own position in the research and other processes that have influenced the research. Qualitative research usually involves all three of them. Since qualitative data are rich and diverse, tools are necessary to analyse this chaos. One important way to do this is to code the data in order to manage them and maybe even reduce their complexity. However, it remains important not to focus solely on the dominant message but also to keep an eye out for diversity (Miles and Huberman 1994).

In qualitative research, coding is a way of asking the data to answer questions (Emerson, Fretz et al. 1995; Crang and Cook 2007). This can be done in different ways, although the main objective is to link the data with the research questions. In this research, coding consisted of various coding processes. First, a round of general, open coding was applied to the transcribed interviews, including in vivo coding; literal copies of the original words used. More structured coding followed up this first coding, in which the initial codes were restudied and related to more general codes. These general codes were linked with concepts underlying the research questions. This process was sometimes done more than twice in order to sift and sort the data (Emerson, Fretz et al. 1995; Crang and Cook 2007).

3.5 Validation and generalization

There are certain methodological issues to be taken into account when doing case study research. As already explained, case study research runs the risk of becoming sloppy. Furthermore, case studies are also often criticised, especially in regard to the reliability of data. With the issue of reliability of data one can think of terms like ‘conformability’ and the ‘trustworthiness of data’. How can I ensure that the data are truthful or reliable? In other words, how can I validate my data and how can generalisations be made from my data?

There are several methods I used in my research to deal with the issue of validation. The most important thing is to check the information by bringing it back to the participants and making the problems and assumptions explicit (Miles and Huberman 1994). Another important way to improve validation of the data is to check for personal bias (Nencel 2005). The issue of personal bias is one of the main critiques not only of case study research but of ethnographic methods in general. Researchers should always be careful about their own bias (Arts and Verschuren 1999). At all times, researchers must attempt to be aware of their role in the co-construction of knowledge (Finlay 2002; Nencel 2005).

A final way used for ensuring validation is to check for representativeness and to get feedback from informants through triangulation (Miles and Huberman 1994; Arts and Verschuren 1999; Nencel 2005; Flyvbjerg 2006; Crang and Cook 2007). Miles and Huberman (1994) define triangulation as the “near-talismanic method for confirming findings.” Although this definition is somewhat tongue in cheek, triangulation simply means checking the data by finding support for them through other sources. The main advantage of triangulation is the transparency that is achieved by checking one set of data against another. However, this checking is not just organised at the end of the fieldwork. It needs to be a continuous process as well, in which the researcher constantly checks the findings with other data. Triangulation happens almost automatically during data collection (Miles and Huberman 1994). In this research, triangulation consisted of checking findings from the local communities with the findings from the interviews with the partner NGOs, ForLive assistants, and findings found in the database and literature research.

Another important issue in the discussion on qualitative data analysis – and of particular interest in comparative case study research – is that of generalisation of data. Many critics believe that it is impossible to generalise from individual cases and that therefore case study research cannot contribute to scientific development (Flyvbjerg 2006). Generalisation means that one can make general statements that are context free; this seems to be contradictory to the assumption that qualitative research is not context free.

However, it is possible to generalise, as an important variation exists in the type of generalisation. Generalisations can have a predictive character. In this sense, it is impossible to generalise from qualitative data. However, generalisations can also be explanatory. This view suits the objective of case studies, and qualitative research in general, as qualitative research serves to demonstrate variety, map a range of different views, experiences, or outcomes, as well as the factors that influenced these outcomes (Miles and Huberman 1994). In this research, I aim to demonstrate the range of identified different responses of actors to institutional influences and the range of different processes of institutional bricolage to show that, for example, the implementation of forest law can lead to different outcomes.

Another possible generalisation can be made regarding theory.. It has already been determined in this chapter that it was not the intention of this research to select cases on the basis of representativeness. It was not the objective to select typical cases that would lead to generalisations from one case to another. What is possible is that, in addition to the demonstration of variety, findings of case study research can be used to make theoretical generalisations (Yin 1994). Findings relating to institutional influence on the local level of smallholders can lead to theoretical generalisations on the role and importance of institutions and forests.

The generalisation in this research has been mostly influenced by the explorative nature of the research. Exploring theories in the soft sense is a valid way of generalising from case studies (Flyvbjerg 2006). In my research, I set out to discover different processes of institutional bricolage and to see whether or not certain patterns could be distinguished from these processes of institutional bricolage. I did this by first generalising the local processes of institutional bricolage to the level of actors and communities. Second, I related these community findings to findings at the national level to see whether I could discover particular patterns in this relation.

3.6 Answering the questions

The previous section explained the choice and the general characteristics of the data collection and analysis. This section links it to the three research questions stated in section 2.5.1 and explains how answers to the research questions were obtained in the three rounds of executed fieldwork.

1. How do institutions, either externally introduced or locally embedded, affect the forest practices of small farmers in the Amazon region of Bolivia and Ecuador?

The researching of this question started with some data collection in the pilot field period and continued in the second field period. The pilot field period was mostly used to get a general idea of the communities and the institutions. In this period, most of the information was derived from the ForLive database on the cases and some explorative interviews with community members, the partner NGOs, and ForLive assistants. This round of fieldwork gave me a preliminary idea of the political and social context of the communities.

Attention to this research question was specifically given in the second field period through interviews and chats with other informants besides the local farmers, such as people from NGOs, GOs, local experts, and the project research assistants. After the initial data collection on the regulative framework and the socio-cultural groups of the selected cases, the second fieldwork period focused on the extent to which institutions affected forest practices. It started with a round of interviews on the actors' opinions on known institutions and organisations and the extent of their influence. This was a round of open-ended semi-structured interview questions designed to obtain an understanding of their lives, the main forest practices, and the importance of the forest in their livelihood. This round of questions also looked at the influence of external institutions and the farmers' relationships with other people. The second round of interviews took place in the same field period, and this time the focus was more on the internal influences of the community organisation and other people within the community. It also looked at the rules, norms, and beliefs influencing the local farmers. In this field period, several visits were made to the agricultural plots or other production systems.

At the same time, I carried out Venn diagram exercises with the communities. When it was possible to obtain these data before the first round of interviews, these results were used to probe further about the organisations and institutions that the farmers identified in the interviews. When this was not possible, the Venn data were used in a later stage and compared with the fieldwork findings. Differences or interesting results would lead to new questions for informants and actors. This stage thus focused on getting a complete picture of the present institutions, their function in relation to the forest, and how the local farmers perceived them. Tentative conclusions could be drawn on the importance of both bureaucratic and socially embedded institutions.

In the third fieldwork period, I executed a questionnaire on institutional influences on forest practices. At the same time, a study on the regulative framework for smallholder forestry in the region was finished. This study was executed for the ForLive project. Both the questionnaire and the regulative study enabled me to validate the data through cross triangulation and further probe the institutional influences in the community.

2. How do local smallholders in the Amazon region reshape bureaucratic and socially embedded institutions affecting their forest practices?

This question builds upon the data acquired from the first research question. The data for this question were mostly collected in the second and third field period. This field period took the data from the first round as its point of departure and aimed at deepening the understanding and thickening the data. This time, the focus was more on the agency of the local actor and his relation with the various types of institutions and the actual processes of institutional bricolage. For this purpose, the interviews became unstructured, more informal, and ethnographic in nature. This was necessary because internal institutions are sometimes so deeply embedded that the actors are not aware of them; therefore, it was impossible to rely on structured interviews. I depended on the informality and the existing relationship that I had built up with the actors in the previous field visits in order for them to open up. In this field period, I again made several visits to the farmers and conducted several rounds of interviews. Furthermore, I incorporated participant observation and social visits in my methodology in order to further stimulate the building of rapport. Finally, the mentioned questionnaire was also important for validation and data checking on this research question, and it was used to probe certain themes of interest.

3. What conclusion can be drawn from the local processes of institutional bricolage in the Amazon region about the role of institutions and actors in developing sustainable forest practices?

This research question serves mainly a reflective purpose. Over the various periods of fieldwork, small group discussions were organised, and informal talks were held, mainly with community leaders, in order to comprehend their notion of sustainability. Then, these findings were situated in the perspective of the current discussions on sustainability. Finally, these findings were reflected upon. These reflections are presented in Chapter 9.

4 NORTHERN BOLIVIAN AMAZON

4.1 Introduction

In this chapter, I introduce the region in which the Bolivian research was carried out: the Northern Bolivian Amazon. I present the regions general aspects and focus on the social characteristics of its inhabitants and institutional features relating to the decentralised forest regime in Bolivia. By doing so, I answer the first research question posed for the Bolivian research.

The general description of the Northern Bolivian Amazon shows its strong historical links to the extraction of non-timber forest products. This has impacted the landscape as well as the economy. The social context of the region consists of both indigenous and peasant communities. As the research only includes peasant communities, the description of the social characteristics focuses on them. Finally, the descriptions of the institutional features focus on the bureaucratic institutional elements and include the forest governance of Bolivia, its new forest law, and role of civil society therein.

4.2 Description of the region

Bolivia is a democratic republic that obtained its independence from Spain in 1825. The majority of the population consist of various indigenous tribes, of which the Quechua and the Aymara are two of the largest. Although the country is rich in resources such as gas and minerals, Bolivia is one of the poorest countries of Latin America: 70% of the population live below the poverty line. The current president of Bolivia, Juan Evo Morales Ayma, was elected during a period of political unrest in which socialist movement organisations gained popularity as a result of poverty and feelings of discrimination among the native population (Bebbington, Abramovay et al. 2008).

Bolivia has two capitals; the city of Sucre is the constitutional and judicial capital of Bolivia, but the seat of government is in La Paz. The country is divided into nine departments, and each of these departments has its departmental capital. The departments are further divided into 100 provinces, divided into municipalities that handle local affairs. The Bolivian Amazon straddles three departments: La Paz, Beni, and Pando. It comprises the Iturralde province of the La Paz department, the Vaca Diez province of the Beni department and all the provinces of the Pando department. The

Bolivian Amazon is around 100,000 km^2 in area and has remained relatively untouched due to lack of infrastructure. It was not until the 1990s that the infrastructure improved (Jong 2004). Nowadays, several roads connect the bigger towns of the Amazon with the cities of La Paz and Santa Cruz.

The Northern Bolivian Amazon comprises the Beni and Pando provinces and is part of the lowlands of Bolivia. The hot and humid climate makes it an attractive area for many tree species and wildlife. The climate is furthermore divided into a rather distinct dry and wet season. During the wet season, the region becomes isolated as the many unpaved roads turn into impassable mud pools. The wet season is also the Brazil nut season, in which the majority of the inhabitants leave for the forest to collect the nut.

Nowadays, the landscape of the Northern Bolivian Amazon is characterised by large areas of forested land, divided into segments by rivers. The Amazon forest in the north of Bolivia is relatively untouched, making it one of the richest biodiversities in the world (Pacheco 2001). However, population increase in the region has had its influence on the landscape. The agricultural production systems, and especially those of the large landowners with extensive cattle management systems, have created a diverse landscape with forest and large pastures (Stoian 2000; Pacheco 2001, 2006). The development of extensive cattle systems in the whole of Bolivia has had its affect on the forested areas; more and more areas have become subject to deforestation (Pacheco and Cronkleton 2005).

The Northern Bolivian Amazon is an area with a specific history characterised by the extraction of several commercially important non-timber forest products, such as rubber and Brazil nuts (known locally as castañas). From the mid 1800s until the end of the 19th century, the Bolivian Amazon was the source of quinine bark for medical purposes. However, this quinine industry came to a sudden halt when rubber production started in the region in 1880. This production had a significant impact on the Bolivian Amazon: it boosted migration from the lowland areas around Santa Cruz to the north and opened up completely unexplored territory (Fifer 1970; Stoian 2000; Assies 2002; Jong 2004). During the rubber boom, rich entrepreneurs, also known as patrones (patrons), controlled rubber production. These patrons established large ‘rubber houses’ in which rubber tappers worked in barracas, settlements in which rubber workers lived and worked. These barracas consist of a large forest area in which houses were built and small roads were constructed to facilitate more effective rubber collection (Fifer 1970; Stoian 2000). The working conditions in the barracas were difficult and characterised by asymmetric power relations between the patrons and the rubber collectors in which the collectors became dependent on the patron (Assies 2002). This system, characterised by patron-client relations, still affects the lives and social structures of the rural communities today (Pacheco, Barry et al. 2008).

After some market fluctuations, rubber production ended consequent to the oil crisis in 1970 but was quickly replaced by another local non-timber forest product: the Brazil nut (Bertholletia excelsa) (Stoian 2000). The importance of the Brazil nut grew rapidly and its income quickly exceeded the income made from rubber. Because of this economic success, the population in the area grew. Consequently, cities such as Riberalta and Cobija started to emerge and the infrastructure improved. Nowadays, the area is known for Brazil nut production.

The Brazil nut is now the most important export product of the Bolivian Amazon with an estimated export value in 1997 of over US$ 30 million (Stoian 2000). Since 1992, Bolivia has been the world's largest exporter of this nut (Stoian 2005). It is said that the income from Brazil nut collection today is so large that the forest income in this area is reducing poverty (Pacheco and Cronkleton 2005). The second most important source of income is timber. Timber export revenues in 1999 reached US$15 million (CFB 2000). However, the exact amount of actual forest extraction is unknown due to lack of control. Most of the timber is extracted from the forest and sold on domestic markets or used in local construction. Due to high transportation costs, only a small part of the extracted timber reaches the international markets (Pacheco 2001). Other economic resources from the Amazon area include products such as palm heart, exotic fruits, alluvial gold, and rubber. Of these various products, palm heart generates the biggest income: US$ 2 million in 1999. Non-timber forest products, therefore, form an important part of the economy in the Bolivian Amazon (Jong 2004). Together, timber and non-timber forest products make up 6% of total national goods exports (Pacheco 2001).

Riberalta, the capital of the Vaca Diez department and one of the bigger cities of the northern region, has become the world's Brazil nut capital. Located close to the Brazilian border, it is the centre for Brazil nut production. Although the town of Riberalta was officially founded in 1894, it had already existed for ten years under the name of La Cruz. Located on the banks where the Beni River meets the Madre de Dios River, La Cruz was first an important spot for the fluvial transportation of the then called 'black gold': rubber. Because of its wealth of rubber trees, people started to settle in this spot right at the confluence of these two main rivers. The first factory for rubber production soon followed. Riberalta became a bustling frontier town, nurtured by the rubber boom. It was one of the few towns in the northern Amazon and soon grew in importance. It then became the capital of the province of Vaca Diez. Over the years, Riberalta has kept this image of a busy frontier town with at present around 80,000 inhabitants.

4.3 Social conditions in the Northern Bolivian Amazon

Originally, the inhabitants of the Northern Bolivian Amazon consisted of indigenous communities. However, from the time of the quinine bark collection onwards, farmers from the lowlands around Santa Cruz have been migrating to the area. These farmers were often a mix of European ancestors and local inhabitants, known as mestizos (Assies 2002). The reasons for migration were often economic, and the rubber boom in particular sparked a large influx of lowland farmers into the area (Stoian and Henkemans 2000). However, it was not only the mestizo farmers that were attracted by the income. Indigenous communities also worked for the rubber patrons. Consequently, both cultural groups worked in the barracas for decades, and this resulted in mixed marriages between indigenous and lowland farmers. These people are known as campesinos, peasants, and are characterised by their historical relation with resource extraction.

Nowadays, campesinos and indigenous communities still live in the Amazon region. The indigenous communities often live further away from the main towns, are less integrated in the market, and have less access to government support or NGO assistance. The campesinos have formed their own communities and are now often regarded as local inhabitants of the Amazon rather than migrant settlers, especially as some of them even have indigenous family ties (Stoian and Henkemans 2000; Henkemans 2001).

4.3.1 Peasant communities

Variety exists within the peasant communities of the Amazon region. Henkemans (2001) makes the general distinction between dependent and independent communities. Dependent communities still live in the barracas. Independent peasant communities do not live in barracas and mostly depend on subsistence agriculture. Furthermore, five types of independent peasant communities can be distinguished: rural boom settlements, peri-urban communities, agrarian, agro-extractive, and extractive communities. The peri-urban communities, and agrarian communities that live closer to the city, have in general a higher level of commercialisation and experience more pressure on land than the communities located further away (Stoian and Henkemans 2000; Henkemans 2001).

The extractive communities focus their production system on Brazil nut collection. They complement this with small-scale subsistence agriculture and timber extraction. In these communities, competition for land is low compared to the situation prevailing in communities living closer to towns. One fifth of these communities also collect Brazil nuts around the barracas. Agro-extractive communities are, in comparison to the extractive communities, located closer to the urban centres. Although they also depend primarily on the Brazil nut, their agricultural production system has commercialised due to better access to markets. One third of the inhabitants this type of community leave the village to collect Brazil nuts in barracas (Henkemans 2001).

Brazil nut collection has impacted the culture of peasant communities, which are nowadays regarded as having an extractive culture. This means that there exist norms and beliefs that favour resource extraction above anything else. Resource extraction is seen as the norm for appropriate forest and land use and is regarded as a nonnegotiable right of the peasants. Furthermore, this extractive culture is affected by the traditional organisational structure for Brazil nut collection. As explained before, the barraca-workers, or barraqueros, were dependent on the patron. The patron provided food and resources to enable the barraqueros to focus solely on Brazil nut collection. It is said that, because of this system, the barraqueros lost their local knowledge about their traditional land use system. They no longer knew how to plant crops; they only knew how to collect.

The Brazil nut is not the only product they extract from the forest. There is a great diversity in extractive products including timber, fruits, medicine, animals and animal products, and much more (Henkemans 2001). Timber extraction is often an additional important livelihood activity. Timber is important for both subsistence purposes, such as construction or fuel wood, and commercial purposes. The intensity of timber extraction depends on whether or not it is extracted collectively and whether or not there is a dependence on timber. Timber dependency could increase if access to other commercially valuable resources is low.

4.4 Forest governance in the Northern Bolivian Amazon

The official system for governing the forest in Bolivia is based on a system of decentralised government institutions. In 1996, Bolivia initiated large-scale reforms to decentralise the regulation surrounding forest use. These reforms were the logical consequence of ongoing decentralisation processes that date back to the first half of the 1980s when Bolivia tried to respond to an economic crisis (Kaimowitz, Pacheco et al. 1998; Pacheco 2002; Benneker 2008). In addition to the 1996 Forest Law, two other laws are of particular importance regarding forest governance in Bolivia. These are the 1994 Popular Participation Law and the 1996 Land Reform Law (Pacheco 2002; Benneker 2008).

The Popular Participation Law initiated a change in state administration necessary for the processes of decentralisation. It transfers state responsibilities to the municipality while, at the same time, enhancing the institutional mechanisms for social participation. This has resulted in municipalities having greater influence and greater jurisdiction over local affairs. Municipalities are now responsible for local education, health, water services, and infrastructure (Pacheco 2002).

However, the Popular Participation Law does not only focus on the administrative part, it is also designed to improve social and economic conditions of the region. The promotion of social participation and the equitable redistribution of public resources are the instruments for solving the socio-economic problems among the local communities. In order to be able to achieve these objectives, a new organisational structure was needed that connected the municipalities to the local communities. Consequently, the Popular Participation Law established procedures to acknowledge formally local social organisations, such as farmer organisations, neighbourhood committees, or indigenous groups. Through this law, these local communities and peasant organisations can register as formally recognised local organisations (Benneker 2008; Martínez 2008). By registering, they are granted legal status and are thus able to negotiate with the municipalities on local development (Pacheco 2004).

The Land Reform Law, also known as the Agrarian Law, concerns the issue of landownership. Whereas the old land law focused on large enterprises of cattle and agriculture, the new Land Reform Law allows rural indigenous communities to make territorial claims and to obtain landownership. This law did not only focus on indigenous communities; under this law, many of the newly established local organisations were allowed to obtain legal status as peasant communities, or comunidades campesinas. The area of forestland allotted to these peasant communities was set to equal the number of families multiplied by 500 hectares. The Land Reform Law also stipulates the process for title regularisation, titling, and the consolidation of a land registry for rural properties (Pacheco 2002; Jong 2004; Jong, Ruiz et al. 2006; Benneker 2008; Martínez 2008).

These two laws, the Popular Participation Law and the Land Reform Law, have had a profound effect on forest use. Access to development programmes and formal recognition as user groups stimulated communities to register themselves formally. Although the Land Reform Law relates to agriculture, it has merged the rights to both agricultural and forest land. As a result, this agricultural law provided an important and interesting option for forest communities to justify their traditional land use (Pacheco 2002; Jong, Ruiz et al. 2006).

4.5 Forest law

The original Forest Law of 1974 was reformed in 1996 because of the emerging demand for democratic participation in forest issues. This process was influenced by international organisations such as FAO, the World Bank, and the USAID assisted BOLFOR project, and resulted in the National Forestry Regime that includes the forest law and its associated regulations (Contreras-Hermosilla and Vargas Rios 2002).

The new forest law has created a new system of monitoring and enforcement of certain forest practices, while at the same time creating new market-oriented regulations to stimulate sustainable forest practices (Pacheco 2002). The objectives of the new forest law are to manage the forest more sustainably and to improve the benefits of the forest resources for local communities (Benneker 2008). The new law is designed to better protect the forest resources and balances issues such as conservation versus economics, indigenous rights, and local access to resources. It also explicitly recognises the user rights of local communities. Finally, it gives attention to the sustained production of timber and non-timber products in the Bolivian lowlands (Contreras-Hermosilla and Vargas Rios 2002). The new forest law distinguishes two types of forest product extraction: domestic and commercial. The recognition of commercial forest use is an innovation compared with the old law. Under the new forest law, the local communities have the opportunity to use forest resources commercially, whereas before the government only allowed subsistence use (Benneker 2008; Martínez 2008).

4.5.1 Forest law regulations

The forest law distinguishes various user groups to which different regulations apply. These user groups vary from traditional user groups to smallholders and large landowners. For each of these groups, different forest regulations exist relating to issues such as communal forest management, individual forest management, forest reclamation, and controlled burning. In general, these regulations can be divided into forest regulations for large-scale forest management and small-scale forest management (Pacheco 2001; Benneker 2008; Martínez 2008). Table 4-1 provides an overview of these regulations.

There are several different formally recognised regulations for large-scale forest management. Communities with more than 200 hectares are allowed to apply for a forest management plan. Interestingly, there exist no specific regulations in the forest law for communal forest management by peasants. Communal forest management by farmers falls under the same regulation as private forest management for farmers that have more than 200 hectares of land. In conclusion, it is clear that, regardless of the category of user group, the general rule is that all commercial forest activities in areas of over 200 hectares require a forest management plan (Pacheco 2001; Benneker 2008).

The regulations for small-scale management were a later addition to the law as the original version provided several obstacles for smallholders. The focus of the forest law was on large-scale forest management and implied the collective use of forest resources. In order to better relate to the actual forest practices of local farmers and communities, the forest law now contains additional measures called ‘exception regimes’. There are three types of exception regimes: General Forest Management Plans for Landowners with areas equal to or less than 200 hectares, Deforestation Plans, and Three Hectare Logging Plans. In addition, there also exists a regulation especially for the inhabitants of Beni province. These people are allowed to log timber commercially in order to cover their basic needs (Pacheco 2001; Benneker 2008; Martínez 2008).

Small-scale forest management plans can be drawn up for areas of less than 200 hectares and comprise simplified management plans. They cost less to prepare and implement than the large-scale plans and are easy to set up. The Deforestation Plan allows the clearing of a forest if it is intended to create an area for agricultural purposes. The trees harvested under such a plan can be sold. The third regulation is the Three Hectare Logging Plan. The purpose of this additional small-scale extraction plan is to provide alternative ways to control farmers’ timber extraction activities. Small farmers are allowed to submit extraction plans for three hectares maximum. These extraction plans do not require more than a hand-drawn map of the trees in the area. These three hectare logging plans are issued only once. The fourth and final regulation is specifically relevant for people living in Beni province. Due to their traditional extractive culture, local smallholders are allowed to extract timber without a management plan if they need the income to buy basic needs. There are no specific rules for this type of regulation apart from the fact that this type of timber extraction should not exceed two trees per year (Pacheco 2001; Benneker 2008; Martínez 2008).

The focus of all the forest regulations is on proper formulation and implementation of forest management plans. These plans can be drawn up for either small-scale or large-scale forest management. Whereas the smaller forest management plans reflect simplified regulations, large-scale plans entail many different regulations and requirements. These plans cover a 20-year time span and have to be drawn up by an official forest professional. Every five years, the large-scale forest management plans have to be updated. Within the framework of the general forest management plans, annual logging plans can be created. Every year, a different part of the forest can be logged. It is not possible to extract timber twice on the same plot within any 20-year period. Similar to the general forest management plan, the drawing up of annual logging plans also requires the authorisation of a formal forest engineer (Contreras-Hermosilla and Vargas Rios 2002; Martínez 2008).

Table 4-1 Forest regulations for forest management Bolivia

Forest regulations	Description
General Forest Management Plan	Areas bigger than 200 hectares 20-year management plan Annual operational logging plan Organisational requirements
General Forest Management Plan	Areas smaller than 200 hectares 20-year management plan Annual logging plan
Deforestation Plan	Logging permits for development agricultural lands
Three Hectare Logging Plan	Logging permits for an area of 3 hectares Issued once per plot
Traditional commercial logging	Permission to log 2 trees/year Only in Beni province

Brazil nut management plan

In 2000, a new addition to the forest reforms in Bolivia was enacted: the Brazil nut management plan. Local communities involved in the collection of Brazil nuts in large areas of forest are required to draw up a Brazil nut management plan. This was done in order to stimulate more sustainable use of Brazil nuts and to ensure regeneration of trees (Martínez 2008).

Although these new rules have been promoted for some years, there is still little success. The main difficulties with this management plan are the technical complications of drawing up a management plan for Brazil nuts. Land titles are a formal requirement for the drawing up of Brazil nut management plans; however, they pose many problems. In the case of the Brazil nut, land titles are especially a difficulty because of the barraca organisation that has dominated Brazil nut collection. These barracas still exist and can overlap areas of land already claimed by other communities. The barraca lands were never officially administered during the reforms, as they do not belong to a community, indigenous territory, or any other officially recognised user group (Jong 2004; Martínez 2008).

Furthermore, local farmers do not perceive these new regulations as positive. These management plans are not regarded as feasible for several reasons. The specific requirements state aspects such as the size of the tree, which Brazil nut tree needs to be left alone, and more sustainable ways of collecting. In practice, these requirements are not realistic. The forest area in which the nut is collected is so extensive that it is impossible to control. Therefore, the non-collection of certain nuts in order to stimulate regeneration will not work because someone else is bound to pick them and sell them as soon as the owner leaves. It is impossible to control the ways of collecting and protect the forest at the same time, since large numbers of people come to the forest during the Brazil nut season. The costs of drawing up a plan are considered another disadvantage. Consequently, these regulations are largely ignored. To date, no formally acknowledged Brazil nut management plan has yet been put in place (Martínez 2008; Pacheco, Barry et al. 2008).

4.5.2 Controlling and monitoring

Despite the many changes in Bolivian forest regulations intended to stimulate the sustainable use of forest resources, illegal timber extraction is still common. Therefore, it is also important to consider the regulations for monitoring and control stipulated in the new forest law. However, these regulations do not apply for the abovementioned Brazil nut management plans. Since there are as yet no formally acknowledged Brazil nut management plans, there is no plan for monitoring and control (Pacheco, Barry et al. 2008). Consequently, this section focuses on the control of illegal or informal practices surrounding timber extraction.

After the decentralisation of forest policy, responsibility for controlling forest use shifted from the national government level to the municipalities. The municipal governments are now responsible for monitoring and controlling the logging activities in their area. In order to carry out these tasks, the municipality has created so-called Forestry Units. These Forestry Units not only have to report to the municipality, but also have to comply with the regulations as set by the main controlling mechanism, the Forest Service. Whereas the municipalities are responsible for monitoring the logging activities, the Forest Service controls the regulations as set by the forest law. The Forest Service is a national entity and is answerable to the Ministry of Sustainable Development. Its main functions are the allocation of timber permits, authorisation and monitoring of forest management plans, and controlling illegal logging. The Forest Service works with forest engineers as local controlling agents (Pacheco 2002; Benneker 2008).

As mentioned in section 4.5.1, there are many regulations concerning timber extraction for a variety of forest users. Some of these regulations are specific and entail all kinds of requirements that the forest user has to follow. Others are less clear and more flexible. Farmers have different options to extract timber such as a Deforestation Plan or a Three Hectare Logging Plan. In addition, all inhabitants of Beni province have the traditional user right to extract two trees each year without a formally approved plan. The various regulations leave room to manoeuvre for peasants as to which regulations to refer when they are cutting timber. As it happens, the amount of logging that falls under these small-scale regulations is much higher than planned. It is possible that many commercial timber practices are registered as falling under these regulations. Consequently, there exist great variations in the officially permitted volumes and the volumes actually extracted. Due to lack of control and high rates of poverty, these rules are generally used to sell timber in a manner inconsistent with the intention of the laws (Martínez 2008).

Furthermore, the law stipulates that only mechanised logging is allowed for the extraction of timber. Felling of trees by chainsaw is prohibited. This regulation is particularly difficult to obey in the Amazon where motosierristas abound. A motosierrista is a person who makes a living from cutting trees informally and on demand. This person travels around the region to seek people who want to sell a tree. The motosierrista pays an amount of money, cuts down the tree, and processes it into planks. For this practice, he needs a chainsaw. Although the use of chainsaws is prohibited in Bolivia, it is endemic in the forests of the Northern Bolivian Amazon (Martínez 2008).

4.6 Civil society and markets in forest governance

In line with the Popular Participation Law, the use and management of forests is regulated not only by the government but also by other agents. The decentralised regulative framework of the Bolivian government has opened up opportunities for civil society organisations and market agents to enter the arena of forest governance. In this context, the community organisation and administration, and the role of NGOs in forest governance, have increased in importance and changed the local context considerably. However, after the reforms, the role of the markets did not change that much. The relations between markets and peasants already existed and continue to exist.

4.6.1 The role of NGOs in forest governance

The formation of peasant syndicates is not just a requirement for eligibility for community development by the local government, it also serves to attract external NGO help. Through the peasant syndicates, NGO assistance or help is facilitated. Without a syndicate, it is far more difficult for an NGO to offer development projects to a community, and there are instances of NGOs retreating from communities that do not have a well functioning syndicate[1]. Therefore, syndicates are important not only for local government assistance but also for NGO assistance.

NGOs are important to the communities of the northern Amazon. Due to the relative isolation of the area, NGOs are often some of the few external actors to visit the local communities (Jong 2004; Koning 2007). The role of NGOs is not solely to stimulate community development however (McDaniel 2002). NGOs also follow their own agenda entailing more global issues such as forest conservation or human rights development and are not necessarily looking at location-specific community needs; this can even lead to conflict (Benneker 2008). An example of NGOs' own agenda is the focus on communal forest arrangements. As explained, the forest law specifies forest use for both individuals and groups. However, many NGOs consider collective management as the only appropriate way to manage a forest. As a consequence, they ignore the existing regulations on individual management.

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[1] See for example the Palmira case study in Chapter 5.

At present, several NGO are actively promoting the implementation of the forest law and management plans for timber and Brazil nuts as a means of forest conservation and sustainable forest management. NGOs thus can become informal controlling mechanisms in which they monitor the activities of the community in the forest and establish normative conventions on forest use and management. Especially in the case of a community forest management plan, an NGO can function as an informal but rather pressuring controlling mechanisms. Because of decentralisation, the importance of NGOs in this respect has increased (McDaniel 2002).

In the region around Riberalta, several NGOs are active. The most important NGO in this research is Instituto Para el Hombre, Agricultura y Ecología (Institute for Man, Agriculture, and Ecology: IPHAE). IPHAE may indeed be the best-known NGO in the Riberalta region. This NGO works in the area of sustainable development for small farmers in the Northern Bolivian Amazon. Apart from its role as a civil society organisation, IPHAE also promotes the forest law and especially its regulation on community forest management. In addition to this, IPHAE also focuses on agroforestry systems, involving fruit trees in particular.

4.6.2 Markets and forest governance

In addition to the role of civil society organisations in forest governance, commercial organisations also play a role. With the increased focus on commercial production, this role is becoming more important (Wiersum 2009). Market institutions relate to rules and norms for commercialisation and trade, for providing capital, and for establishing a balance between subsistence and commercial activities (Pacheco 2001). The role of these institutions has become more important since the reformed forest regulations in Bolivia explicitly focus on enhancing the economic conditions in the rural areas. Furthermore, the new forest law explicitly focuses on commercialisation of forest resources by differentiating between commercial and traditional use. Commercial forest use is possible but needs to follow certain rules and regulations. Thus, the formal role of market actors and market institutions in forest governance relates to the aim of improving the economic conditions of forest users.

The role of private enterprises can therefore be multiple. They are allowed to assist financially in the drawing up of a forest management plan. Furthermore, many private enterprises also have formal agreements with communities on the commercialisation of their forest products (Pacheco, Barry et al. 2008). These relations are based on contracts, which are in turn the result of negotiations between local communities and private enterprises. However, not all trading between communities and merchants is based on contracts. Especially in the areas located further away from cities, the exchange of forest products in return for money can be on an ad hoc basis. These merchants then sell the forest products to the private enterprises. Often, the income accruing to communities from selling to merchants is less than if the products were sold directly on the market or to private enterprises. These private enterprises in the Northern Bolivian Amazon are located around Riberalta. They target mainly the regional market, although some of the timber also disappears to Brazil (Pacheco 2001, 2002).

However, market institutions are not a newly introduced aspect of the livelihoods of local farmers. Often, the relations between market institutions and local communities have been in existence for a long time and contain many informal aspects (Benneker 2008). In the Northern Bolivian Amazon, this relation has been strongly influenced by its history with rubber and its related informal market institutions. One of these informal institutions on norms of trade is known as the habilito system. This system was originally based on debt peonage. Either the patron or the merchants gave necessary products, articles, or even money to rubber collectors. This gift was actually a loan that the rubber collectors had to pay back later in rubber. This structure created relations of dependency since the rubber collectors depended to a large extent on the items given but were not always able to pay off the loan. Consequently, many rubber collectors became to a certain degree enslaved. Although changed and fairer, this habilito system continues to play a role in the current Brazil nut collection (Pacheco, Barry et al. 2008). It also created historical relations between the Brazil nut collectors and merchants. Private enterprises that historically offered these items continue to do business with the local communities since they have created trusting relationships with these communities.

Because of this traditional aspect often present in relationships between markets and local communities, market institutions are incorporated in the daily lives of local communities. Local communities have already accepted their presence and renegotiated or reshaped their structuring influence. In other words, market institutions are not expected to be actively renegotiated in the processes of institutional bricolage I studied.

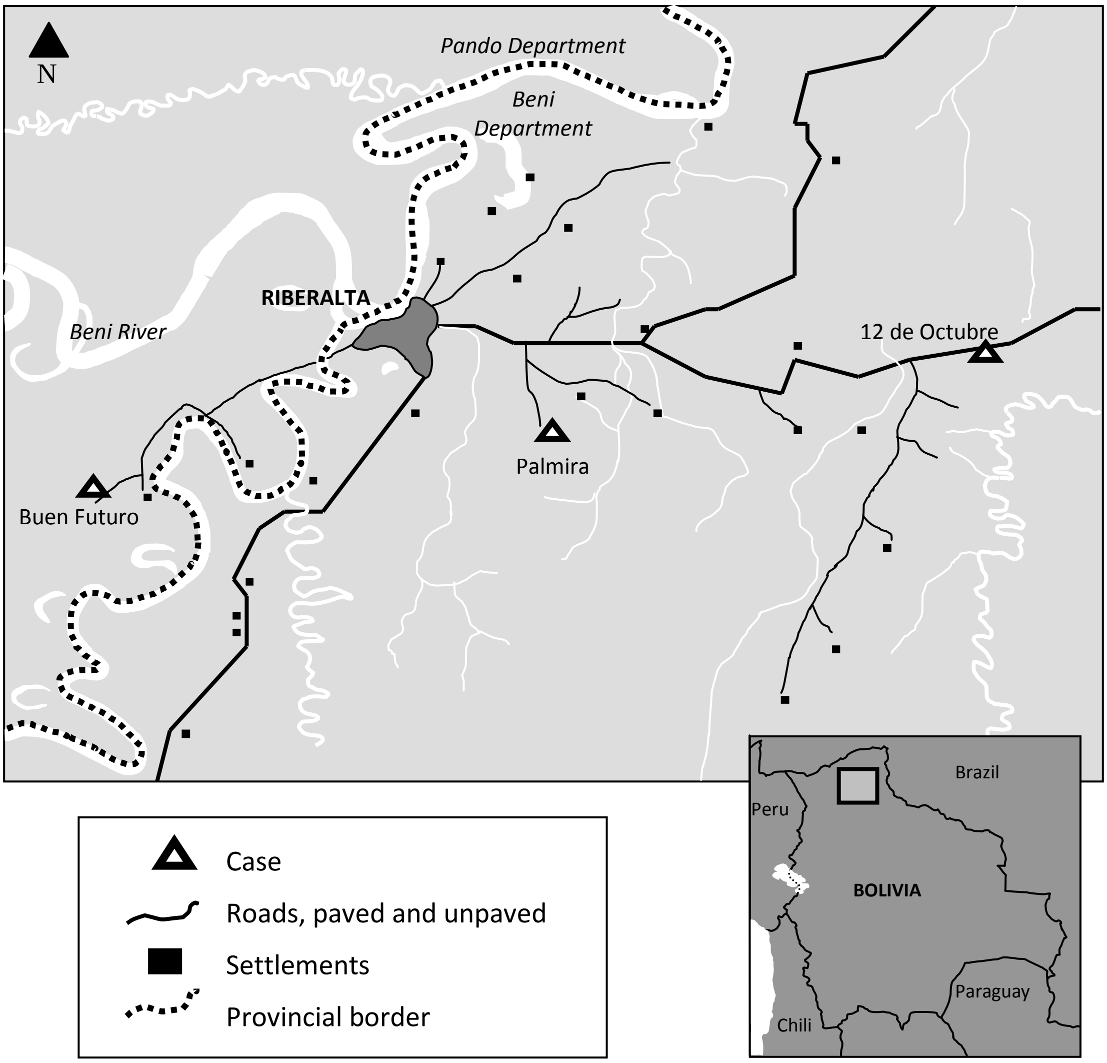
The main emphasis is on sustainable forest management rather than on commercialisation.

4.7 The Bolivian cases

The three cases selected for the research are located in the Northern Bolivian Amazon. Therefore, the descriptions above of the social characteristics and institutional features apply in each of the cases. These cases are 12 de Octubre, Buen Futuro, and Palmira. Map 4 1 presents the research region in which the cases are located. Each of these cases was selected by the ForLive project for their own specific characteristics that made them interesting for research (see section 3.3.1). The community of 12 de Octubre is an example of internal organisation relating to forest management practices. Buen Futuro was selected because of the important role played by a migrant actor in changing traditional beliefs and norms surrounding forest practices to enhance livelihoods of this community. Finally, the Palmira case shows that externally introduced sustainable forest practices are affected by contextual and institutional factors embedded in the social lives of the community.

4.7.1 12 de Octubre

The 12 de Octubre community is a peasant or campesino community. Their ancestors are a mix of cattle farmers from the eastern lowlands and local indigenous communities, and they have lived in this area for generations. Originally, their ancestors moved to the Amazon to work in the rubber barracas. This community can be categorised as an independent extractive peasant community; the community members do not live in a barraca, and their economy depends largely on the extraction of natural resources (Henkemans 2001). Nowadays, 48 families, consisting of 189 people, live in 12 de Octubre. The families that founded 12 de Octubre in 1971 are still influential members of the community and fill many official positions in the organisation (PROMAB 2006; Avila Valera and de Koning forthcoming).


N
Pando Department
Beni
Department
RIBERALTA
Beni River
12 de Octubre
Palmira
Buen Futuro
Case
Roads, paved and unpaved
Settlements
Provincial border
Brazil
Peru
BOLIVIA
Paraguay
Chili

Map 4-1 Research locations in Bolivia

Because of administrative problems, 12 de Octubre community members still lack official recognition of their land. Due to delays in land registration, the institutions responsible for the Land Reform Law have not yet formally allocated land to the community. However, the fact that they do not as yet have formal land titles has not stopped them from making their own informal claims on land based on the length of time they have already been in this area. On the basis of these informal claims, the community has divided the land among its community members. Although the community members have land, the formal land titles are still necessary because of land shortage. This shortage can be resolved once they obtain their formal land title and may result in an increase in the area allocated. Formal land titles would also resolve some minor conflicts that they have with neighbouring communities about land boundaries.

In 1996, a local community initiative resulted in the formation of an agroforestry association. This initiative was started in response to the insecure situation relating to the land titles. The community regarded a certain area, known as El Verdúm, as theirs and saw its potential for timber extraction and Brazil nut collection because it consisted of primary forest. Threats from people outside the community to move into this area because of its richness in natural resources spurred the idea of creating an association. Through this association, they would be able to secure this land informally. Although a formal title was still lacking, a formally recognised association operating in that area would then serve as an informal indicator that the land was theirs. This informal mechanism to claim land rights occurs more in the Northern Bolivian Amazon than in other Amazon areas (Pacheco, Barry et al. 2008).

Around the same time, the NGO IPHAE started an agroforestry project in 12 de Octubre. IPHAE decided to help and discussed with the community the possibilities of forming an agroforestry association. With the assistance of IPHAE, the El Verdúm association was founded. The area of El Verdúm comprises 2,511 hectares in total. Although the initial idea, proposed by IPHAE, was to develop an association aimed at the establishment of an agroforestry system, the association only focuses on the collection of Brazil nuts and the extraction of timber through a formal forest management plan (PROMAB 2006; Avila Valera and de Koning forthcoming). After a period of intensive collaboration with IPHAE, the association now works on its own. Although this greater independence is not considered as easy, it creates more space to investigate other income-generating opportunities in the El Verdúm area. One of these new opportunities is commercial agriculture. A group of members initiated this idea. This working group wants to focus more on the commercial and collective production of agricultural crops such as plantain and rice on the fallow lands of El Verdúm.

4.7.2 Buen Futuro

The second community for research is the peasant community of Buen Futuro. This community is located relatively far away from Riberalta. Its history is strongly connected to the rubber boom followed by the Brazil nut era. The inhabitants of Buen Futuro are the sons and daughters of the rubber tappers that worked for the big patrons in those days. Similar to the socio-cultural aspect of the barracas communities, this community is also a mix of indigenous communities and lowland farmers. In addition, their livelihood is still very much based on the extraction of resources. Consequently, they can be categorised as an independent extractive peasant community; they do not live in a barraca, and their economy depends largely on the extraction of natural resources (Henkemans 2001).

The Buen Futuro community members obtained their official land titles according to the Land Reform Law; each inhabitant was allotted 500 hectares. This land titling resulted in the allocation of an area located near Buen Futuro. However, it turned out that there was not sufficient room for land. Consequently, the community members were allocated land in two areas around the settlement of Buen Futuro and one extra area located further away from the community. This third area is called the Río Negro area, and it takes a day's travel to get there. This third area is increasing in importance as it is becoming a frequent topic of conservation. At this moment, the area is used for Brazil nut extraction only. However, as the community is growing, the need for land is increasing. Some younger community members are considering using this piece of land to develop a second Buen Futuro.

Although the Brazil nut income is substantial, the community members are searching for an income that lasts throughout the year. Brazil nut collection is only seasonal, and there is need for a more continuous income. As a result, they have started to adopt agroforestry practices. As a result of promotion by NGO IPHAE, the majority of community members have fruit trees on their land. This new forest use system has resulted in the establishment of an association in order to improve the access to market and the income made from agroforestry. This association is called APAE. It is a relatively new association that is not yet formalised and of which only a few community members are part.

The community of Buen Futuro does not completely consist of peasants as there is one migrant settler living in the community. This migrant settler arrived several years ago and managed to adapt his own ideas and techniques about land use systems to the local conditions in the area. His land use system is rather different, more diverse, and more commercial, than that of the local peasants. This caught the eye of the local NGO IPHAE who therefore started to collaborate with him. The migrant settler became a local field officer for IPHAE to promote agroforestry practices to the community of Buen Futuro as an alternative source of income and a tool for reforestation. Because of his commercially successful land use system and his role in IPHAE, the settler became a key person in the introduction of these new forest practices and related norms. Now, the community is not only adopting his agroforestry practice but also actively trying to improve the problem of access to markets by establishing the local producers' association APAE. Although the association is still in its infancy, the plan is to start the commercial production of agroforestry and agricultural products such as cupuazú, *Theobroma grandiflorum*, cacao, and sugarcane. Furthermore, the president of the association is considering drawing up a Brazil nut management plan for the Río Negro area and a plan to protect the area from resource degradation.

4.7.3 Palmira

The third community selected for research is the community of Palmira. The Palmira community can be classified as independent agro-extractive or even agrarian (Henkemans 2001). Agro-extractive peasant communities still have some level of forest dependency but also focus on agricultural production. Agrarian peasant communities have almost no forest dependency and primarily focus on agriculture. Palmira's community members fit both categories; some of them are clearly agro-extractive peasants, whereas others focus on agriculture.

The Palmira community is faced with several problems. The small land parcels do not provide a substantial source of income. As a result, community members are drawn to the city of Riberalta to try their luck there. This has resulted in many community members buying a house in Riberalta; they divide their time between the work on the land and living in the city. Another type of out-migration relates to the Brazil nut. Because of their limited access to Brazil nut trees, some community members leave for months during the Brazil nut season to work in barracas in other regions to make some money. These temporary migration patterns are caused by their limited income-generating opportunities and have resulted in an increase in feelings of individualism; community life is almost non-existent, there is no well-functioning community organisation, and people have developed their own individual livelihood strategies and practices. A second problem in the Palmira community that adds to the increase in feelings of individualism is a conflict between two families. The conflict itself has a long history in which two key families became embroiled in a conflict that lasts to the present day. More and more, Palmira appears to be a group of individuals that just happen to live along the same road.

These problems have an important consequence for the community. The low level of internal community organisation is particularly a problem in the context of community development. Many development projects, relating not only to health, education, and services such as electricity and drinking water but also to projects focusing on income generation through forest or other livelihood practices, require informal community organisation and participation. Since Palmira cannot guarantee this, there are not many development projects taking place in this community.

The community's organisational problems directly affect the amount of external aid. As explained before, external organisations require a community to be well organised if it wishes to participate in development projects. The most important parameter to measure the level of organisation is the peasant syndicate. If the peasant syndicate is not able to motivate its community members to participate in these kinds of projects, the external organisation will not execute them. Consequently, Palmira is now a community with not a lot of development opportunities. This is especially serious because the community needs these external projects as it lacks the resources and the land to generate a substantial income from the forest.

In the midst of these problems, NGO IPHAE has started an agroforestry scheme in this community that has had positive consequences for some of the participants. One person in particular has managed to overcome the problems mentioned above and now has a relatively successful land use system consisting of agroforestry and cattle. Other members of the community too have succeeded in using income from agroforestry to invest in other undertakings such as rice production. However, the individualistic character of the community prevents these small successes from being a learning opportunity for the other community members. As a result, this community demonstrates great variety in forest and land use systems and in responses to external institutional influences.

5 INSTITUTIONAL BRICOLAGE IN THE BOLIVIAN AMAZON

5.1 Introduction

The previous chapter described the general characteristics of the Northern Bolivian Amazon. In this chapter, I describe the local processes of institutional bricolage identified in each of the three Bolivian cases: 12 de Octubre, Buen Futuro, and Palmira. For each case, I identify the main forest practices and describe the local processes of institutional bricolage concerning those forest practices. Furthermore, I demonstrate the different roles actors can have in local processes of institutional bricolage. The variety of these roles is to a certain extent determined by the authoritative resources that an actor can access.

5.2 12 de Octubre

The first selected community, 12 de Octubre, is located beside the main road connecting the city of Riberalta with the Brazilian border (see Map 4-1). During the dry season, the road transforms into red dust. With each car that passes, large clouds of dust colour everything and everybody red. During the wet season, the road transforms into red mud, sometimes making it impossible for the community to travel. Despite the conditions, this road is generally well maintained and is important to this community. Frequently, buses, taxis, or trucks pass by the village, making it relatively easy to travel to Riberalta and its market. 12 de Octubre has electricity and access to water (PROMAB 2006). The community members of 12 de Octubre have two main sources of income: Brazil nut collection and timber extraction. Furthermore, the community has established a local association, called El Verdúm, to manage a communal area of forest used for timber extraction and Brazil nut collection. With the help of an NGO, this community has drawn up a formal forest management plan and is currently considering a Brazil nut management plan as well.

5.2.1 Forest practices in 12 de Octubre

The community of 12 de Octubre is a peasant community that bases its production system mainly on the collection of Brazil nuts and timber extraction. These two products are extracted individually as well as collectively. Community members have Brazil nut trees on their land and sell the nuts they collect from these trees. Similarly, community members also extract and sell trees growing on their own land. However, most of their income comes from the collective extraction of timber and Brazil nuts on a communal area located near the community. Furthermore, their main food production comes from small-scale agricultural production on plots in the forest or near the houses. Some of the inhabitants also have an agroforestry system consisting of fruit trees. The local NGO, Instituto Para el Hombre, Agricultura y Ecología (Institute for Man, Agriculture, and Ecology: IPHAE), introduced this agroforestry system to them. However, not all members of the community use it. As already stated, their main income comes from the collective timber and Brazil nut collection. These are considered the two most important forest practices.

Collective timber extraction

Timber extraction has a long history among peasant communities in the Northern Bolivian Amazon. In 1996, NGO IPHAE assisted the community in the establishment of an association and a formal forest management plan. This forest management plan was drawn up for a specific area. This area is located some distance from the community and is managed by the local association, El Verdúm. The 12 de Octubre community engages in extraction collectively and according to the forest law regulations. These regulations prescribe the protocols and procedures for establishing the logging plans, the number of trees to be logged, and the rotation period of the logging plans in the whole area. Since 1996, the community has been drawing up a logging plan almost every other year.

In addition to the forest law regulations, timber extraction is also affected by the norms of the NGO IPHAE. As explained, 12 de Octubre received a lot of assistance from this NGO. This gave IPHAE the opportunity to try to influence the community in terms of sustainable resource use. This normative concept prescribes the appropriate way to manage natural resources. In addition to this norm on sustainable resource use, IPHAE promoted collective action as the preferred way to community development. Collaboration and organisation are seen as the appropriate tools for poverty alleviation. Not only NGOs but also the government value this preference for collective action highly[2] (Pacheco 2002). The fact that 12 de Octubre has founded an association has contributed to the exemplary role attributed to them by IPHAE. During visits to other communities, IPHAE promotes this community as a role model worthy of emulation[3].

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[2] Interview members IPHAE (2007)

Locally, the community has embedded rules, norms, and beliefs that affect timber extraction. The local rules are the regulations of the El Verdúm association. In addition to the general rules that prescribe participation, membership, and decision making within the association, these rules regulate access to the forest and the monitoring of timber extraction from the El Verdúm area. The local norms affecting timber extraction are norms on desirable and appropriate livelihoods. Community members have certain ideas about their preferred lifestyle, based on normative ideas about desirability. A job with a fixed income is an example of a desirable livelihood; this income allows a person to buy a computer, a TV, or a motorcycle[4]. Another norm affecting timber extraction is the local norm on collaboration. This norm derives from the NGO norm on collective action. Over the years, the community has internalised this norm and now sees it as the correct way for a community to engage in these activities. Finally, timber extraction is guided by the belief that timber extraction is a traditional forest practice. As explained in Chapter 4, the peasant communities originally came to this area to extract forest resources such as rubber and Brazil nuts. Nowadays, they still prefer to base their livelihoods on the extraction of forest resources. Table 5-1 gives an overview of the main institutions relating to timber extraction in 12 de Octubre.

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[3] Interviews in various communities in the region (2007)

[4] Interview community members 12 de Octubre (2008)

Table 5-1 Institutions and timber extraction in 12 de Octubre

Bureaucratic institutions	Socially embedded institutions
Regulative rules	
Forest Law, Large-scale forest management plan (Government)	Regulation on access and collection (El Verdúm)
Social norms	
Norms on sustainable forest use (IPHAE) Norms on collective action (IPHAE)	Norms on community collaboration (El Verdúm) Norms on desirable livelihood
Cultural beliefs	
	Beliefs on forest resource extraction

Collective Brazil nut collection

Brazil nut collection is the most traditional forest practice of peasant communities in general. This is also true for 12 de Octubre. The organisation of Brazil nut collection followed in the footsteps of the organisation of timber extraction. After the establishment of the association and the drawing up of the forest management plan, Brazil nut collection in the communal forest area is also organised through El Verdúm, and a formal Brazil nut management plan is under consideration. The Brazil nut is, as stated before, this community's main source of income.

Recently, the forest law was extended to include new regulations concerning the collection of Brazil nuts (see section 4.5.1). Brazil nuts should be collected in accordance with a Brazil nut management plan. These rules, however, are not very effective. The local government does not completely monitor compliance with this regulation, nor does it promote this management plan. NGO IPHAE, however, is promoting this Brazil nut management plan as an interesting economic opportunity because this type of Brazil nut collection would result in a higher price per nut than the informal nut collection. This promotion by IPHAE is accompanied by the promotion of NGO norms on sustainable forest use and collective action. These norms are similar to those concerning timber extraction.

The embedded institutions affecting Brazil nut collection show great similarity to the embedded institutions affecting timber extraction. Brazil nut collection is also affected by embedded rules of the El Verdúm association, community norms on desirable livelihoods, El Verdúm's norms on collaboration, and traditional beliefs about forest resource extraction. The difference, however, is that the beliefs relate more directly to Brazil nut collection than timber extraction. Brazil nut collection is the most traditional forest practice of 12 de Octubre. Consequently, peasant communities have a stronger and longer relationship with the Brazil nut than with timber extraction and regard this collection as an unquestionable right. This has its effect on the processes of institutional bricolage described next. Table 5-2 gives an overview of the main institutions relating to Brazil nut collection in 12 de Octubre.

Table 5-2 Institutions and Brazil nut collection in 12 de Octubre

Bureaucratic institutions	Socially embedded institutions
Regulative rules	
Forest Law, Brazil nut management plan (Government)	Regulation on access and collection (El Verdúm)
Social norms	
Norms on sustainable forest use (IPHAE) Norms on collective action (IPHAE)	Norms on community collaboration (El Verdúm) Norms on desirable livelihood
Cultural beliefs	
	Beliefs on forest resource extraction

5.2.2 Collective timber extraction and institutional bricolage

The identified institutions concerning the extraction of timber are subject to local processes of institutional bricolage. The main identified processes of institutional bricolage are the **aggregation** of certain bureaucratic and socially embedded institutional elements and the **alteration** of both bureaucratic and socially embedded institutions.

The **aggregation** of institutional elements refers to the recombination of forest law regulations with local beliefs and norms. As explained, the community extracts timber from the communal area according to a forest management plan. The decision to do so was influenced by the fact that it has been possible to combine it with their local norms on a desirable livelihood. These norms contain conventions about what is believed to be an appropriate and fulfilling livelihood, focusing on the generation of an income. NGO IPHAE has always presented the forest management plan for timber extraction as a way to generate a good income. Furthermore, the forest management plan did not directly obstruct the traditional beliefs on timber extraction or resource extraction in general. These aspects facilitated the aggregation of the externally introduced regulations with the local norms and beliefs.

The process of aggregation also involves the founding of the El Verdúm association. As explained before, El Verdúm was established in order to be able to draw up a forest management plan for the relevant forest area. In principle, the association has a clear single productive objective. However, in its 20-year existence, the association has become a representation of much more than just a producers' association. It nowadays also fulfils other purposes such as a social network through which ideas are expressed and discussed. It has also become a form of social security for its members. In one case, the members of the association have been raising money to pay for health expenses in the event of an illness. However, one of the most important purposes of this association is land titling. The community of 12 de Octubre does not have formal titles to land, and El Verdúm is seen as an informal way to make land claims. The community members expect that the establishment of the association to manage a certain area will legitimise their claim to the area. This is especially important when dealing with neighbouring communities and conflicting claims on land.

The second process of institutional bricolage, **alteration**, can be seen in the use of bureaucratic institutions, in particular the forest law regulations and the norms of the NGO. As explained in the above discussion on aggregation, the issue of land titling was a strong motivator for the establishment of the El Verdúm association. Rule bending is also involved however. Formal land titles are required in order to draw up a forest management plan. However, as they were lacking in 12 de Octubre, the community decided to draw up the management plan first and then look for opportunities to obtain the land titles. They feel that they are in a better position to demand the land titles they want if they have a forest management plan and an association[5]. To a certain extent, this rule bending has worked out well. The forest management plan has clearly led to a certain informal agreement that the land in fact belongs to the community of 12 de Octubre. The process of alteration concerning the norms of NGO IPHAE involves the change in the initial objective of the El Verdúm association. Although El Verdúm is an association for timber extraction and Brazil nut collection, NGO IPHAE primarily aimed to establish an association for agroforestry in order to achieve reforestation. However, these ideas quickly transformed into forest management and Brazil nut collection. Agroforestry was perceived by community members as an external forest practices and did not reflect their tradition of forest extraction. Consequently, they changed the objective of the association to one relating to forest resource extraction.

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[5] Interview community members 12 de Octubre (2008)

The **alteration** of socially embedded institutions involves the gradual changing of traditions on forest resource extraction. Peasant communities in this region have been basing their forest use system on the extraction of forest resources. As a result, their beliefs on forest use are imbued with the tradition of extraction that did not necessarily entail considerations about sustainability. However, this belief has been affected by the norms of NGO IPHAE on sustainable use of forest resources. Furthermore, the years of practicing timber extraction according to the forest law has also been an influence. Consequently, the traditional beliefs relating to timber extraction have been altered over the years and contain more sustainable elements. Another change in local institutions concerns the social norms of community on collaboration. Initially, these norms on collaboration centred around a certain level of community collaboration in order to develop the community. These norms were general norms committing community members to participate in community life. However, the norms of IPHAE and the regulations of the forest management plan proclaiming collective action have intensified this local norm. Community collaboration has become an important community norm in 12 de Octubre and is regarded as the most appropriate way to achieve community development. Figure 5-1 demonstrates these processes of institutional bricolage on timber extraction in 12 de Octubre.

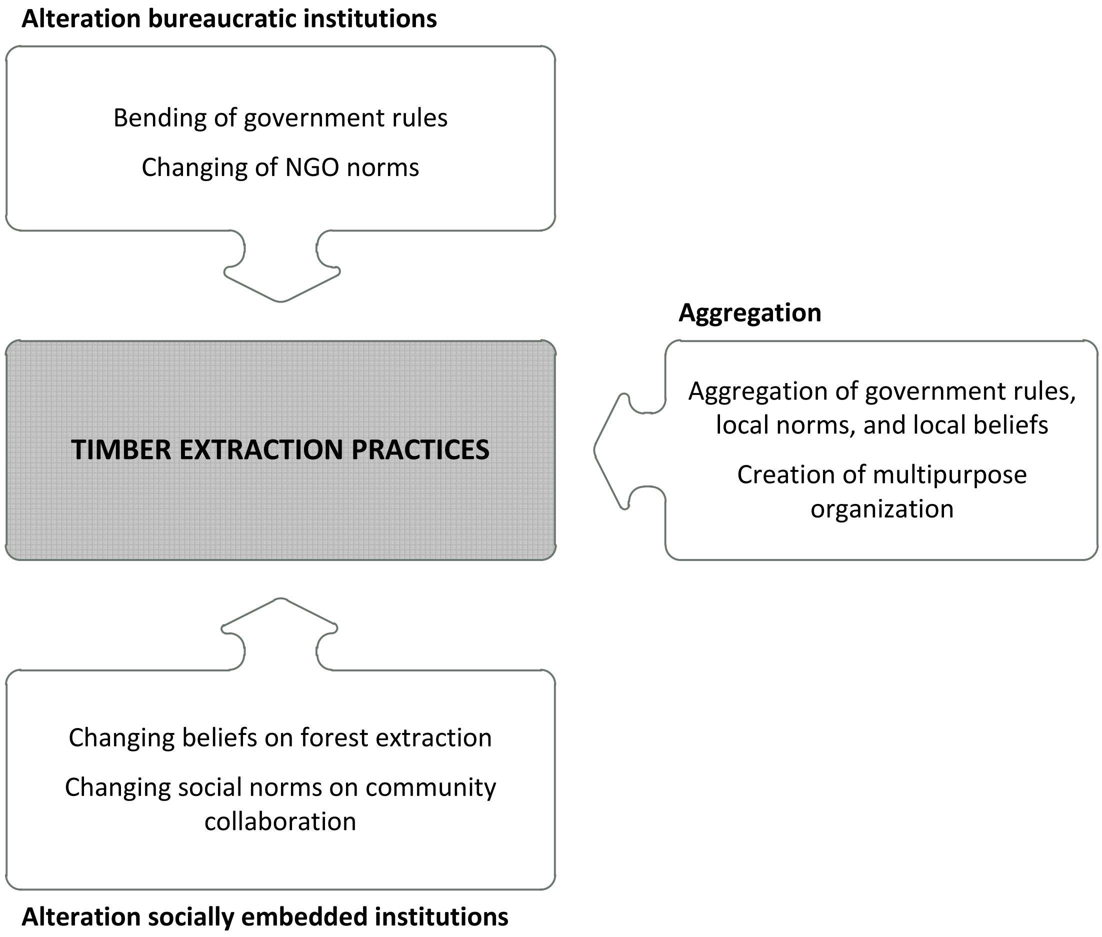
Alteration bureaucratic institutions
Bending of government rules
Changing of NGO norms
Aggregation
TIMBER EXTRACTION PRACTICES
Aggregation of government rules, local norms, and local beliefs
Creation of multipurpose organization
Changing beliefs on forest extraction
Changing social norms on community collaboration
Alteration socially embedded institutions

Figure 5-1 Institutional bricolage and timber extraction in 12 de Octubre

5.2.3 Collective Brazil nut collection and institutional bricolage

The processes of institutional bricolage affecting the collection of Brazil nut are the following: **alteration** and **aggregation** of bureaucratic and socially embedded institutions.

The process of **alteration** entails the ignoring of the government regulations prescribing a Brazil nut management plan. The Brazil nut is a resource that has always been freely accessible to individual community members. It is their most important but also traditional forest practice, and its collection is considered an almost unquestioned right. Restrictive regulations are therefore not much welcomed by 12 de Octubre. Furthermore, the implementation of the Brazil nut management plan has not yet been very effective. The government faces many problems with defining the details surrounding Brazil nut management and lacks the resources to monitor and control this regulation. Furthermore, these management plans have not yet enjoyed the same amount of promotion by NGOs as the forest management plans. Consequently, not many communities in the Northern Bolivian Amazon have drawn up a Brazil nut management plan (Pacheco, Barry et al. 2008). The community of 12 de Octubre has not drawn up a management plan either and chose to ignore these government regulations.

However, the process of **alteration** of socially embedded institutions demonstrates that the ignoring of the Brazil nut management plan is declining. Although the Brazil nut is a resource that has always been freely accessible to individual community members, more members of the El Verdúm association are opting for a more collaborative approach. Because of the forest management plan and the promotion by NGO IPHAE of collective action, community members are perceiving community collaboration as a very important instrument for development. Consequently, the traditional beliefs on forest resource extraction, proclaiming it is an unquestioned, taken-for-granted forest practice is gradually changing into a more collective practice.

The final process of institutional bricolage affecting Brazil nut collection is the **aggregation** of government regulations, NGO norms, and local norms. This process is another reflection of the change in attitude towards the Brazil nut management plan. Some of the members of the El Verdúm association are considering drawing up a Brazil nut management plan. They have been told by NGO IPHAE that the revenues from Brazil nuts collected under a management plan are higher than those from nuts collected without a plan[6]. This promised higher income is considered interesting as it would enable the community to achieve their perceived desirable livelihood. Furthermore, the community has already embedded the NGO norm on collective action. This has led to changes in their traditional beliefs. Therefore, there are now fewer institutional barriers to a Brazil nut management plan. Although the community officially still lacks such a plan, the president of the El Verdúm association states that it is currently being drawn up and that its endorsement is only a matter of time. Figure 5-2 demonstrates the process of institutional bricolage on Brazil nut collection in 12 de Octubre.

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[6] Interviews community members 12 de Octubre (2008)

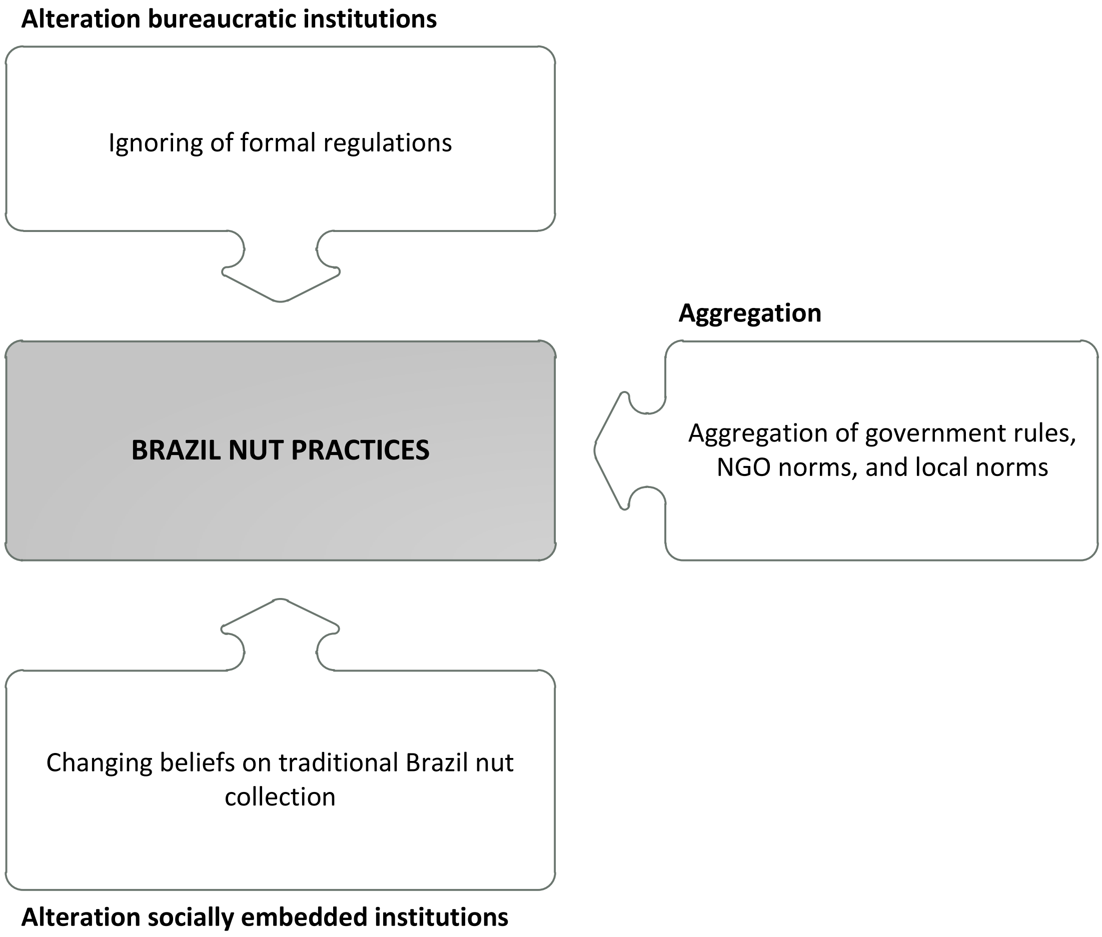
Alteration bureaucratic institutions
Ignoring of formal regulations
Aggregation
BRAZIL NUT PRACTICES
Aggregation of government rules, NGO norms, and local norms
Changing beliefs on traditional Brazil nut collection
Alteration socially embedded institutions

Figure 5-2 Institutional bricolage and Brazil nut extraction in 12 de Octubre

5.2.4 Bricoleurs

Diego

Diego is one of the long-term residents of the community. He lives there with his wife Helena. His children are already married. His daughter also lives in the same community, and Diego shares his land with her. His wife runs the only telephone in the village, sells gasoline, and cleans the large Korean Health Centre building right across from her house. Diego is one of the founder members of the El Verdúm association. In 1996, he saw the possibility and the threat of losing land. He was one of the people that came up with the idea of organising.

In 12 de Octubre, there are several families that are regarded as the most influential families. These families founded the community and continued to fulfil important functions in it. Diego belongs to one of these families. Although he has no formal function in the community such as president or member of the board, he enjoys a certain reputation as a knowledgeable man. Because of his involvement in the establishment of El Verdúm, he interacted frequently with IPHAE during the establishment of the forest management plan.

> *We set up the forest management plan with IPHAE and established the association. We were all then in favour of the association as we were told it would bring us more money and give us the life we want. And it gave us the rights to use the land. (Diego, 2008)*

Diego is furthermore in favour of community collaboration in terms of the extraction of timber and Brazil nuts. He therefore also agrees with NGO IPHAE's messages on collective action. Diego states that one has to work in groups in order to improve one's life. To him this is the appropriate way of working.

> *If you do not work in a group, you will not succeed. And without a community organisation, the NGOs stay away. (Diego, 2008)*

His preference for this way of working has stimulated Diego to become part of the new working group on commercial agricultural production. This working group is currently exploring the commercial potential of certain agricultural crops such as rice and sugarcane. Diego is an active promoter of this agricultural working group.

Diego's role in processes of institutional bricolage relates to the aggregation of the government rules with local norms on a desirable way of life. Furthermore, he has played an important role in the embedding of the NGO norms on collective action, which led to a gradual change of local norms on community collaboration. Diego is furthermore one of the more important bricoleurs in the community. Although he does not hold a formal position, his family ties and relationship with the NGO IPHAE has given him the room to renegotiate and actually achieve a change in community norms. His current role in the promotion of agricultural production adds to his status as an important person.

Edison

Edison is a married man with young children and the current president of the El Verdúm association. Besides this work, he also needs to provide for food and income for his family. As a result, Edison states that he is busy; his work as president of El Verdúm takes up a lot of his time and he has problems juggling this with his own need for income. His forest and land use system focuses mainly on the extraction of timber and the collection of Brazil nuts in the El Verdúm area, together with small-scale agroforestry and agriculture. As president, Edison enjoys a certain respect in the community.

Furthermore, his position also enables him to regularly interact with IPHAE. As a result, he is one of the most powerful community members.

To him, IPHAE is rather important since it offers him much-needed sources of income. Consequently, he continues to work with it although it costs him a lot of time. He internalised many of its norms on the sustainable use of forest resources and community collaboration. Edison states that this collaboration with IPHAE has enabled him to generate a better income. Before IPHAE and El Verdúm, he was not able to live the life he wanted. He was working hard on his land and making only a little money. The income from El Verdúm has made him better able to pay for his needs. However, his motivations for collaborating and embedding are not only income driven. Edison also has strong feelings of responsibility. Furthermore, his position as president of the association gives him power.

Edison too believes that a Brazil nut management plan is a good opportunity to earn extra income. Although the rules are difficult, the increase in income will be considerable. This income will then be the next step in the realisation of his desirable way of life.

> *They will give us a better price for this 'certified' castaña. An added value, as they say. Instead of 120, 130 Bolivianos, they will pay us now 100 in advance and 100 afterwards. That is 200 Bolivianos for a box of castaña. (Edison, 2008)*

The processes of institutional bricolage in which Edison participates concern mostly those processes that relate to NGO norms. His position as president of the important association has enabled him to start the negotiations and the planning for a Brazil nut management plan. Although not all community members agree with this idea, Edison has sufficient authoritative resources to mobilise some people to start thinking about it. His influence is also clearly positively correlated to the importance of the El Verdúm association for the whole community. People regard it as the only source of income or the only way to increase the level of community development. The person is charge of this association is thus regarded as very important.

Ronaldo

Ronaldo is the president of the peasant syndicate, the community organisation of 12 de Octubre. His work as president focuses mainly on communal work for community development, such as economic development, electricity, drinking water, and infrastructure. His production system consists of his own cultivation on his plot.

Additional income comes from the money made from the production in El Verdúm. To him, one of the most important things is to make the community participate in community life. This means that they are present in meetings and contribute to the community; it also means that he has embedded the bureaucratic norm of IPHAE on community collaboration.

> *We are almost there, we are not 100%, but we are 80% ready. People are participating in meetings, and sometimes also in workshops. We are trying to improve. (Ronaldo, 2007)*

As president of the community and a member of El Verdúm, Ronaldo can be considered as having access to a certain number of authoritative resources. The relationship between himself and the president of the association is particularly important. He acknowledges the importance of the association. He sees it as the most important tool not only to realise community collaboration but also to achieve more strategic goals such as land titles. However, it also poses him the problem that, frequently, the association is valued as more important than the community organisation.

As a result, his participation in processes of institutional bricolage focuses mostly on the value of the association for the community, and especially for community collaboration. Ronaldo is thus trying to translate the NGO work on the association into messages that are useful to him as president. One of these messages relates directly to the NGO norm on collective action.

> *We have formed a group and therefore we succeed. So we continue to work as a group in the community and then receive help from IPHAE. (Ronaldo, 2008)*

Ronaldo's role in processes of institutional bricolage is similar to that of Edison: the embedding of the NGO norms. Although it might be expected that, as president of the whole community, Ronaldo would be the most powerful actor, his influence appears to be lessened by the importance of the local association. The frequent collaboration between himself and the association has resulted in blurry boundaries between the work of the association and the community organisation. Often, there is confusion among external agencies regarding who does what. The NGO also seems to interact more with the association than with Ronaldo, although preferably it should be the other way around as Ronaldo is the person with the highest formal ranking.

Evita

Evita is Diego's daughter. She is married and lives in the community with her two sons. Her forest and land use system resembles that of her father: most of her income comes from revenues from the association. Furthermore, she has some small-scale production on pieces of land that she shares with her father. Her husband frequently travels to Brazil to work. Evita is also active in the working group on agricultural production. She is a rather outspoken person who takes the initiative and frequently voices her opinion.

Evita is not happy with the current situation in 12 de Octubre. The income generated from the El Verdúm association and from the land is too small. Furthermore, she feels that they could do so much better if they were given the opportunity

> *We are lagging behind. When I go to Brazil, I see lampposts, electricity wires, and all the people in the villages have television and light. We do not work that well together. We need more support. (Evita, 2008)*

The support she wants should come from IPHAE; however, IPHAE does not completely agree with the agricultural production system. This production takes place mainly on cleared patches in the forest designated for the forest management plan. Evita states that the relationship between IPHAE and some people has worsened and that IPHAE is not that actively present anymore. As a consequence, she feels able to bend the rules on access to, and usage of, the forest and ignores IPHAE's norm on reforestation.

> *They do not trust us that much anymore. They fear we will cut down the forest. They told us we were not allowed to cut down the forest and that we need to reforest. (Evita, 2008)*

Evita does not hold a formal position in the village. However, she does appear to participate actively in processes of alteration of NGO norms. Furthermore, she has a clear definition of what a desirable livelihood means. The reason for her participation is kin. As explained, her father belongs to one of the influential families of the community. Evita has therefore the authoritative resources to go against the wished of the NGO. Furthermore, she has no formal relation with the NGO, like Edison or Ronaldo have. Therefore, she is relatively free to do what she wishes.

Box 5-1 NGO norms on forest use

Preference for collective action

Although the regulations of the 1996 Forest Law include both individual and collective ways to manage the forest, it is the collective management of forest resources that enjoys a preference. This is clearly visible in NGOs' promotional activities in relation to the forest law. As government officials do not always have the resources to visit local communities, NGOs take it upon themselves to explain the regulations to these communities. These explanations focus mostly on collective forest management. As a result, local communities have incorporated this discourse on collective action and see it as the most suitable instrument to achieve community development.

"We need to collaborate, otherwise we will not grow," a man explains in one village. "We do not have the means to develop without a strong community," another president explains, "Organisations will not come and help us if we do not have a well functioning organisation." This strong convention functions almost as a requirement for many NGO projects.

However, the organisation of a community is not as simple as is often perceived. "Initially all the community members were part of the association, but then we had to set up the rules and a lot of them left", a member of a local association explains. "There are many rules an association has to meet that were all explained by the NGO; however, these rules are too difficult for some people. Other people just do not like to follow rules." Furthermore, the promotion of organisations by development organisations also raises many expectations. "We were told we could make a good income with this organisation. But in the end we are just the same as before. We still need money and we are still jobless."

5.2.5 Conclusions on institutional bricolage in 12 de Octubre

The forest law has been successfully implemented in the 12 de Octubre community: the community has a forest management plan that enables it to sustainably manage the forest and make a collective income at the same time. In other words, 12 de Octubre is regarded by the local NGO IPHAE as a success for the region. However, the case study shows that compliance with the regulative framework for forest use is not a one dimensional process but rather is linked to many other considerations. The main reasons for embedding these regulations were the lack of land titles and the influence of the NGO IPHAE, and not because it is a formal requirement of the government. Furthermore, not all forest regulations are embedded; the community does not have an approved Brazil nut management plan. Processes of institutional bricolage have thus affected both forest practices. These are aggregation and alteration.

The processes of aggregation concern mostly the founding of the association and the related drawing up of a management plan. The drawing up of the forest management plan went hand in hand with the establishment of the El Verdúm association. As the forest management plan implied the collaboration of the community, the association was seen as a logical and necessary next step in order to extract timber commercially. This association, however, also became the embodiment of the recombination of various institutional elements resulting in multipurpose institutions. Collective action was not just an institution relating to income generation but also became linked to social cohesion, social security, and the strengthening of social relations. Now, the association has an important social function in the community as it connects with the embedded institutional framework and enhances feelings of belonging in the community.

Because of the association and the forest management pan, the Brazil nut collection has become more collective as well. This collaborative aspect is clearly influenced by the NGO IPHAE that continued to promote collective action as the appropriate tool for community development and sustainable resource management. This collaboration, however, has not yet resulted in a Brazil nut management plan. Nevertheless, the current perceptions and opinions of the 12 de Octubre community reveal increased consideration of the Brazil nut management plan. The president of the El Verdúm association even states that he is already in the process of drawing it up. This change in attitude towards the Brazil nut management plan also implies a change in traditional beliefs. These beliefs, that used to focus on the unquestioned individual right to Brazil nut collection that should not be changed, are becoming much more lenient in this respect.

The 12 de Octubre community is strongly linked to the NGO IPHAE. As stated before, IPHAE has played a very important role in this community. On the other hand, IPHAE often uses the example of 12 de Octubre in their extension work. They mention the community as being an example for the region. This has resulted in a certain degree of fame. This strong relationship and stimulation of the identity of the community as a progressive one can be considered as an important facilitator in incorporating certain norms of IPHAE and adopting their proposed forest practices. In addition to their work in respect to community forest management in El Verdúm, IPHAE started an agroforestry project in the community. However, recently the relationship appears to be under pressure. The agroforestry project has not been successful for everybody and the visits of IPHAE have become less frequent. Besides, the expected income from the forest management plans has been too low according to most community members. An effect is that, on one hand, some community members are considering a Brazil nut management plan, whereas others are starting to organise themselves to produce agricultural crops commercially. Whatever the outcome finally may be, 12 de Octubre demonstrates that the impact of an NGO can be significant.

5.3 Buen Futuro

When going from Riberalta to the Buen Futuro community, the wide Beni River needs to be crossed by boat, as there are no bridges. The community of Buen Futuro is located on the other side of that river in the middle of the former rubber and Brazil nut barracas (see Map 4-1). Although the area around Buen Futuro is characterised by flooding from the main rivers, the village itself is located on a higher area of land. The history of this community is strongly related to the rubber boom followed by the Brazil nut era. The inhabitants of Buen Futuro are the sons and daughters of the rubber tappers that worked for the big patrons in those days. The community appears to be very tranquil and neat. Freshly painted houses surround a big football field. There is even a white stand behind the goal.

The closed forest that surrounds the community is filled with Brazil nut trees. These trees tower above the already impressive forest. It is no surprise that the Brazil nut is the biggest source of income: there are many trees for people to collect from and the strong history with the barraca organisation is still of influence. This focus on Brazil nuts has even allegedly lessened dependence on timber extraction[7]. Furthermore, the community prefers to focus on agroforestry as a second source of income – an initiative that has been influenced by the presence of a migrant settler from the highlands and that has resulted in an agroforestry organisation.

5.3.1 Forest practices in Buen Futuro

The community of Buen Futuro lives mainly off the income generated from Brazil nut collection. Community members also practice small-scale agriculture for daily food consumption. Furthermore, many of them have some citrus trees. Their neighbouring community cultivates citrus trees on a relatively commercialised basis, and the effects of this are rubbing off on Buen Futuro. Some community members also have a few rubber trees. Although the rubber market collapsed decades ago (see section 4.2), this small-scale rubber tapping still generates a small income. Timber extraction is practiced mainly for subsistence purpose. As explained before, the Brazil nut income is considerable, and many community members claim that there is no need to extract timber for commercial purpose.

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[7] Interview community members Buen Futuro (2008)

A relatively new forest practice is agroforestry with fruit trees. In this case, the fruit tree is cupuazú. This was introduced into the community by NGO IPHAE. Now, the majority of community members have fruit trees such as cupuazú on their land. These agroforestry systems are for commercial purposes. Furthermore, agroforestry systems are perennial systems: the fruits can be collected throughout the year and thus provide an important additional income to the occasional income from Brazil nuts. Together, these two practices are the most important forest practices. They generate the majority of the community members' income. Furthermore, Brazil nut revenue is a very traditional income; community members have a strong relationship with this particular forest practice.

Brazil nut

The collection of Brazil nuts in Buen Futuro stems from the period of the barracas. The areas where Buen Futuro is now located used to belong to the main rubber patrones (patrons) who owned large land parcels. On these land parcels, migrants and indigenous community members collectively tapped rubber while living in barracas, settlements founded to host the rubber patrons' workers. After the rubber boom, these patrons shifted to the collection of Brazil nuts. Slowly, the barracas closed and their former workers settled in the area. The livelihood of these settlers still focuses on the collection of Brazil nuts. Therefore, not only is the Brazil nut the most important source of income, its collection is also the traditional forest practice in Buen Futuro.

The external institutions affecting the collection of Brazil nuts consist of introduced government regulations and NGO norms. These are similar to the formal institutions affecting the same forest practice in 12 de Octubre. As explained, the government has introduced new regulations that require a Brazil nut management plan for the collection of Brazil nuts. These government regulations are complemented by the NGO norms on sustainable forest use and collective action. For example, local NGO IPHAE is also promoting this Brazil nut management plan as the appropriate way to manage the forest. Furthermore, the aspect of collective action embedded in the Brazil nut management plan is also regarded by the NGO as the most appropriate way of working and achieving community development.

In addition to the formal institutions, local norms and beliefs structure Brazil nut collection. As explained, Brazil nut collection is a historical forest practice. Over the years, certain norms on the organisation of this collection have emerged. These norms mostly entail messages about individual collection as the most appropriate form of collection. Furthermore, extractive practices in general are considered the most common type of forest practice. The fact that it is considered a common and appropriate practice also relates to certain traditional beliefs. These are beliefs involving the tradition of unlimited access to forest resources and aversion to restrictions on this access. The community considers the forest theirs and the Brazil nut to be always a source of income. Table 5-3 gives an overview of the main institutions affecting Brazil nut collection in Buen Futuro.

Table 5-3 Institutions and Brazil nut collection in Buen Futuro

Bureaucratic institutions	**Socially embedded institutions**
Regulative rules	
Forest Law, Brazil nut management plan (Government)	
Social norms	
Norms on sustainable forest use (IPHAE)	Norms on appropriate forest use
Norms on collective action (IPHAE)	
Cultural beliefs	
	Beliefs on forest resource extraction

Agroforestry

In the late 1990s, NGO IPHAE started a development project in the community. One aspect of this project was the introduction of agroforestry systems. NGO promoted the production of the fruit tree cupuazú as an alternative and sustainable source of income. This agroforestry project was furthermore accompanied by several workshops on collective action, community development, and the sustainable use of forest resources.

The collaboration of one Buen Futuro inhabitant, who also happened to be a local field officer for IPHAE at that time, was important in this project. This inhabitant, Lionel, played an important role in the participation of the community and the adoption of agroforestry systems among certain community members.

The government does not regulate agroforestry systems; there are no rules structuring this forest practice. As a result, the only external institutional influence comes from the NGO IPHAE. As explained before and similar to other cases in which IPHAE is active, the norms of IPHAE embody a preference for sustainable forest use and collective action. IPHAE perceives agroforestry systems as stimulating reforestation. Agroforestry involves mainly the planting of trees, but IPHAE seizes the opportunity to inform the community on the need for collective action. Although agroforestry itself is in essence an individual practice, IPHAE links it to general extension practices on community development. On top of that, the initial phases of the project are set up in a collective manner; all of the participants are involved in helping out in the cleaning of land or creating a common nursery.

Agroforestry is, however, a relatively new practice. The Buen Futuro community does not have much experience with planting trees and producing fruits. Therefore, there are not many embedded peasant-community norms or beliefs directly relating to this particular forest practice. However, the community does not completely consist of peasant farmers who used to work in the barracas. One migrant farmer, Lionel, has been living in Buen Futuro for years. He originates from a different area in Bolivia in which agricultural production and tree planting are more common. Because of his history with the community, Buen Futuro has become used to these types of non-extractive practices. Moreover, the migrant farmer has become a rather important person in the community. He is the field officer of the NGO IPHAE, and his knowledge on certain land and forest use systems is quite significant. Consequently, community members have adopted some of his practices, and his norms and beliefs on these practices. The norms, for example, proclaim a so-called pro-active working attitude. This is a change from the working attitude of extractive communities in the sense that it implies a more initiating approach towards a more intense and ongoing production of forest products instead of waiting for the harvesting period. The beliefs relating to agroforestry are also derived from the migrant farmer and focus on the tradition of production instead of extraction. Table 5-4 gives an overview of the main institutions affecting agroforestry practices in Buen Futuro.

Table 5-4 Institutions and agroforestry practices in Buen Futuro

Bureaucratic institutions	Socially embedded institutions
Social norms	
Norms on sustainable forest use (IPHAE) Norms on collective action (IPHAE)	Norms on appropriate forest and land use (migrant settler)
Cultural beliefs	
	Beliefs on production of crops and products

5.3.2 Brazil nut collection and institutional bricolage

As stated above, Brazil nut collection is affected by several related institutions, both socially embedded and bureaucratic. These institutions are subject to processes of institutional bricolage involving institutional reshaping. Processes of institutional bricolage relating to the collection of Brazil nuts involve the **articulation** and **alteration** of both bureaucratic and socially embedded institutions.

The **articulation** of bureaucratic institutions relates to rejection of the formal regulations of the forest law prescribing a Brazil nut management plan. This process of institutional bricolage is visible among certain members of the community, especially those who would like to use one of the areas in Buen Futuro in order to found a new community there. The process of articulation therefore implies a claim that is made on the traditional identity of the campesinos. Traditionally, this community lives off the collection of Brazil nuts and regards access and collection practices as an unquestioned and foremost traditional right. Restrictive regulations by the government threaten these deeply embedded beliefs. Consequently, community members reject the formal regulation of the government.

However, Brazil nut collection also relates to processes of **alteration** of bureaucratic institutions. These processes imply a less strong dismissal of the forest regulations prescribing a management plan. This process is seen among the majority of the community and consists of rule bending leading to the negation of the regulations. Community members justify their choosing negation by stating that these rules are not meant for them, or that it is not possible to execute the rules. Furthermore, they mention also that these rules are not yet operational and are therefore not yet applicable to their situation. This final remark relates to problems with the implementation of the Brazil nut management plan in Bolivia – problems that are also mentioned in the case of 12 de Octubre (see section 4.5.1). In addition, the promotion of the Brazil nut management plan by IPHAE has not yet been very effective. IPHAE promotes the Brazil nut management plan as the appropriate way to use these resources sustainably. This promotion by IPHAE, however, has not yet resulted in a Brazil nut management plan for Buen Futuro. Support for the plan is low and only the president of the community is currently considering this idea.

The final process of institutional bricolage, the **alteration** of socially embedded institutions, demonstrates that the external institutions did have some influence on the local norms on Brazil nut collection. Although many community members chose not to comply with the government regulation and ignored the norms of the NGO IPHAE, the introduction of these rules and norms did result in a gradual change of certain socially embedded norms on Brazil nut collection. These local norms relate to the perceived unlimited access right and appropriate forest use that did not contain elements of sustainable behaviour. For example, local norms did not entail notions of regeneration of Brazil nut trees. Now, the community realises that these norms may need to be reconsidered as people become more aware of the need to conserve the forest. As a result, the way people manage the Brazil nut trees closer to their homes has changed. These trees are often found in the vicinity of the agricultural plots and are prone to the risk of the slash and burning system of agricultural production. Now, community members protect the trees better from fires and treat them in general with more care to ensure continuous production. Figure 5-3 demonstrates the main processes of institutional bricolage relating to Brazil nut collection in Buen Futuro.

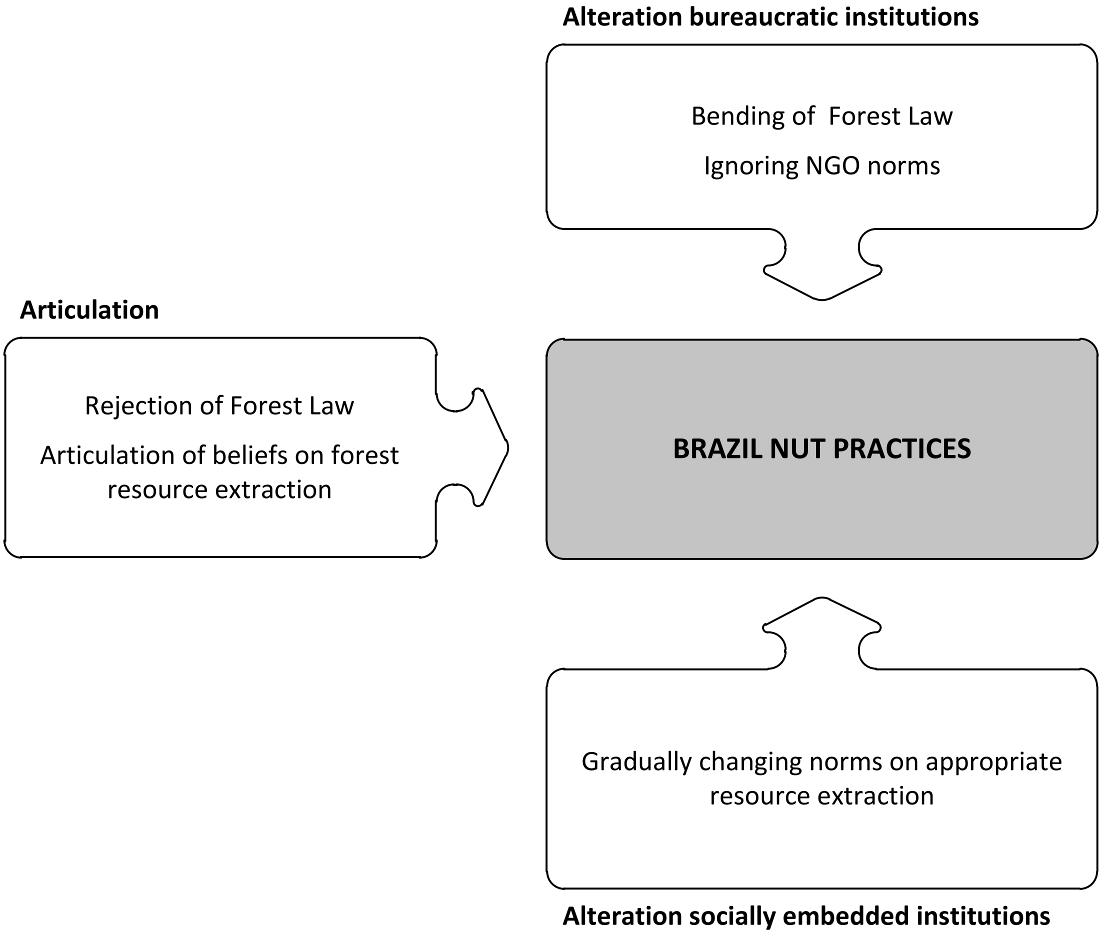
Alteration bureaucratic institutions
Bending of Forest Law
Ignoring NGO norms
Articulation
Rejection of Forest Law
Articulation of beliefs on forest resource extraction
BRAZIL NUT PRACTICES
Gradually changing norms on appropriate resource extraction
Alteration socially embedded institutions

Figure 5-3 Institutional bricolage and Brazil nut collection in Buen Futuro

5.3.3 Agroforestry practices and institutional bricolage

The bureaucratic institutions that affect agroforestry practices consist mostly of the NGO norms on sustainable resource use and collective action. These institutions relate to the practice of agroforestry and are introduced to the community through the NGO IPHAE project. The processes of institutional bricolage relating to agroforestry practices can be described as the **aggregation** of socially embedded and bureaucratic institutional elements, and **alteration** of bureaucratic and socially embedded institutions.

The process of **aggregation** of bureaucratic and socially embedded institutional elements entails the recombination of NGO norms and various local norms. This process was initiated by the attraction of agroforestry as a possible source of income; this in turn resulted in community members adopting the agroforestry practices. The norms that were recombined were those of the NGO on collective action and the local norms originating from the migrant settler but which can be considered as embedded norms. One of the reasons for this aggregation was the popularity that the migrant settler enjoys in the community and his formal function. As a relatively successful producer and field officer of IPHAE, many community members regard the migrant settler as an interesting example. Furthermore, the economic revenues from his land use system and his knowledge have provided him with authoritative resources. This enables him to influence processes of institutional bricolage in the community of Buen Futuro. Moreover, his ideas and the embedding of the NGO norm on collective action have even resulted in the idea of establishing a local agroforestry association, APAE.

The process of **alteration** of bureaucratic norms involves the ignoring of the NGO norms on sustainable forest use. In contrast to the processes of institutional bricolage that resulted in considering a more sustainable Brazil nut collection, this NGO norm is rather ignored in agroforestry practices. NGO IPHAE perceives agroforestry as an instrument for reforestation, which is in turn an important aspect of its norms on sustainable use of forest resources. This could be related to the fact that community members might not see a real need in reforestation, as the forest in the area is rather abundant. They often refer to the large quantity of trees in the area and the fact that resource degradation is not felt. At this moment, their interest in agroforestry lies in its potential economic benefits. This has also resulted in the idea to found APAE.

The process of **alteration** of embedded institutions concerns the influence of the migrant settler on local norms. As mentioned, these norms have already been changing because of his presence. However, in combination with the activities of IPHAE, the community members are increasingly changing their norms on extractive livelihoods into more active and productive norms. As explained, the embedded norm on resource extraction and work ethic has always been characterised by the collection of forest resources and some small garden production. Because this system was rather extensive, norms were based on a preference for this extensiveness. Agroforestry demands a more active work attitude, one that greatly resembles the attitude of the migrant settler whose tradition would tend towards production rather than extraction. As mentioned in the other processes, the peasant community is already in the process of founding an association. This association will focus on the production of agricultural and agroforestry products and is an example of a new attitude towards working. Figure 5-4 gives an overview of the mechanisms of institutional bricolage and institutions relating to agroforestry practices in Buen Futuro.

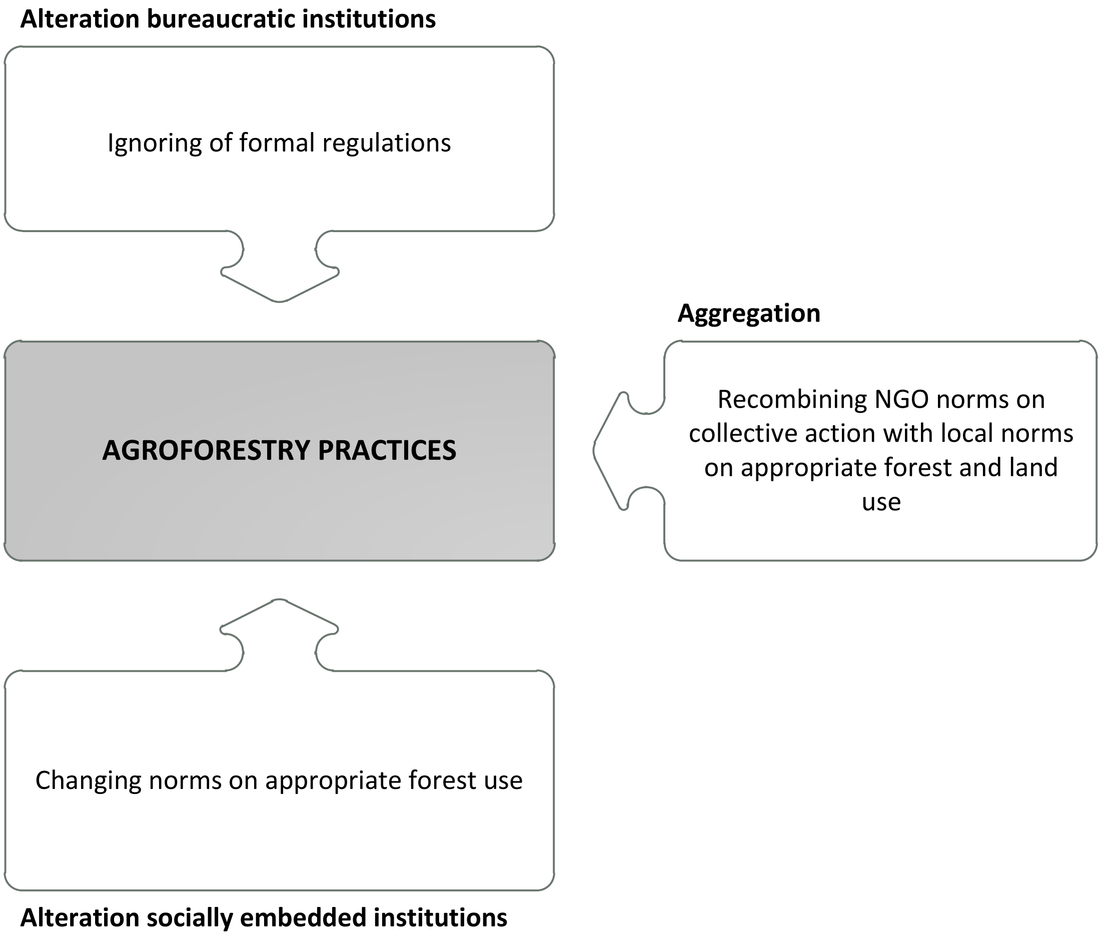
Alteration bureaucratic institutions
Ignoring of formal regulations
Aggregation
AGROFORESTRY PRACTICES
Recombining NGO norms on collective action with local norms on appropriate forest and land use
Changing norms on appropriate forest use
Alteration socially embedded institutions

Figure 5-4 Institutional bricolage and agroforestry in Buen Futuro

5.3.4 Bricoleurs

Lionel

Lionel is the migrant settler in the community. He is originally from the highland area in La Paz province but moved to the lowlands in search of a better life. He therefore does not belong to the same group as the peasants that came to the Amazon because of rubber and the Brazil nut. He is called a migrant settler or a colono and came to this area on his own initiative. Before arriving in Buen Futuro, Lionel had already lived in several different places and, moving from one place to another, he finally arrived in Buen Futuro, where he married and had children. The traditional production system that he brought with him is based mainly on agriculture and not on extractive activities in the forest. Over the years, he successfully adapted this land use system to the local circumstances. All the knowledge that he gathered in all the places he lived is now put into practice in Buen Futuro.

It took a few years for Lionel to become accepted in Buen Futuro. Not only was he a newcomer but he also had a different land use system. However, this land use system turned out to be quite successful. Lionel was able to earn more income from his land use system than the rest of the community could from theirs. This caught their interest, as they wanted to know how he managed his system. In addition, Lionel was able to hire local labour; people from the community were able to work temporarily on his land. Finally, Lionel became the local field officer for IPHAE. All these factors contributed to the increase in respect for Lionel. Consequently, he obtained certain authoritative resources in terms of economic resources, knowledge, and relations with the external NGO.

These authoritative resources enabled him to shape certain processes of institutional bricolage. This was particularly visible during the processes relating to agroforestry practices. These processes were characterised by alteration and aggregation of NGO norms and embedded institutions. Lionel played an important role in the aggregation of the NGO norms; he combined IPHAE's ideas on agroforestry with his own ideas about land use systems. This did not pose too many problems, as the NGO ideas resembled his existing norms and beliefs on forest and land use.

> *I like to produce and work with new ideas. I will try out everything that IPHAE presents to me and that seems interesting. I also develop my own ideas. Over the years, I picked up a lot of ideas on my travels and I try them out here. (Lionel, 2007)*

Lionel was used to a more intensive land use system entailing the planting of trees. Because of his economic resources and his knowledge, Lionel was seen by the rest of the community as an interesting example to follow. Consequently, he was able to influence the process of aggregation, and this led to an embedding of his norms on appropriate working attitude. Furthermore, his participation in processes of institutional bricolage resulted in the community's acceptance of the NGO norm on community collaboration. This has even resulted in a new organisation. Recently, Lionel, with other community members, initiated a new plan to market their production through a local association, APAE, set up in order to improve the commercialisation of agroforestry and agricultural crops. Furthermore, it is mixture of both his norms and beliefs and those of IPHAE.

Lionel's role in processes of institutional bricolage has been important. The community members regard him as the wealthiest and most knowledgeable person in Buen Futuro. He was able to obtain an important social position in the community as consultant and provider of labour. He is not seen as an outsider anymore. As a result, his authoritative resources enable him not only to take part in processes of institutional bricolage but also to act as a social change agent. He is responsible for a shift among the peasant community members of Buen Futuro from traditional extractive culture to a more active culture of production and commercialisation.

Romário

Romário is the president of the community. He is one of the few people that was born in Buen Futuro as most of the inhabitants moved to this location from other communities or barracas. His father was a rubber collector and was one of the first people to arrive in this area. Romário's production system initially focused on the extraction of Brazil nuts, with some small subsistence production in gardens. In the late 1990s, however, Romário started to incorporate agroforestry in his production system because of its promotion by IPHAE. As president, he often collaborates with IPHAE. This NGO works mainly with the community president as he is supposed to be a powerful man in the community. This collaboration between Romário and IPHAE has resulted in him functioning as a promoter of IPHAE's objectives: reforestation and sustainable development. In a way, he and Lionel have the same role: promoting IPHAE's work. However, the difference is that Lionel has been actively promoting agroforestry whereas Romário promotes Brazil nut management plans. Romário is not a great fan of the difficult agroforestry products and sees more potential in a communal Brazil nut management plan for the so-called third land area located further away.

> *This is an area we have and that we only want to manage as a, how do you say this, a protected area that we do not want to destroy it because it is a protected area and an area only for the collection of castaña. (Romário, 2008)*

His authoritative resources necessary to participate in, and influence processes of, institutional bricolage are linked with his function in the community. As president, he is perceived to have a certain power or influence in the community. Furthermore, his function also enables a more frequent collaboration with external actors such as IPHAE. These external relations reinforce his status as leader. Finally, he is the son of one of the founders of the community. This also gives him a certain social status in Buen Futuro.

These authoritative resources enable Romário to influence processes of institutional bricolage, in particular those relating to Brazil nut practices. His influence is most visible in the alteration of socially embedded norms on these practices. These norms were part of the unquestioned traditional right to collect Brazil nuts that did not entail restrictive aspects for collection. Romário's support for the Brazil nut management regulation and its related norms on collective management and sustainable use of resources has led to a change in these socially embedded norms. Community members have started to become more aware of the need for conservation. They are increasingly willing to change their norms on these forest practices. However, the community members are not yet very positive towards Romário's intentions to draw up a Brazil nut management plan.

Although Romário agrees with the IPHAE's concern for conservation, he is not positive towards the agroforestry projects. He did not embed the related NGO norms on agroforestry as the appropriate tool for reforestation and community development. His main reason for not internalising these norms is that he finds it hard to produce and sell the agroforestry product, cupuazú. As a peasant with a tradition of resource extraction, Romário has some problems with the new production systems and the new working attitude that they require. Consequently, his participation in the related processes of institutional bricolage is not big. He does, however, support the idea of community collaboration and tries to convince community members to collaborate.

Romário's role in institutional bricolage relates mostly to the process of alteration of the local norms on Brazil nut collection. He contributed to a gradual change in norms on Brazil nut collection that changed from unrestricted and unquestioned to more careful. This has led, for example, to a better management of Brazil nut trees closer to homes. However, Romário's influence in the community is not enough for him to be able to convince the community of the need for a Brazil nut plan. Actually, he is one of the few actors that are considering this idea; other community members do not yet agree with the plan and have their own ideas about it. Romário's authoritative resources, therefore, are not yet sufficient for him to change the attitude of the community and to act as a local change agent. He is, however, an important bricoleur who may be able to achieve a Brazil nut management plan in the future.

Francesco

Francesco lives with his wife, his daughter, his daughter's husband, and his two grandchildren in Buen Futuro. He originally came here for rubber collection as did the family of his wife, who has a peasant mother and an indigenous father. Francesco's production system consists mainly of the collection of Brazil nuts and agroforestry. Most of his agroforestry system focuses on cupuazú plants that he got from IPHAE. This system suffices for Francesco in terms of income. His son-in-law used to work in Riberalta but decided to move to Buen Futuro and is helping him out on his land while he is waiting to obtain his own land. He hopes to settle in the third area located further away from Buen Futuro, the area intended for collective Brazil nut management.

Francesco frequently interacts with Lionel. Lionel has become a good friend and a source of information for Francesco for his forest and land use system. This social relation has resulted in Francesco internalising Lionel's norms and traditions on the appropriate forest and land use system. This has resulted in a change in Francesco's forest and land use system: it focuses more on agroforestry than on forest resource extraction. Furthermore, Francesco has also become a member of the APAE initiative. Consequently, Francesco's relationship with Lionel has resulted in many changes for Francesco; he has aggregated his own traditions with new norms and ideas on agroforestry presented by IPHAE and supported by Lionel. He still has a strong tradition of resource extraction from the forest, but he has also embedded new norms on working collectively and more commercially. However, Francesco does not favour drawing up a forest management plan. He would like this forest area to be used for a second settlement. He has therefore ignored the messages of the president and the NGO IPHAE concerning this forest practice.

> *They talk about this Brazil nut management plan. But this forest area on the other side of the river is better to be used for families. The younger generations need more land and that is what this area is meant for. (Francesco, 2008)*

Although Francesco has authoritative resources derived from social relationships and kin, his role in processes of institutional bricolage aims mostly at improving his personal situation. He has embedded the IPHAE norms on agroforestry because he feels it suits his ideas about how he wants his life to be. These ideas about livelihood are in turn influenced by his friendship with Lionel. However, Francesco's role in the community is not that big. He prefers to interact with certain community members; however, he is not a bricoleur on the same scale as Lionel or Romário. He does not try to influence a whole community.

Marco

Marco is one of the large landowners in Buen Futuro. He does not live in the centre of the community but across a small river on a large area of land, which he shares with his mother, the oldest, and one of the most respected inhabitants of Buen Futuro. Marco has

400 hectares of land that stretch from the river into the forest. He lives mostly on the revenues from Brazil nut collection but has also started some plots for agroforestry. Furthermore, he recently also started to plant some timber species. This is mostly for his children since it will take decades for these plants to grow. Marco's forest and land use system is mostly characterised by traditional forest resource extraction, and his main income comes from the collection of Brazil nuts. In addition, he has a large agroforestry plot on his land. The relative success of agroforestry and the abundance of Brazil nut trees on his land have also resulted in an increased awareness of forest conservation.

> *Why should I cut down the trees, it costs a lot of work to cut them down, take them to the road and sell them. I do not need to cut down trees, I have all these castañas. (Marco, 2008)*

Marco does not favour a Brazil nut management plan. He even rejects this idea championed by the community president. His rejection of this management plan relates to an articulation of his own norms and beliefs. To him, the extraction of resources from the forest is perceived as a traditional right, and these formal regulations would only restrict this right. His appropriate way of collecting is similar to his livelihood: he prefers to collect individually on his large land area. This perception may be related to the fact that Marco lives outside the village at a relative distance from the centre. He does not see any benefits in community collaboration in terms of the Brazil nut.

However, he does not mind collaborating in agroforestry production. He has joined the APAE initiative and has expressed his interest in any extra source of income. In this case, he did embed the NGO norms on collective action. This has resulted in rather contradictory processes of institutional bricolage. Regarding the Brazil nut, he does not favour collective action or any external influence. However, his agroforestry practices show a tendency towards collaboration. This is explicable mainly by the fact that the bureaucratic institutions relating to the Brazil nut threaten his identity and his traditional beliefs on forest extraction. Agroforestry does not pose that same threat as it is a new practice that is not yet structured by traditional institutions.

Marco's role in processes of institutional bricolage is rather individual. The location of his house results in him often working alone and not taking part in the everyday interaction that happens in the centre. In addition, his authoritative resources are based mainly on kinship. His mother is still alive and considered a wise woman in Buen Futuro. He therefore enjoys a certain respect as son of the oldest inhabitant. This allows him to make his own choices in processes of institutional bricolage and not let himself be influenced by other people.

Box 5-2 Peasants' community norms on resource extraction

Extractivism among *campesinos*

"We have an extractive culture, we are not used to planting or producing", the peasant explains when he talks about his forest. "That's why it is sometimes so hard for us to try out different thing, we are not used to that."

The peasant communities of the Northern Bolivian Amazon are strongly connected to the extraction of forest resources. For generations, they have worked in the *barracas* and dedicated their working hours to the extraction of forest resources. There are many stories of people forgetting about certain livelihood or agricultural practices because of the *barracas*. As they were only obliged to collect either rubber or Brazil nuts, collectors did not have the time to engage in agricultural production. The patron supplied all necessary goods, resulting in a loss of knowledge over generations and a great dependency on the patron. "Many people forgot in the *barracas* how it was to plant crops, to live off other forest resources and not to be dependent on the Brazil nut or rubber", explains an extension officer. "They do not have the culture to plant or produce, they have a culture to extract. Sometimes, people call the *campesinos* lazy just because they appear to be waiting for the *zaffra* – the Brazil nut harvest – instead of planting some crops. But they are not lazy, they have a different culture."

This image of 'lazy campesinos' demonstrates the effect that working in the settlements of the big rubber patrons has had on the identity of peasants. It is not just a forest use system, rubber and Brazil nuts are completely intertwined with the lives of the peasants. These extractive practices are what they know best. "My *castaña* trees are so important to me. I would not know what to do without them", an old man states, gesturing to a few Brazil nut trees in the distance. "Some time ago, I almost lost them in a bush fire, we all worked so hard to save the trees. My life would not be the same without them." He has a forest and land use system of all kinds of crops, agroforestry, and fruit trees. He does not have that many Brazil nut trees. However, even at his age, the man still goes into the forest each year during the rainy season to collect the large nuts in heavy baskets.

5.3.5 Conclusions on institutional bricolage in Buen Futuro

The processes of institutional bricolage in Buen Futuro relating to the two forest practices, Brazil nut collection and agroforestry, can be characterised as processes of aggregation, alteration, and articulation. Some of these processes concerned the introduction of government rules on Brazil nut collection; however, most of the processes were a result of the introduction of NGO norms that accompanied the introduction of agroforestry practices.

The community has not embedded government regulations concerning Brazil nut management. The influence and impact of the government therefore remains limited. There are various reasons for this. First, the community is relatively isolated because of its location. Therefore, the amount of external influence is low, and government officials do not pass by frequently. Second, government organisations do not have the resources to monitor and control the regulations on Brazil nut collection. Third, the regulations were considered by some community members as too restrictive and too intrusive as they did not take into consideration the community's traditional history of resource extraction. As a result, community members have rejected or ignored these regulations.

Institutional bricolage processes relating to the NGO norms consisted of alteration and aggregation. These processes were influenced by the presence of the local migrant settler. He played an important role in the embedding of these norms, as he possessed sufficient authoritative resources as successful producer and field officer of IPHAE. These processes of alteration and aggregation led to a partial embedding of certain NGO norms, especially those on community collaboration. As a result, socially embedded institutions gradually changed as well. Community members no longer exclusively live off a forest and land use system that is mainly based on resource extraction but have a more active work attitude resulting in production that is more intensive. An example of this change in attitude is the recent initiative, APAE that embodies these new norms on appropriate working attitude and increased commercialisation.

However, not all NGO norms were embedded locally. Agroforestry projects were accompanied with the message about reforestation. However, the community did not embed this NGO norm. The reason for this is that the community ignored the message on reforestation and preferred to focus on the potential of agroforestry to generate income. Again, the role of the migrant settler was important as he too focused first on income generation and not on reforestation. Other reasons for not embedding this norm could be related to the low level of deforestation in the area, or to the fact that IPHAE has not promoted the norm on reforestation that much.

Processes of institutional bricolage in Buen Futuro have thus been dominated by the introduction of NGO norms and the role of the migrant. The influence of government has been rather limited, especially in comparison to the NGO's influence. By collaborating with the community, and working closely with the president as well as the migrant settler, the NGO has built up a certain reputation and authority within the community. As a result, it has been able to change some socially embedded norms and even raised awareness about forest conservation.

5.4 Palmira

The community of Palmira is located on a short distance from the road connecting Riberalta with the Brazilian border (see Map 4-1). The long road leading into the village has many muddy side roads that link up with individual houses. In Palmira, the people live on their land parcel and not in the centre of the community. Consequently, there is no big centre, and the community appears to be hidden behind bushes and trees. The road ends at a small church, a house, and a football field. The village appears very quiet, and it is hard to comprehend its size. The individual houses scattered over the area and the lack of a community centre seem to presage the situation in Palmira. This community is known as an individualistic community; community members keep to themselves and decide individually what they want. On top of this, the social life in Palmira is even further disrupted by a long-lasting social conflict between certain members of the community.

However, community members in Palmira do not have many options from which to choose. Their small land parcels are cleared of most timber species, and the number of Brazil nut trees on their land is low. Consequently, Palmira does not offer many income-generating opportunities. Furthermore, its location near the city of Riberalta has triggered processes of migration or urbanisation. Obviously, these processes are even more reinforced by the lack of income-generating opportunities. Many families live partly in the city, trying to earn an income that supplements their lives in the community. This situation may very well be the reason for the lack of community life. This lack has, however, a serious consequence. Many development organisations prefer not to work with this community, as it is unable to organise itself and participate as a whole in the project. Organisations almost demand high levels of participation and have a strong preference for collective action. As Palmira cannot guarantee participation or meet the requirements, government organisations or NGOs do not favour working with them. In spite of this, one local NGO, IPHAE, has started an agroforestry project in the community as an alternative source of income and a way to practice reforestation in the area.

5.4.1 Forest practices in Palmira

One of the consequences of the small land parcels in Palmira is that many community members have tried to find their own solution to the lack of income-generating opportunities. The result is a high diversity of forest and land use systems. Everyone, though, has an agricultural plot on which they produce their food. This agricultural plot is one of the most important sources of food. In addition to this production, some community members have pigs, ducks, and chickens, or hunt. Other community members produce rice or are still able to make money from timber. Even the Brazil nut collection is different among the various community members, as not everyone has a lot of trees on their land. Some only collect what can be found on their land, whereas others move to the distant barracas to collect Brazil nuts, and still others extract the timber left on their land. Finally, the most important source of income comes from the forest use system introduced by the NGO IPHAE: agroforestry.

Agroforestry

Agroforestry is one of the more recent additions to forest use systems. At the end of the 1990s, NGO IPHAE started an agroforestry project in the Palmira community. As in other locations, this agroforestry project included the cultivation of fruit trees such as cupuazú. Initially, almost all members of the community joined the project. The community president was able to convince the majority of the community to participate. However, participant numbers quickly declined. The social conflict and disappointing results were the main reasons for not continuing. As a result, IPHAE scaled down its facilitation and interaction and continued only with those few that remained in the project. The consequence is that now only a few community members are benefiting from the agroforestry project. One actor really exceeded the group level and established a special relationship with IPHAE. This has resulted in a further increase in the internal social divide.

As mentioned in the case of Buen Futuro, agroforestry is not bounded by any government rules. Thus, the only external institutions relating to agroforestry are the norms of NGO IPHAE. IPHAE has a long history in promoting agroforestry systems for communities. Similar to the other cases, these agroforestry projects too were accompanied with norms on the sustainable use of forest resources and a preference for collective action. The latter was especially important in this context as it quickly became clear that Palmira does not have much community collaboration. The relation between sustainable forest use and agroforestry is also similar to other cases: agroforestry is perceived as reforestation.

Locally, the community also has certain norms and beliefs affecting their agroforestry practices. Because of the local situation, many norms are applicable. First, the community itself has a norm on community collaboration. As the community president explains, the constitution of the community states that people should be committed to participate in community life. This norm relates to the IPHAE norm on collective action. Second, the influence of the church is quite strong in this community. Some community members belong to the Evangelistic Church, which disapproves of working together. This norm contradicts that of the community president. Third, community members have certain norms on appropriate forest use. These norms slightly differ from each other because of the individualistic character of the community. However, the majority of the community still regard resource extraction as an appropriate livelihood. Fourth, the proximity of the city of Riberalta has an impact on the norms on appropriate livelihood. People want the life of the city with all the benefits and options a city brings. In addition, large-scale cattle owners dominate the area surrounding Riberalta. To the community, these cattle owners appear to be rich, free of regulation, and independent. Consequently, they see cattle farming as a very desirable lifestyle. A final locally embedded institution is the traditional belief in resource extraction that is common among all peasant communities in this region. Table 5-5 gives an overview of the main institutions affecting agroforestry practices in Palmira.

Table 5-5 Institutions and agroforestry practices in Palmira

Bureaucratic institutions	Socially embedded institutions
Social norms	
Norms on sustainable forest use (IPHAE) Norms on collective action (IPHAE)	Norms on community collaboration (president & church) Norms on appropriate forest use Norms on desirable livelihood
Cultural beliefs	
	Beliefs on forest resource extraction

5.4.2 Agroforestry practices and institutional bricolage

As stated above, the only external institutions affecting agroforestry practices have been introduced by the NGO. However, the local processes of institutional bricolage are diverse and often relate to only one or a few persons. The processes of institutional bricolage that can be distinguished are the **aggregation**, **alteration**, and **articulation** of institutions.

The processes of **aggregation** of various institutional elements concern the recombination of the norm of NGO IPHAE and a local norm. The IPHAE norm is the one on the sustainable use of forest resources. The local norm part of this process is the norm on a desirable livelihood. As explained, the community is located relatively close to the city, and community members have strong ideas about the type of life they want to lead. These ideas are not just rational income-generating ideas but also contain norms on what is considered an appropriate lifestyle. Their wish to have a motorbike, or to have a life free of regulation and interference by the government, are examples of these norms on ideal life types. Agroforestry projects were seen as a first step in this direction as they promised a higher income. This process of aggregation is notable among two actors who have consequently embedded the NGO norm on sustainable use of forest resources as mentioned above.

The processes of **alteration** of bureaucratic institutions involve the two NGO norms on sustainable use of forest resources and collective action. These processes were visible among a few actors who participated in the agroforestry project but who ignored either one of these norms. For example, one actor who has quite successfully adopted the agroforestry practices and embedded the norm on sustainable use of forest resources ignores the one on collective action. He does not share his knowledge and experience with other members of the community and does not like to participate in communal undertakings such as setting up a tree nursery or organising commercialisation collectively. He works individually with the NGO IPHAE. Other actors, also rather successful in agroforestry, ignore both the norm on sustainable use of forest resources and on collective action. They mainly work alone and are among the biggest timber sellers of the community.

The processes of **alteration** of socially embedded institutions are applicable to the most successful agroforestry producer. As a result of NGO influence, this actor has altered his local norms and beliefs on forest extraction. He therefore changed his traditional beliefs based on resource extraction and became a more productive actor focusing on agriculture and some pigs and cows. In addition, his norms on appropriate forest use also changed. They resemble those of the NGO on sustainable use of resources and contain all kinds of aspects on conservation and forest protection for the future.

The final process is the **articulation** of socially embedded institutions and mostly relates to actors who no longer participate in the agroforestry project. Although initially a majority of the community participated in the agroforestry project, many actors from Palmira decided later to abort it. The reasons for leaving this project were mainly disappointing results and problems managing the agroforestry system. This disappointment led to a rejection of the NGO norms on sustainable forest use and collective action by making claims on their beliefs and norms. In Palmira, one of the main barriers to participation in agroforestry practices is the religious norm on appropriate behaviour that disapproves of collective action. This norm of the Evangelistic Church in Palmira is strong among its churchgoers. In addition, it enforces the embedded norm on individual behaviour resulting from the conflict and contextual factors in the community. Furthermore, the norm on sustainable resource use is necessarily connected to agroforestry. Agroforestry requires a rather productive attitude towards forest use, whereas extraction is more extensive. The disappointment about the agroforestry project felt by some of the participants resulted in them making claims on their tradition of extraction and on the fact that this agroforestry project did not take that tradition into account. Figure 5-5 provides an overview of the processes of institutional bricolage relating to agroforestry practices in Palmira.

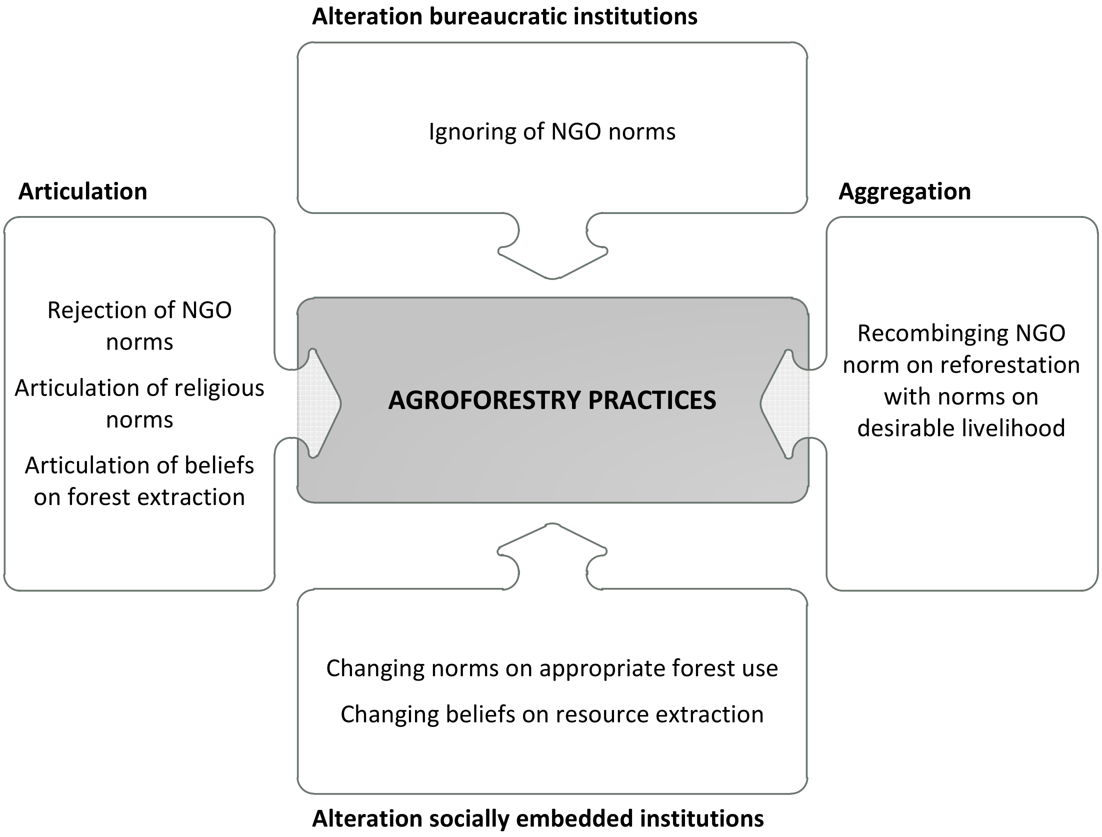
Alteration bureaucratic institutions
Ignoring of NGO norms
Articulation
Rejection of NGO norms
Articulation of religious norms
Articulation of beliefs on forest extraction
Aggregation
Recombinging NGO norm on reforestation with norms on desirable livelihood
AGROFORESTRY PRACTICES
Changing norms on appropriate forest use
Changing beliefs on resource extraction
Alteration socially embedded institutions

Figure 5-5 Institutional bricolage and agroforestry in Palmira

5.4.3 Bricoleurs

David

David, like many other inhabitants of the region, originates from a rubber collecting family that worked on the barracas. When rubber production declined, the family moved to Riberalta and became involved in Brazil nut collection. In the early 1990s, he moved with his family to Palmira and bought himself some land. In those days, he was still working in Riberalta and was regularly commuting between Palmira and the city. However, in 2000, he finally moved permanently to Palmira. A great fire had destroyed his crops while he was away from the community, and he decided he needed to manage his land better. He lives almost full time in Palmira with his wife and his young children. Now, David has increased his area from the initial two hectares to 80 hectares. He bought some small livestock such as pigs and a few cows. With these animals, he hopes to cover his family's daily expenses.

David was able to buy these cattle because of his participation in the agroforestry project. He became quite successful with his agroforestry system in terms of economic returns. He is one of the actors that completely embedded some of the IPHAE norms. He embedded its norms on reforestation; he claims to be aware of the need for conservation. This changed his tradition of forest extraction common to peasants and made him extract less timber.

> *It is very simple; the money I get from cutting down a tree is nothing in comparison to the costs of destruction. I only cut down trees when I really need the money, the rest I want to keep for my children. (David, 2007)*

The reasons for embedding the NGO norms relate mostly to the cash-income needs experienced by the Palmira inhabitants. Just like David, many community members initially joined the project. However, David turned out to be the most eager participant. As the NGO noticed this, it focused its assistance and activities more and more on him. This even created a personal relationship between him and some IPHAE members. His production system benefits also from this in the sense that, through IPHAE, he has access to markets and expert advice. Consequently, he has mixed his own ideas about income generation and ideal life type with those of IPHAE and has benefited greatly from it.

However, he has not incorporated the NGO norms on collective action. He does not like to share his knowledge with the rest of the community. Because of his individual outlook combined with his success in agroforestry, David's position in the village has changed. Because of his intense interaction with IPHAE, the rest of the community feels left out. Nowadays, David has almost outgrown the community in terms of income, production system, and external help. This has isolated him socially.

David's role in institutional bricolage is individual; his actions are determined by his own perceptions. Because of his economic resources and network with IPHAE he can afford to change his norms on sustainable forest use. He is one of the few that actually claim not to cut timber anymore as he feels it is not right. However, it must be taken into account that his current income is higher than that of other community members. Furthermore, he needs to maintain his relationship with IPHAE and can therefore not just reject one of their most important messages.

Alejandro

Alejandro was one of the first people to settle in Palmira. As a result of the land reform, he was able to obtain the land that he had already been working on for over two years. He then lived off the collection of Brazil nuts and hunting wild game, with some small production in the garden next to the house. However, in those days there were not a lot of people living in the community. Over the years, the number increased when lots of family members started to join the community and started to practice agriculture. Consequently, Alejandro focuses on other products as well such as rice, yucca, and maize. He also now has some pigs. He wants to increase pig production in order to sell them. He also wants to extend his production system with citrus trees. On the side, he also sells timber illegally. All of these different sources together form an income that is sufficient for Alejandro. He has enough money to pay his bills, send his children to school, and eat. Alejandro lives alone in Palmira, his wife and children have moved to Riberalta so that his children can go to school.

Alejandro joined the agroforestry project for the same reason as many of the actors did: it was a much needed alternative source of income. He therefore adopted the agroforestry practices and incorporated them into his own forest and land use system. However, Alejandro has not embedded the concomitant bureaucratic institutions on the sustainable use of the forest as he continues to extract timber. Moreover, he is regarded as one of the biggest timber extractors of the community[8]. He thus ignores this IPHAE norm.

Alejandro, however, does recognise the need for community collaboration in order to develop even further and increase the number of income-generating opportunities. His collaboration with IPHAE has in that sense made him aware of the opportunities that could be created if the community resolved the conflict and started working together.

> *They do not come anymore to us since we are not organised. If the syndicate does not work, we lose projects. I do not know why we cannot collaborate, but it makes it all a lot harder. (Alejandro, 2007)*

Alejandro's role in institutional bricolage is similar that of David: his decisions are somewhat individualistic. Although Alejandro claims to acknowledge the importance of collective action, his actions are mostly individual. He only takes into account his family's needs and does not share his knowledge on agroforestry with people who are less successful. Similar to David, Alejandro has some income that allows him to act individually and to be less dependent on a community organisation.

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[8] Interview community members Palmira (2008)

Manuela

Manuela lives with her family in Palmira. She has one son who is married and who lives with her, together with his wife and children. Manuela also has a house in Riberalta in which she often stays. She seems always to be travelling between Riberalta and Palmira. Her daughter-in-law stays in Palmira to look after the garden production and her children. Manuela's son travels around as a motosierrista (chainsaw operator). Manuela used to produce enough in the small garden to provide their basic needs. In addition, she collected Brazil nuts on her own land. However, due to the small size of the land and the few trees, Manuela's family often had to go to barracas to work there as nut collectors. Recently, the family has been intensifying its rice production. The harvest is increasing and is probably sufficient for the rest of the year. Any surplus will be sold in Riberalta.

When IPHAE arrived in the community, Manuela participated in its projects. She learned that through agroforestry a better income could be generated and continued on herself with small nurseries. Now, she has a new nursery, which she constructed by herself and on her own initiative. She has the next generation cupuazú plants in the nursery. Together with Alejandro and David, Manuela is one of the more successful producers using agroforestry systems. Manuela, like Alejandro, also did not embed the NGO norm on sustainable forest use. The most important income comes from the timber revenues earned by Manuela's son as a motosierrista. Timber extraction by motosierristas is illegal. Manuela explains that this norm is too complicated.

> *They say we have to make a management plan so we do not extract that much. They say we have to follow the law. But this is too complicated. The law does not take into account this little extraction, and there are no trees on the land to make a plan for so this is the logical consequence. (Manuela, 2006)*

However, the agroforestry project did have an effect on their lives. IPHAE is quite important to them. In times of need, they come to help. Since the family often resides in Riberalta, it is quite easy to contact IPHAE and ask them for help.

> *Every time we need them, they help. They also show new developments. They are the only organisation that is helping us. (Manuela's daughter-in-law, 2008)*

The increased revenues from the agroforestry system have created new incentives for them to stop relying on the extraction of forest resources and focus more on commercial agricultural production. As a result, their tradition of resource extraction is gradually changing. Their income from rice and agroforestry has become so important that it is no longer necessary to go to the barracas to earn extra income. There is now sufficient income accruing from timber and agroforestry.

> *We have not collected in the barracas for the last three years, the income we make now is sufficient. (Manuela's daughter-in-law, 2008)*

Manuela, Alejandro, and David are considered to be the most successful agroforestry producers in the community. Manuela's case shows that the agroforestry project has led to an increase in income that has enabled the family to start cultivating rice. As a result, the income from the rice makes it unnecessary for them to collect Brazil nuts in barracas. However, the economic resources have given Manuela the room to make her own choices on which institutions to comply with or not. She has not embedded the local norms of the NGO, and her role in institutional bricolage is, just like David and Alejandro, individual.

Roberto

Roberto is the outgoing president of the community. He owns 40 hectares of land on which he has some agricultural production, a little agroforestry, and Brazil nut trees. Additional income is earned from selling ducks and the meat of wild game, and from working in the barracas. He lives with his wife and children right next to the church and the football field that form the centre of the community. His production system differs from the other actors in the sense that it does not have an agroforestry system. Although he did join the IPHAE project initially, Roberto had a lot of bad luck with his agroforestry plants. The majority caught a disease, and rats ate the rest. Consequently, Roberto left the project, disappointed by the results of this highly anticipated project. He has shifted back to the more traditional system of small-scale agriculture, poultry, and forest extractive practices. His most important income comes from collecting Brazil nuts in the barracas.

His bad luck with IPHAE has made him sceptical about the help of this NGO. He feels that the NGO has high expectations about dedication to agroforestry. This is a expectation that he feels he cannot meet.

> *The problem with it is that, before, IPHAE gave us plants, but never helped us to plant. Then they say we need to learn how to make nurseries. This is problematic since our poverty does not allow us to dedicate ourselves to work that does not give us anything directly back. (Roberto, 2007)*

This scepticism has led to his ignoring the NGO norms on sustainable use of resources. His disappointing results from agroforestry leave no choice for Roberto but to rely mostly on forest resource extraction. He even makes claims on his tradition of resource extraction and argues that it was not sufficiently taken into account by IPHAE.

However, Roberto has embedded the NGO norm on collective action. This embedding was done through processes of aggregation. As president, Roberto understands the importance of collaboration and regrets that this does not happen in his community.

> *No one wants to work with us since we are not organised. They even cannot find a successor for me at this moment! (Roberto, 2008)*

Although he is the president of the community, Roberto lacks authoritative resources, primarily because of the individualistic character of the community. Furthermore, he is not one of the successful agroforestry producers and is therefore much more dependent on community collaboration and development projects aimed at the community. Therefore, his role in institutional bricolage is rather small and focuses mostly on his personal ideas and needs. In addition to this, he is willing to consider the needs of the community. However, the conflict and individualism have made him rather sceptical about this.

Box 5-3 Norms on desirable life

The desirability of cattle farming

"If I had more money I would buy cows", a peasant farmer explains. "To have cows is my ultimate dream." The areas around the city of Riberalta are all used for extensive large-scale cattle farming. A few farmers possess many hectares of deforested land on which to maintain their cattle. The small farmers in the community see these large-scale farmers and regard them as a having a desirable way of life. If a person has cattle, he is considered successful. Many farmers therefore dream about owning some cows, despite not really knowing what kind of investments are required for this kind of land use system.

"Cattle need much more investments than people realise. The costs of maintenance, medicines, and care are high. There are many examples of people buying cows and ending up poorer than they were", an extension officer explains. However, cattle are not just seen as a very profitable way of earning an income. The whole lifestyle of cattle farming is also considered attractive as it represents to small farmers the overcoming of many struggles and a certain social status. "These cattle farmers have it made, they have the easy life with all the money. They do not have laws that prohibit them from doing what they want. We need to follow so many rules. We need to be organised, we need to have a management plan for timber, we cannot do this and that. They are free and independent. Nobody told them it was not allowed to make those big pastures. They have no rules. We want that lifestyle."

5.4.4 Conclusions on institutional bricolage in Palmira

The processes of institutional bricolage relating to agroforestry practices in Palmira are diverse and individualistic. Therefore, all types of institutional bricolage processes can be identified in this case: alteration of both bureaucratic and socially embedded institutions, articulation of socially embedded institutions, and aggregation of bureaucratic and socially embedded institutional elements. The common characteristic in each of these processes is the fact that the bureaucratic institutions affecting agroforestry practices relate only to an NGO. Agroforestry is not regulated by formal government rules; therefore, the government does not affect agroforestry projects in this community.

The processes of institutional bricolage leading to a certain embedding of the NGO norms, such as aggregation and alteration processes, relate mostly to survival strategies. Palmira does not have easy access to a lot of economically viable forest resources and is therefore constantly in need of alternative sources of income. However, participation in the agroforestry project is not just based on survival. Actors also indicated that they participate in order to earn an income that allows them to buy cows and become a cattle farmer. Cattle farming represents a desirable image of a livelihood that is considered appropriate. The large landowners with cattle dominate the areas around the city of Riberalta, and this is consequently seen as an attractive livelihood. This combination of both survival strategies and a desirable way of life is another common denominator in the processes of institutional bricolage in Palmira.

However, there are many differences. Processes of aggregation by David were also influenced by his relationship with the local NGO. This relationship is so intense that it is arguable that David cannot turn his back on the NGO norms. On the other hand, that same relationship has conferred many benefits on him. In other words, David is dependent on his relationship with IPHAE. This dependency is less visible among other actors in the community. Other actors adopted agroforestry practices on their own terms but are not collaborating with the NGO as much as David. They have chosen their own path and focus either on city life or on another source of income. They have consequently altered one or both norms of the NGO.

Finally, the actor participating in processes of articulation is the person most disappointed by the whole process of NGO intervention. His expectations were clearly higher than the outcome of the project. He saw it not only as a potential source of income, but also as stimulation for community collaboration. He was let down on both aspects. Now, Roberto lacks the power to turn the processes around. Consequently, he has chosen a different direction regarding his land use system: he has returned to Brazil nut collection on barracas as an income-generating strategy.

The social context of this community has a clear impact on processes of institutional bricolage. There is no social change agent, and powerful bricoleurs, such as wealthier members of the community, do not wish to change this. As a result, Palmira shows a wide range of responses to NGO intervention and the introduction of bureaucratic norms. Consequently, the general message or convention that NGOs want to put across is not effective. On the other hand, it also shows that community collaboration is not a necessity for actors to increase their income. Although fragmented in a situation that will probably lead to elite capture, several actors have demonstrated that individual development is possible.

6 SOUTH-EASTERN ECUADORIAN AMAZON

6.1 Introduction

The Ecuadorian research took place in the South-Eastern Ecuadorian Amazon. In this chapter, I introduce this region by giving a description of its socio-cultural and political aspects. Furthermore, I focus on the social characteristics of the inhabitants the Ecuadorian Amazon and the relevant institutional influences on forest practices in this region. These institutional features relate largely to the decentralised forest regime in Ecuador. By describing this, I answer the first research question posed in relation to Ecuador.

The description of the South-Eastern Ecuadorian Amazon reveals a somewhat different development than that of the Bolivian Amazon. In Ecuador, the socio-cultural and political characteristics have been determined by a relatively recent colonisation period initiated by the government. This resulted in a large influx of migrants into areas that were formerly only inhabited by indigenous communities, mainly the Shuar (see section 6.3.1). This colonisation has led not only to conflicts between migrants and indigenous communities but also to certain political regulations to manage change in the Amazon.

6.2 Description of the region

Ecuador is a democratic republic founded in 1822. The country can be divided into three distinct regions: the coastal region, the Andes region, and the Amazon region. The capital of Ecuador, Quito, is located in the Andes region. The government, led by an elected president, has its seat in this capital. The current president of Ecuador is Rafael Correa. He was elected after increasing feelings of unhappiness about former governments and continuing problems with corruption. Similar to developments in countries like Bolivia and Venezuela, the Ecuadorians thus elected a president who promised a new socialist change. One of Correa’s main objectives is to decrease the level of corruption that is considered as one of the highest in the world (Gage 2009).

Ecuador is divided into 24 provinces. Each of these provinces has an administrative capital. The provinces are divided into cantons and local parishes. The Ecuadorian Amazon, also known as El Oriente, stretches over six provinces: Sucumbíos, Napo, Orellana, Pastaza, Morona Santiago, and Zamora-Chinchipe. It is an area of

142,000 km^2 of humid forest. The Ecuadorian Amazon varies in terms of development. Its north-western side has good connection over land and by air to major cities within Ecuador. This area was opened up rather quickly because of the minerals found there. Now, the northern Amazon is also known for its tourism. The eastern Amazon is a relatively undisturbed area in which small indigenous communities live, only connected with the outside world by small aeroplanes and helicopter pads. This image is only temporary as new road constructions are penetrating this final frontier of Ecuador (Southgate, Sierra et al. 1991; Rudel and Horowitz 1993).

The South-Eastern Ecuadorian Amazon is characterised by great variety in geographical conditions. It starts in the Andes at around 1,200 metres above sea level and ends in the lowland Amazon basin. The climate is therefore cooler and more spring-like in the higher areas and hot in the lowlands. Furthermore, the lowlands are virtually inaccessible as roads are only starting to penetrate the area.

The history of the South-Eastern Ecuadorian Amazon is characterised mainly by processes of colonisation. Before colonisation, indigenous tribes inhabited the Amazon. However, in the period from 1960 to 1970, the Ecuadorian government strenuously stimulated the migration of poor highland farmers to the Amazon region. The perceived availability of land, promoted by the government, and the harsh conditions in the highlands resulted in a move of highland farmers to the Amazon (Rudel and Horowitz 1993; Bilsborrow, Barbieri et al. 2004; Mena, Bilsborrow et al. 2006). This migration was largely stimulated by government organisations through the establishment of so-called cooperatives that were later transformed into migrant settlements.

The colonisation period had two important consequences. First, it led to conflicts between the migrant farmers and the Shuar. These conflicts marked the beginning of a troubled relationship between the two groups that still exists today (Rudel 1989; Rudel and Horowitz 1993; Kautz 2004; Ham 2006). Second, the colonisation has had a direct effect on the landscape as it increased deforestation rates in Ecuador. With the arrival of new settlers in the Amazon, the registration of land titles became an important issue. As a result, settlers started to clear land in order to demonstrate their occupancy. In many cases, more land than necessary was cleared to ensure land entitlements, making the deforestation rates of Ecuador one of the highest in the Amazon (Pichón 1992; Cleuren 2001; Perz, Aramburu et al. 2005; Ham 2006; Ibarra, Romero et al. 2008). Perz, Aramburu et al. (2005) state that, although estimated deforestation rates vary considerably, 15% of the Ecuadorian Amazon was deforested in the period to 1996, and

Rudel and Horowitz (1993) also conclude that during the colonisation period the annual deforestation rate was high.

Macas is one of the main cities in the South-Eastern Amazon. At 1,200 metres, Macas is located on the high shores of the Upano River overlooking the Upano valley. The town has always been a frontier town where mestizo inhabitants and Shuar lived close together, only separated by a river. Nowadays, Macas is the capital of the province of Morona Santiago. It has over 30,000 inhabitants (Rudel 1983). Besides being a main market in the region for cattle farmers, Macas is developing itself as a tourist attraction because of the proximity of the Sangay national park (see Map 6-1)[9]. Although located in the timber-rich Amazon, Macas has no timber companies that are directly active. There are only intermediates or buyers who buy timber and take it to the companies located in larger towns. The absence of a big timber market has a negative influence on timber prices (Rudel 1983).

6.3 Social conditions in the South-Eastern Ecuadorian Amazon

The South-Eastern Ecuadorian Amazon was originally inhabited by indigenous communities such as the Shuar, an independent cultural group known for their traditional warfare (Rudel 1983; Rudel and Horowitz 1993). However, the colonisation period resulted in an influx of cattle farmers from the Andes that were drawn to the Amazon by the promise of land and a better future. This has resulted in the South-Eastern Ecuadorian Amazon being nowadays inhabited by indigenous communities and migrant settlers. Many differences exist between these two socio-cultural groups, not only in terms of culture, but also regarding livelihoods and the role of the forest within these livelihoods.

6.3.1 Indigenous Shuar communities

The Shuar communities in the south-eastern part of Ecuador form an important socio-cultural group, as their numbers are high. Shuar communities are known for their large families that often consist of more than ten children per parents. The Shuar are furthermore an independent cultural group in the sense that they have always refused to answer to the state or any other external influence. Because of this independence, feelings of ethnicity are rather strong. This has resulted in political Shuar organisations that defend their ethnic rights at the national level. Consequently, this large group of indigenous communities has a relative high level of socio-political organisation resulting in strong community feelings and ethnic relations.

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[9] Sangay national park is a UNESCO World Heritage site.

Shuar communities are forest dependent. For their survival, they depend on the extraction and collection of forest resources. Furthermore, they have a history of rotating through the forest while practicing slash and burning techniques. On the cleared plots, they produce their food. These forest gardens form an important source of food for the community, and their maintenance is specifically women's work. However, the forest is not just important for survival. It also holds a strong cultural, historical, and spiritual value for the Shuar.

Shuar culture, however, is currently in the process of change. Initially, this change was provoked by the influx of highland cattle farmers into the area. This migration led to serious conflicts between both groups as the migrants occupied territory that was considered by the Shuar as theirs. Since then, the Shuar have been persistently trying to hold on to their culture and values and refuse to resemble migrants. However, this has not led only to conflict. The new land use systems of the migrants has affected the traditional ideas about livelihoods among the younger Shuar generations. Gradually, they have been introduced to the commercialised agricultural systems of the migrant farmers. Furthermore, the town of Macas has also increased its incorporation in markets.

As a result, the rotating slash and burn gardens have made way for more permanent settlements with large gardens. The community can still be characterised by their extractive practices; however, these practices are much more focused on commercialisation than on subsistence. Still, the Shuar have no desire to practice cattle farming with large herds (Rudel, Bates et al. 2002).

6.3.2 Migrant communities

Most of the migrant settlers arrived in the Amazon because of government promotion. However, some of them were also drawn individually to the region because of enticing stories. For example, the discovery of petroleum in the northern Amazon can also be regarded as an important push factor for general migration to the Amazon (Pichón 1997). However, migrants also arrived in the Amazon driven by personal motivations and considerations. This variety in motivation has resulted in a variety of land use systems that have one factor in common: cattle farming. Migrant farmers faced certain challenges on moving into the Amazon. The bad infrastructure and the remoteness of the areas mean problems regarding transportation of crops or cattle to market. The soils are generally poor. The humid conditions and the lack of a dry period represent restrictions for agricultural production as well as health problems (Cleuren 2001)

Land use systems of migrants in the Amazon are typical examples of land use systems in frontier areas. These types of land use systems are relatively new. They contain elements of both highland land use systems and local land use systems, and are the result of the process of learning by doing (Pichón 1992). In general, land use consists of a combination of cash cropping, pastures, and cattle farming. The production of cash crops is diverse, depending on local conditions (Cleuren 2001). Crops such as coffee, cacao, sugarcane, or local fruits are popular crops in the south-eastern Amazon. Cattle pastures are often regarded as the traditional land use system and are valued highly. Timber extraction is regarded as an important additional source of income and is often used to finance cattle farming (Pichón 1992, 1997; Rudel, Bates et al. 2002; Bilsborrow, Barbieri et al. 2004).

Depending on the availability of land and natural resources, any of these three aspects of the land use system can play a dominant role. For example, cash crops are more favoured in proximity to a city, or when timber revenues are low. Cattle farming is more important if the availability of land is high. In both examples, timber has a facilitating or even secondary role, as migrants are not extractive by nature. Consequently, the land use systems of migrant settlers can be divided into two main categories: agrarian land use systems based on cattle farming and agro-extractive based on agricultural production. These categories resemble the categories of peasant communities described for Bolivia by Henkemans (2001b).

There is often a correlation between migrant communities, their land use patterns, and high deforestation rates in the Ecuadorian Amazon. In the province of Morona Santiago, around 80% of migrant farmers' land has been cleared from forest (Rudel, Bates et al. 2002). The main reason for deforestation by colonist farmers in the Amazon relates to the opportunity to obtain land titles. Income and cattle farming are secondary reasons for deforestation (Pichón 1992; Perz, Aramburu et al. 2005). Forest degradation has resulted in increasing problems with migrant farmers' land use systems. The extraction of natural resources has led to a decrease in the fertility of the already poor soils in the Amazon. Because of this degradation, many migrant farmers have been facing difficulties and have failed to build up an economically viable livelihood. As a result, the migrant settlements in the Amazon frequently face the problem of out-migration of the second generation (Bilsborrow, Barbieri et al. 2004).

6.4 Forest governance in the Ecuadorian Amazon

In the period from 1960 to 1970, the climate in Ecuador was ready for a new and, most importantly, a cohesive plan to develop Ecuador. The military junta that was in power in 1963 decided to use existing plans of presidents and governments that they had deposed, and nominated agriculture as the 'cornerstone' of Ecuadorian development. This resulted in the 1964 Agrarian Reform and Colonisation Law, followed by the 1973 Agrarian Reform Act. In these early years, agrarian reform focused mainly on the highlands of Ecuador, with some attention given to the coast. The Amazon area was largely ignored (Blankstein and Zuvekas 1973).

The objectives of the Agrarian Reform and Colonisation Law were to end the concentration on land titles and income generation in Ecuador as well as to stop the social pressure that accompanied this rather unhealthy division of land. Most of the farmers lived on small plots in the Andean mountains, whereas neither the coastal areas nor the Amazon experienced the same pressure on land. Therefore, the state aimed at incorporating the Amazon in the Ecuadorian economy (Blankstein and Zuvekas 1973; McKenzie 1994; Ibarra, Romero et al. 2008). These reforms constituted the beginning of the colonisation period described earlier in which settler farmers moved to the Amazon.

In 1999, the Ecuadorian government initiated a process of decentralisation by enacting the Decentralisation and Popular Participation Law. This law resulted in the transfer and delegation of administrative functions to the regional level and civil society. One of the results of this new law was the establishment of a new forest control system. However, this control system, which was outsourced, faced many problems (Navarro, Del Gatto et al. 2006). As a result, the Ministry of the Environment took back responsibility for controlling the forest. This change in control systems seems to reflect a less decentralised and more hierarchical approach than was taken previously. However, it has yet to be implemented since there is no consensus on the specific tasks of provincial governments. The Decentralisation and Popular Participation Law also resulted in a shift from the national to the provincial level regarding the administration and approbation of forest management plans (Ibarra, Romero et al. 2008).

6.5 Forest law

The 1981 Forest and Conservation Law of Ecuador was replaced by its newer and current version in 2004. This new law incorporated also strategies explicitly aiming at the sustainable use of forest resources. This so-called strategy for sustainable forestry development aims to stop the loss of natural forest by using mechanisms favouring sustainable management and by looking for alternative ways of making an income. It also aims to implement broad reforestation programmes and ensure the participation of indigenous community in the execution of the forest law (Ibarra, Romero et al. 2008).

The 2004 Forest Law explicitly acknowledges the land and use rights of indigenous and Afro Ecuadorians by stating that these groups have the exclusive land and use rights for their own community forest. These rights relate not only to timber products but also to non-timber products. This is an important change, as the old law did not include explicit use rights for minority groups. Another characteristic of the forest law is that it entails forest management plans for individuals instead community forest management plans (Ibarra, Romero et al. 2008).

6.5.1 Forest law regulations

The changes in the forest law have led to the development of the following current forest management programmes for individual forest use: logging programmes for plantation and agroforestry, logging programmes in conversion zones, sustainable forest exploitation programmes, and simplified forest exploitation programmes. These programmes cover different settings in which people are able to extract timber (Ham 2006; Ibarra, Romero et al. 2008).

The logging programmes for plantation and agroforestry and those in conversion zones resemble each other. Both logging plans focus on the extraction of pioneer species and regenerated species, or on the extraction of forest plantations. These logging plans have to meet the conditions of a minimum trunk diameter of 30 cm and a minimum distance to other trees with the same diameter of 25 metres. To prevent erosion, extraction near water bodies or on steep slopes is not allowed. The main difference between the two plans is that the logging programmes for plantation and agroforestry extend over one year, whereas the logging programmes in conversion zones extend over five years and require an integrated forest management plan. This means that the extraction of timber in the legal conversion zones also requires a land use designation, identification of protected areas, and the identification of logging areas (SFA 2004).

The sustainable forest exploitation programmes also imply a five-year plan and an integrated forest management plan. These programmes are designed for larger forest areas with mechanised forest exploitation. The requirements of such programmes are that no more than 30% of the total area may be used for extraction and that the minimum trunk diameter is 60 cm. Furthermore, overall use in that area, and the construction of local infrastructure, may not surpass, respectively, 40% and 20% of the total area. This programme, however, is the least used in the Amazon, as it requires the largest area of land and the widest diameter of tree trunks (SFA 2004).

The most used forest management programme for smallholders in the Ecuadorian Amazon is the simplified forest exploitation programme. This programme is commonly known as PAFSi. PAFSi is particularly useful for less intensive, small-scale individual forest exploitation. Unlike the other programmes, it does not require a forest inventory and is therefore relatively easy to apply. Therefore, PAFSi is especially suitable for smallholders (SFA 2004; Ham 2006; Ibarra, Romero et al. 2008).

The PAFSi programme is set up in the following way. The small farmer needs to have documents that prove his ownership of the land and a personal identification document. An independent engineer then visits the area with the farmer to select the trees according to the technical norms described above. The trees are designated by means of a painted mark. With this information, an extraction plan is established that will be then checked by the Ministry of the Environment. If all is according to the requirements, the Ministry will then give the small farmer the license to extract. This license is valid for one year. If after 12 months some marked trees have still not been cut down, the producer loses the right to fell them. PAFSi rules determine not only the number of trees but also the timeframe in which felling has to take place (SFA 2004).

Alongside the programmes to stimulate controlled forest exploitation, the government actively promotes the establishment of forest plantations. Forest plantations can avail of technical assistance as well as financial credits. Several banks in Ecuador agree to give priority to plantation incentives in terms of loans. In addition, new incentives relating to reforestation and extraction focus on the potential of plantations (SFA 2004; Ham 2006). Table 6-1 gives an overview of the different regulations for forest management.

Table 6-1 Regulations for forest management in Ecuador

Forest Regulations	Description
Logging programmes for plantation and agroforestry (PC)	Extraction of pioneer species, regenerated species, forest plantations 1-year logging permit
Logging programmes in legal conversion zones (PCZl)	Extraction of pioneer species, regenerated species, forest plantations 5-year logging permit and management plan
Sustainable forest exploitation programme (PAFSu)	Mechanised forest exploitation in larger forest areas 5-year logging permit and management plan
Simplified forest exploitation programme (PAFSi)	Low impact small-scale individual forest exploitation 1-year logging permit

6.5.2 Controlling and monitoring

In addition to the regulations that enable forest management, the Ecuadorian government also designed a new controlling mechanism for illegal timber extraction. One of the main characteristics of this controlling mechanism is that it is has been outsourced by the national government to semi-independent bureaucratic organisations . By creating the National Forest Control System, the government aimed to improve the quality of control and the public administration of timber production (Navarro, Del Gatto et al. 2006; Ibarra, Romero et al. 2008). However, this new control system did not function as well as it should have, as the roles of various involved organisations changed and division of work became less transparent. Consequently, a new control system was developed in 2006, called the Decentralised National System of Forest Control. This control system entailed a leading role for the Ministry of the Environment as a director at the national level. The controlling activities have been returned to the ministry, and the provincial governments are responsible for the approbation of forest management plans.

Although the general tendency in Ecuador is to govern natural resources in a rather sector-oriented way, other ministries have clearly influenced the forest sector and its regulations. The biggest influence occurs between the Ministry of the Environment and the Ministry of Agriculture. The Ministry of the Environment has not only taken over responsibility for the management of forest resources, it has also overruled agrarian laws and regulations that were developed during the agrarian reforms. The clearest example is that the new forest law has ended the regulations concerning land dispossession and land titles. The regulations of the Ministry of Agriculture used to state that ownership should be demonstrated by clearing the land and that a person could be dispossessed of his land if these lands were not used or exploited within two years. The new forest law changed this situation by aiming at regeneration of secondary forest and dismissing the land dispossession mechanisms of the Ministry of Agriculture (Ibarra, Romero et al. 2008).

Although the rule regarding land titles is already changed, many small farmers, and especially colonist farmers, are not completely certain of the details in the new regulations. Doubt still exists as to whether or not they have to clear land to demonstrate ownership. In this way, the Ministry of Agriculture continues to influence the forest sector since they have a history of focusing on the same area: forests (Ibarra, Romero et al. 2008). This overlap is also visible in the laws of the Ministry of Mining. The actual mining law includes the objective of protecting the environment surrounding the mines, which also includes the forest. The problem, however, is that this mining law does not entail specific regulations to protect this forest. This, therefore, is likely to lead to increased timber extraction in mining areas, and the forest will not be sufficiently conserved (Sandoval 2001; Ibarra, Romero et al. 2008).

6.6 Forest governance, civil society organisations, and markets

Decentralised forest governance increases the opportunities for participation by other agents such as civil society organisations and the market. In the Ecuadorian reforms, specific attention has been paid to the role of civil society organisations in the promotion of forest regulations. In particular, NGOs active in the Amazon region were appointed by the government to promote and explain the changes in the forest law. The role of markets did not change that much as a consequence of the reforms, but markets still play a role with the expanding commercial forest use.

6.6.1 The role of NGOs in forest governance

It is not only governments and government organisations that are involved in Ecuador's forest regulative framework, within which there is a role for civil society organisation such as NGOs. This role appears in various stages of the forest law: during the implementation and explanation of the changes and management programmes, during execution of the strategy for sustainable forestry development, and in the controlling mechanisms of the forest law (Navarro, Del Gatto et al. 2006).

Some organisations have played an active role in the promotion and explanation of the changes in the forest law. NGOs in Macas for example were contacted by the Ministry of the Environment to go out to the field and explain to the communities the limitations and possibilities of the forest management programmes. The outsourcing of control systems by the government has also resulted in an important role for the NGOs. Five nongovernmental organisations are active in the forest control organisation (Ham 2006). In the new National System of Decentralised Forest Control, NGO influence continues right down the final component of the control system: the forest stewards. Forest stewards are independent and are generally forest engineers who could be working for NGOs at the same time.

Although the NGOs have been active in the promotion of the new forest law, they do not always achieve a more sustainable use of forest resources by the local communities. However, their influence should not be underestimated. In the cases described below, they are the ones that visit the communities the most. Especially in remote areas, national government does not have a major influence. This can be explained by the large distance between the government and the local communities, not only in kilometres but also in ways of thinking. NGOs often fill this gap, and their influence, although slow and sometimes indirect, is often one of the few external impacts on communities (Koning 2007).

In the region around Macas, several NGOs are active. One of these NGOs, Servicio Forestal Amazónico (SFA), is an organisation that offers facilitation, technical assistance, and extension to local communities. It is mainly a technical NGO focusing on the ecological aspects of decentralised forest governance, although it is also continuously trying to find technical solutions to poverty and lack of development. This NGO is the most active NGO in the selected cases.

6.6.2 Markets and forest governance

The increased attention paid to commercial opportunities for forest management in the new forest law has also potentially increased the importance of market institutions. The market institutions in forest governance are the rules on commercialisation and trade, the provision of capital, and balancing subsistence and commercial trade (Wiersum 2009).

Although markets represent a third pillar of governance, next to government and civil society, the role of the markets in the local communities did not visibly change after the reforms. The new regulations did not entail new rules on the commercialisation and trade of timber products. It appears that market institutions just continued ‘business as usual’. Furthermore, the individual approach to forest management has also decreased the need for local organisation for commercialisation. People deal individually with merchants based on individual agreements.

Markets around Macas mostly involve intermediaries. The city of Macas, for example, has no timber buying company: intermediaries buy the timber from the communities and transport it to the highlands. This buying and selling through intermediaries is structured by informal rules and norms. For example, the buyers come on a certain day in the week. They deal mostly with the same smallholders and thus create relationships with those smallholders. Often, the smallholder knows the middleman, who can be a relative, a friend, or even a family member. In general, a smallholder is selective in his choice of buyer and is not willing to change.

Timber buyers can have an influence on the smallholder in terms of supply and type of forest extraction, as they known more about the policy framework and prices for timber. As long as timber buyers buy illegal timber, there is no great incentive for smallholders to change their timber extraction practices. Furthermore, the buyer determines the price and can therefore bargain for a good deal, with the result that the smallholder receives less for his product. This situation already existed before the changes in forest policy and continues to exist after the changes. Timber markets in the research area are characterised by their informal rules and tendency to stimulate illegal timber extraction.

6.7 The Ecuadorian cases

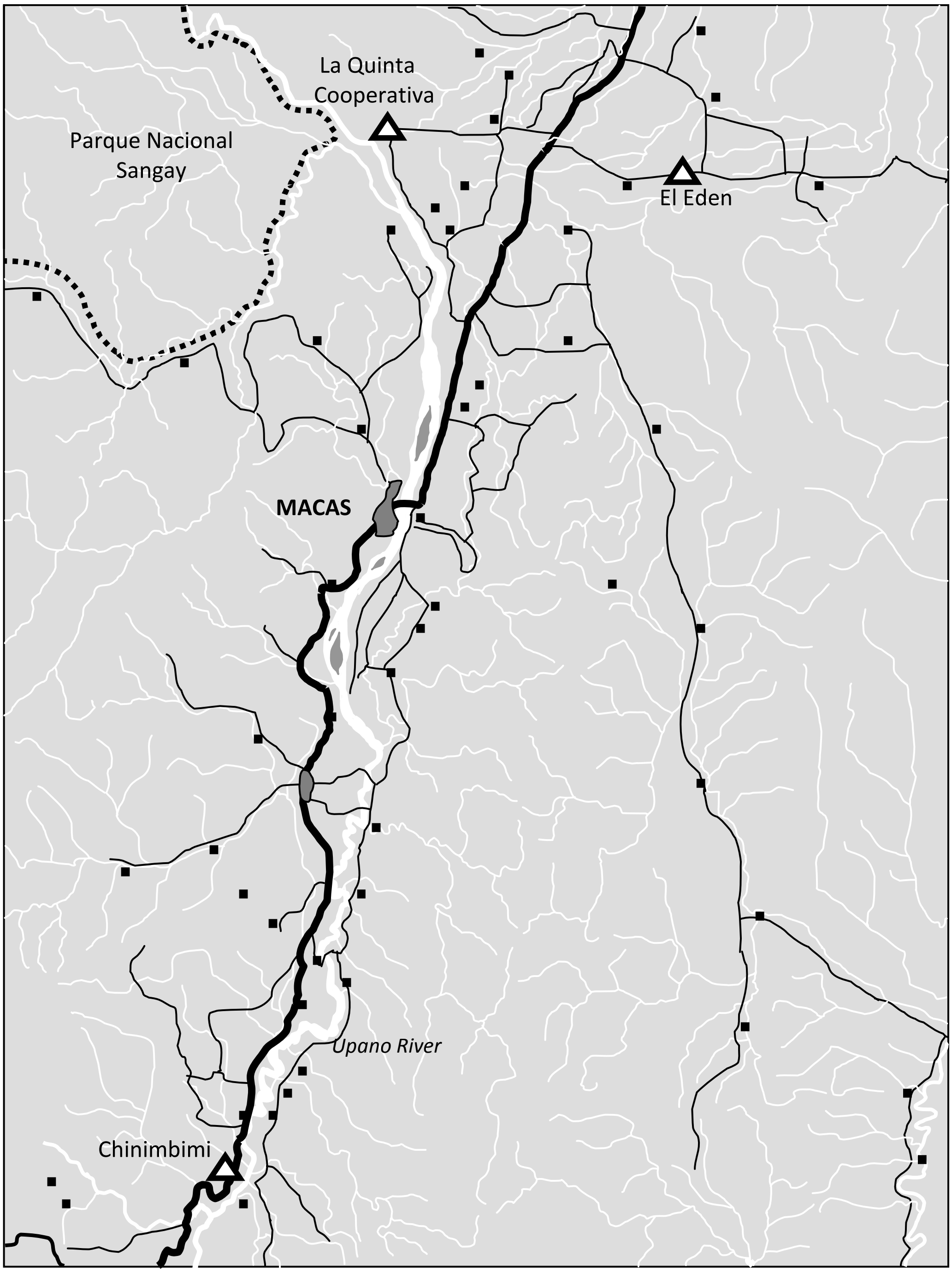
All three of the Ecuadorian cases are located in the South-Eastern Amazon region of Ecuador. To be more specific, they are all located in the province of Morona Santiago and close to the city of Macas. The selected cases are Chinimbimi, El Eden, and La Quinta Cooperativa –Luz de America. Map 6-1 introduces the research area and indicates the location of the three villages. Each of these cases was selected by the ForLive project on the basis of their own specific characteristics that made them interesting for research. The community of Chinimbimi is an example of an economically promising silvo-pastoral system in which the inhabitants commercialised a native palm species. El Eden was selected because of a plantation project implemented in this indigenous community by an NGO. Finally, the case of La Quinta – Luz de America shows the extent to which migrants are extracting timber with a simplified forest management programme.

6.7.1 Chinimbimi

The town of Chinimbimi is located along the main eastern road in Ecuador that leads from Quito to the south of the country and passes through, respectively, Macas and later on Chinimbimi. This town looks like any other town along this good road connection. Houses are located close to the road; a small curb separates them from the traffic passing by. The road itself is quite busy by regional standards, with multiple buses and even more trucks passing by each day. The name, Chinimbimi, is of Shuar ethnicity and so are the areas surrounding the town; however, the majority of the inhabitants are migrant settlers. The original indigenous inhabitants do not live in the town but in the areas outside the town.

Unlike many migrant communities in the region, Chinimbimi is not a direct result of government-stimulated migration organised through cooperatives. Although the migrants were drawn to the Amazon by government stimulation, most of the inhabitants settled in this village independently. The availability of land was enough of a driving force to settle in this Shuar area. As in almost all places where Shuar and colonist farmers meet, the relationships between the two groups are characterised by distrust and conflict. Chinimbimi is no exception to this.

Another characteristic of Chinimbimi is the large number of people that have emigrated to the United States and Spain. This high migration to the two countries has its implications. One of the implications is that a lot of the money coming into the area consists of remittances from the people abroad to their family in Ecuador. This source of income has become one of the most important sources for household economies. Another consequence is that landowners regularly have multiple areas that they are maintaining for relatives. This entails an extra workload for such people, but it also creates more income opportunities since they have more areas to exploit or to produce on.


La Quinta
Cooperativa
Parque Nacional
Sangay
El Eden
MACAS
Upano River
Chinimbimi

Map 6-1 Research locations in Ecuador

Although a lot of variety exists at the individual level, in general, the production systems of the Chinimbimi inhabitants can be described as a mix between production in the gardens, cattle farming, and the collection of the fibre from palm trees, *Aphandra Natalia*. Cattle farming is the primary production system in the sense that it is the traditional production system of the inhabitants. It is also an important source of income. Cattle farming in Chinimbimi is mostly for meat consumption. The collection of palm fibre is one of the most striking characteristics of Chinimbimi's production systems. The presence of this specific palm tree, Aphandra natalia, is clearly visible in the areas around the town. It is said to be the only area in the region where this species occurs.

Because of the commercial value of this fibre, a local association has been founded. With the assistance of a USAID-CARE programme, the community was able to start this organisation, called Los Laurelles. It organises the commercialisation of palm fibre in order to improve the economic situation in the community. The functioning of Los Laurelles is not free of problems. Small conflicts arise because people are not always present in the area to fulfil their duties and more. Los Laurelles is not directly linked to forest management. Although it works in the area of agroforestry, it does not make statements nor does it have official rules on forest activities. The rules that they do have concern general behavioural aspects such as participation at meetings, taking part in activities, and so on.

6.7.2 El Eden

The community of El Eden is an indigenous Shuar community. These communities are forest dependent. This forest dependency does not only involve economic aspects, but is also linked to deeply embedded forest traditions and beliefs. Many different types of resources are collected from the forest such as timber, wild game, fish, medicine, and fruits. Although most of the collection is for subsistence purposes, the extraction of timber is becoming more and more commercialised. The reason for this commercialisation is the changing livelihoods of the Shuar; markets and cities increasingly influence the forest practices of these communities. The reasons for this relate on one hand to the need to pay for health and educational services, and on the other hand to the fact that these communities are seduced by the lifestyle of the city and increasingly want to be able to buy items linked to city life such as rice or televisions.

The Shuar are historically a strong, independent cultural group. This strength and independence have resulted in the establishment of indigenous movement organisations such as the international Shuar federation and Shuar political parties. The indigenous organisations actively promote the cultural rights of the Shuar, especially land rights, and oppose state interference in general, which they see as unwelcome and meddling. The community of El Eden is, as all Shuar communities, also linked to these organisations. For example, the location of their village is something that is decided upon by the international federation. Furthermore, they are not allowed to ever sell their land.

In general, the production system of the Shuar in El Eden consists of two elements: traditional and modern. The traditional production system is for subsistence purposes and focuses on production in forest gardens and some chickens around the house. Furthermore, the Shuar collect many forest products such as fruits, medicine, drugs, salt, wild game, and fish to supplement the garden production. Because they need money to pay for health and educational services, the Shuar in El Eden have incorporated modern elements in their production system. The most important forest resource in terms of income has become timber. The second most important income comes from balsa trees, *Ochroma pyramidale*, a fast growing tree that produces light-weight timber. This tree has been introduced to the community by the NGO SFA as an alternative source of income that can replace timber extraction.

6.7.3 La Quinta Cooperativa – Luz de America

La Quinta Cooperativa – Luz de America is one of the communities in the region that was established during the agrarian reform and the colonisation period in the 1980s. In those days, the migration of highland farmers to the Amazon was organised in the highlands itself through the setting up of cooperatives. These cooperatives then collectively moved to the Amazon to found a settlement. La Quinta Cooperativa – Luz de America was the fifth cooperative in the region. Nowadays the community is simply known as La Quinta.

La Quinta is a small village of migrant farmers practicing cattle farming and timber extraction. As with most migrant communities, cattle farming is the traditional land use system. Furthermore, it was promoted by the government as it was seen as the appropriate tool to develop the Amazon. Consequently, many forested areas were converted into pastures for cattle. Over the years, these land use systems were set up and developed in the community. This was accompanied by a learning process, as the farmers did not know the specifics of the region, its resources, and the soil. Farmers stated that they were not even aware of the commercial value of timber. During the conversion processes, they left the trees on the field to rot. It was only later that they discovered that timber was a valuable source of income.

Nowadays, the situation in La Quinta is rather different. The valuable trees have all been felled and the soils are exhausted[10]. Because of the rather humid climate, many inhabitants suffer from health problems. Furthermore, the majority of the first generation, and almost every one of the second generation, migrant farmers have moved out La Quinta. Although NGO SFA is trying to come up with alternative sources of income, the conditions are harsh, and the farmers still living there seem to lack the resources to change the situation.

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[10] Interviews with community members La Quinta (2008, 2009)

7 INSTITUTIONAL BRICOLAGE IN THE ECUADORIAN AMAZON

7.1 Introduction

In the previous chapter, I introduced the general characteristics of the South-Eastern Amazon region of Ecuador and the three selected cases. In this chapter, I describe the local processes of institutional bricolage identified in each of the three Ecuadorian cases: Chinimbimi, El Eden, and La Quinta Cooperativa – Luz de America. The processes of institutional bricolage described in this chapter involve the most important forest practices in each case. For each forest practice, there is a different identified process of institutional bricolage. Furthermore, I describe the role of a few selected bricoleurs to demonstrate the differences between individuals in local processes of institutional bricolage. The level of participation of bricoleurs depends directly on their authoritative resources.

7.2 Chinimbimi

The migrant community of Chinimbimi is located in a hilly landscape that forms the final eastern sierra of the highlands. The road winds over the hills, alongside the rivers and waterfalls, and through a forested landscape (see Map 6-1). As one approaches Chinimbimi, the landscape becomes more distinct; the heterogeneous forest transforms into a forest that consists mostly of palm trees. Most of the hills are completely covered by the dark green shiny palm trees, leaving the original forest to grow on only the most remote and inaccessible locations. Then the road turns and the first brick houses appear, indicating that one has arrived in Chinimbimi. The further into the centre, the more abundant the concrete houses located around the church and divided into blocks forming different neighbourhoods.

Chinimbimi is not a remote community; the town is cut in half by the main and important road that runs from the northern part of the province to the southern highlands. Often, buses and trucks pass by, making it relatively easy to find transportation to other locations. Furthermore, the passing transportation has also enabled families to open a small restaurant and some shops alongside the road. This town is known in the region as the richest town[11]. This wealth derives from those palm trees growing on the hills around them. The fibre collected from this palm tree has a commercial value and easily complements the traditional cattle farming. Although the community members deny their relative wealth, the income from the palm tree fibre and the cattle has had its effect on the community. The stable income has transformed this community into a bustling little town.

7.2.1 Forest practices in Chinimbimi

As explained, the forest and land use system in Chinimbimi focuses primarily on cattle farming and palm fibre collection. In addition to these two practices, most community members extract timber from the forest or produce food through small-scale agriculture. Some try to earn additional income through pig rearing or creating an agroforestry system. Of these practices, fibre collection and timber extraction are the most important as they generate the biggest income[12]. Timber extraction used to take place as a result of converting forest into pastures. Now, almost all the areas suitable for cattle farming have already been converted. Therefore, timber extraction in this community is relatively small scale and involves the extraction of trees in the forested areas on the hills. It remains, however, an important source of income. Agroforestry practices are not common in Chinimbimi. Although many community members have some fruit trees around their house, only one person actively plants trees on his land. Therefore, it cannot be regarded as something that is practiced by the whole community. Consequently, the forest practices described in the next sections are palm fibre collection and timber extraction.

Palm fibre collection

Palm fibre collection is not a new practice in the region; it is neither recently discovered nor introduced by an NGO. The indigenous Shuar communities, which also live in this area, were already collecting the fibre for subsistence purposes for generations. However, it was not commercialised until one merchant, Don Brito, entered the community and asked for the fibre. He wanted to buy the fibre, transport it to the coast, and then sell it for a higher price. According to the migrant farmers, they had no idea the fibre was valuable. The arrival of this merchant looking for fibre completely changed the picture[13]. For example, some migrant farmers were making ends meet by engaging in paid labour, such as driving lorries to transport soil, in order to meet the costs of cattle farming and to buy food. The 'discovery' of palm fibre meant that most of these community members were able to give up this work and focus on the fibre itself. This livelihood change happened over 20 years ago. During that time, the number of palm trees has considerably increased in order to earn a better income. As it turned out, the collection of fibre fitted neatly with their traditional cattle farming. Furthermore, the tree produces the fibre continuously and the farmers can thus collect it throughout the year. As a result, for many cattle farmers, fibre is nowadays the most important source of income.

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[11] Interview community member Chinimbimi (2008)

[12] Interviews community members and ForLive documentation of the Chinimbimi case

[13] Interviews community members Chinimbimi (2008)

Palm fibre collection is not bounded by any government regulation or formal rules; people can collect it when they like, as they like, and as much as they like. Furthermore, it is not a forest practice that was externally introduced by an NGO. This means that palm fibre collection is in no way connected to any NGO conventions or project commitment. As explained, this practice is influenced by market demand. The market does not make any demands regarding the product apart from certain requirements for packaging. Fibre must be cleaned and tied up in bundles of fixed sizes in order to be sold. These are relative small and easy requirements. The collection of fibre is organised locally and per household. Each farmer has his own way of combining it with cattle farming, collecting it, and selling it to his merchant of choice.

The ability to combine fibre collection with cattle farming is an important aspect for the community of Chinimbimi. Despite the importance of the palm fibre, cattle farming remains the traditional land use system, and many migrant farmers claim that they prefer cattle farming above everything else. However, cattle farming cannot just be seen as a source of income. It is also an important part of migrant farmers' traditional identity. Many of them do not want to relinquish this identity as it differentiates them from the surrounding indigenous Shuar communities. As explained in Chapter 6, the relationship between the migrant farmers and indigenous communities in the Amazon is characterised by distrust and conflicts. Chinimbimi is no exception to this. Migrant farmers both distrust the Shuar and feel superior to them. They do not want to resemble them. Therefore, it is important to hold on to their traditional identity as cattle farmers, since the Shuar do not have this land use system. Furthermore, this traditional identity as cattle farmers also entails important community norms on appropriate work attitude and ethics that distinguish the migrant farmers even more from the Shuar. These embedded beliefs and norms strongly contribute to processes known in sociology and anthropology as 'othering' (Young 2005).

Recently, the organisation of palm fibre collection in Chinimbimi has been changing. With the assistance of the international development agency USAID, the community has set up a local producers' association for the commercialisation of the fibre. Before, fibre collection was mainly an individual process from extraction to sale. Now, the community members still extract it individually but organise the commercialisation collectively. Not only do they sell fibre but they also produce and sell the brooms and brushed that are made from the fibre. By organising the commercialisation of the fibre, the migrant farmers feel that they have more control over the sale process and are able to generate a higher income.

As a result, the collection of palm fibre, and in particular the commercialisation of it, is now structured by rules of the association. These rules are a direct consequence of the organisational requirements imposed by USAID and involve participation, transparency, and membership. In addition to these rules and requirements, there are the norms of the local NGO SFA. Because of the perceived decline in fibre production by the palm tree, SFA has started to stimulate migrant farmers to regenerate trees or to harvest the trees less intensely. This implies that community members need to leave a certain number of trees untouched in order for those trees to bloom, generate seeds, or to rest. Table 7-1 gives an overview of the main institutions affecting palm fibre collection in Chinimbimi.

Table 7-1 Institutions and palm fibre collection in Chinimbimi

Bureaucratic institutions	**Socially embedded institutions**
Regulative rules	
Rules on the organisation of producers' association (USAID)	Association rules on commercialisation of fibre (Los Laurelles)
Social norms	
Norms on regeneration and sustainable forest use (SFA)	Norms on appropriate forest and land use
Cultural beliefs	
	Beliefs on traditional cattle farming

Timber extraction

Timber extraction has a longer history than the collection of fibre. When the migrant farmers arrived in Chinimbimi around the early 1980s, they cleared large areas of forest in order to create pastures. As they quickly discovered the value of timber, forest conversion was often accompanied by the sale of large amounts of timber. After the creation of the pastures, timber continued to be extracted, but this time to create agricultural plots or just to clear the forest little by little. Although many types of extraction existed in those days, timber was mainly sold to support the cattle farming system. Cattle farming needs a significant financial investment. This money came from the only source of income that was then available: timber. Timber extraction, however, changed after the discovery of the commercial value of palm fibre. Suddenly, there was a new, stable source of income. Farmers consequently dedicated their time to the development and management of these palm trees. Other tree species were now mainly removed in order to clear the way for palm trees[14]. Today, the valuable timber trees have almost completely disappeared. However, timber is still extracted and sold for an occasional additional income and remains one of the most important sources of income from the forest.

Over time, timber extraction has been structured by different government regulations. Before, it was permissible to extract timber in order to create pastures. During the colonisation period in the 1980s, the Ministry of Agriculture had developed regulations to facilitate landownership. Landownership could be demonstrated by clearing the forest. These regulations were effective for over a decade and resulted in the clearing of the lower areas around Chinimbimi. Now, timber extraction is bounded by the regulations of the Ministry of the Environment. As explained in Chapter 6, farmers need a forest management plan in order to extract and sell timber. The most applicable forest management plan for the farmers in Chinimbimi is PAFSi (see section 6.5.1). However, these regulations are perceived as less relevant than those of the Ministry of Agriculture. After many years of facilitation by the government, these former regulations allowing timber extraction have become part of the community.

In addition to the government, the local NGO SFA also tries to influence timber extraction. On top of its activities concerning palm fibre collection, this NGO attempts to persuade community members to find alternatives to timber extraction. For example, SFA promotes agroforestry systems and organises small meetings in which it conveys the message of sustainable forest use. However, SFA does not have a specific project in this community. It does not visit the community regularly but rather responds to requests from Chinimbimi. This results in unstructured and infrequent NGO presence in the community, and this in turn results in SFA having little impact on forest practices

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[14] Interview community member Chinimbimi (2008)

Similar to the collection of palm fibre, the extraction of timber is also connected to migrant farmers' traditional beliefs. As explained before, timber extraction has always been practiced as a means to finance cattle farming. Cattle farming is the traditional land use system and provides the migrant farmers with an important identity that is distinctive from the surrounding indigenous communities. Although the amount of timber extracted is declining due to fewer trees and a greater focus on palm fibre, timber extraction reinforces the traditional identity that is so important to migrant farmers. Table 7-2 gives an overview of the main institutions relating to timber extraction in Chinimbimi.

Table 7-2 Institutions and timber extraction in Chinimbimi

Bureaucratic institutions	**Socially embedded institutions**
Regulative rules	
Forest Law, PAFSi regulations (government)	Former regulations of Ministry of Agriculture (government)
Social norms	
Norms on sustainable forest use (SFA)	Norms on appropriate forest and land use
Cultural beliefs	
	Beliefs on traditional cattle farming

7.2.2 Palm fibre collection and institutional bricolage

The previous section identified the different institutions that affect palm fibre collection. These institutions relate to various local processes of institutional bricolage. The processes of institutional bricolage relating to palm fibre collection are **aggregation** and **alteration** of socially embedded institutions.

The processes of **aggregation** mostly concern the Los Laurelles producers' association that was set up in order to improve the commercialisation of palm fibre. As explained before, the international development agency USAID assisted financially in the organisation of Los Laurelles. In order to receive this financial aid, USAID imposed requirements that the organisation had to meet. For example, the organisation should be democratic, transparent, and participative. The Chinimbimi community embedded these external rules introduced by USAID and transformed them into their internal rules for the association. They recombined these external rules with their own internal norms on appropriate forest and land use and their need to distinguish themselves from the surrounding indigenous communities.

By connecting this producers' association with their traditional identity and norms, the association has become much more than just an organisation with an economic purpose. Los Laurelles has become a representation of what this community stands for in economic, social, and cultural terms. In other words, the organisation serves not one purpose but many; it has become a multipurpose organisation. Besides the purpose of income generation, it also serves a purpose of social cohesion and community building, and is identity enforcing. As a result, the community members are proud of Los Laurelles.

> *We take pride in this association, this building, and garden. This is very important to us because we did it ourselves and it is ours. (Member Los Laurelles, 2008)*

Another example of the effect of Los Laurelles is that the association is now used to explore different products besides palm fibre: handicrafts and agricultural crops such as sugarcane and yucca. Furthermore, it is also used to create a common community feeling. Women come to the association to work in groups, follow courses, and exchange information. These are important results and are actively stimulated by the president of the association. This president sees Los Laurelles as the embodiment of migrant farmers' norms and traditions. He often uses it to differentiate himself and the rest of the community from the indigenous Shuar. He also uses the association for his own purpose, to depict himself as a political leader.

The processes of **alteration** concern the local norms and beliefs regarding both palm fibre and timber extraction. These processes involve two different aspects: the presence of the local NGO SFA and the change in social norms of migrant farmers. As explained, the NGO SFA has been stimulating the community to incorporate more sustainable forest practices in relation to both palm fibre and timber extraction. According to the NGO, the community should especially focus on the regeneration of palm fibre. However, these activities have not yet resulted in a community-wide change in forest practices. However, some actors have changed their practices or are seriously considering changing. Slowly and gradually, people are starting to talk about palm fibre collection and the need for regeneration.

> *If it is true that the palm trees are aging, then we need to leave some trees alone to flower and to produce the seed. I am already letting a few trees flower, not only because I like to eat the fruit it produces but also because it might be important to replant. (Community member, 2008)*

The second aspect of processes of alteration of socially embedded institutions involves the social norms on appropriate forest and land use. As explained, the migrant farmers have a tradition of focusing primarily on cattle farming. In this tradition, forest practices were always secondary to cattle farming. However, after the 'discovery' of fibre some 20 years ago, the migrant farmers are slowly shifting their focus from cattle to palm fibre. Forest practices no longer involve the conversion of forest into pastures but rather the conversion of forest into forested landscape with palm fibre. Migrant farmers find it more difficult to decide which their preferred practice is: cattle farming or fibre. Some migrant farmers continue to stress the importance of cattle farming but later on add they have sold all their cattle. Other farmers openly state their preference for fibre but explain that cattle farming will always remain part of their lives. In conclusion, palm fibre has altered norms on cattle farming as the appropriate land use system, but it has not yet altered the cattle farming identity. Figure 7-1 demonstrates the processes of institutional bricolage concerning palm fibre collection in Chinimbimi.

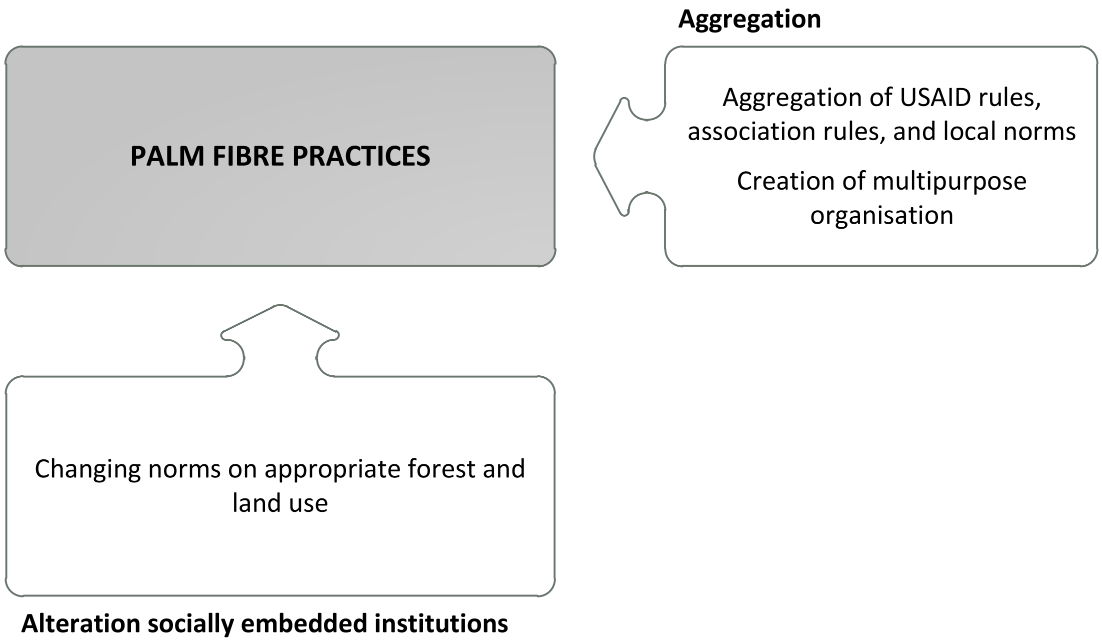
Aggregation
PALM FIBRE PRACTICES
Aggregation of USAID rules, association rules, and local norms
Creation of multipurpose organisation
Changing norms on appropriate forest and land use
Alteration socially embedded institutions

Figure 7-1 Institutional bricolage and palm fibre collection in Chinimbimi

7.2.3 Timber extraction and institutional bricolage

Timber extraction mainly takes the form of small-scale extraction from the forested areas in the hills. Local processes of institutional bricolage affect this forest practice. Both processes involve the formal forest regulations. As explained, small-scale timber extraction should happen according to the government regulations of PAFSi. However, none of the farmers in Chinimbimi has such as management plan. The farmers give several reasons for this. These reasons have led to either a rejection or an ignoring of the forest law. Consequently, there are two processes of institutional bricolage: **articulation** of socially embedded institutions and the **alteration** of bureaucratic institutions.

The process of **articulation** of traditional beliefs specifically relates to rejection of the forest law. The migrant farmers will not comply with the PAFSi regulation as it clashes with their traditional beliefs. These traditional beliefs stem directly from their cattle farming system in which timber plays a complementary role. On top of that, they regard cattle farming as the appropriate land use practice for the Amazon. According to the migrant farmers, PAFSi regulations undermine these beliefs as they restrict a practice considered indispensable for cattle farming. In other words, it undermines cattle farming and diminishes the perceived freedom of the migrant farmers. This freedom is linked to another aspect important in these processes of institutional bricolage: the former regulations of the Ministry of Agriculture. As explained, these regulations were rather flexible and facilitating. They gave the farmers freedom to practice cattle farming and convert forest into pastures. Furthermore, the government saw cattle farming as the preferred land use system for the Amazon and remained therefore flexible and facilitating towards the migrant farmers. These institutional aspects formed a barrier for the subsequently introduced restrictive forest law and are frequently used arguments for its rejection.

The second process of institutional bricolage, the **alteration** of bureaucratic institutions, also relates closely to the PAFSi regulations. It furthermore involves the interference of the NGO SFA on sustainable forest practices. Contrary to the process of articulation, the alteration of bureaucratic institutions in this case refers to the bending of rules and the ignoring of the regulations. Instead of rejecting the forest law, some actors simply ignore it. This ignoring happens more subtly and usually involves a reinterpretation of the regulations. For example, a farmer stated that the regulations do not apply to him, as he does not extract timber regularly; he only extracts occasionally. Migrant farmers in general claim these regulations do not apply for them as they focus on palm fibre and cattle farming. These arguments are made independent of whether they extract or not. The same process of reinterpretation and ignoring happens with the messages of the NGO SFA. People state that they agree with sustainable forest practices but also explain that they cannot adopt them as their situation differs from that of others. They come up with reasons such as lack of resources or lack of land necessary to meet the criteria of sustainable forest use. Figure 7-2 provides an overview of the processes of institutional bricolage affecting timber extraction practices in Chinimbimi.

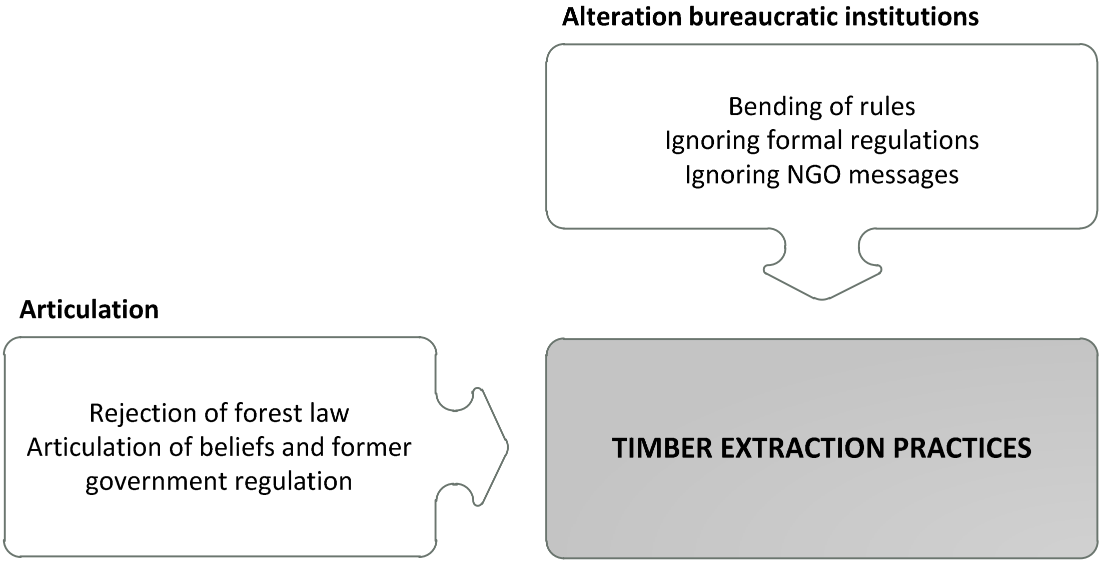
Alteration bureaucratic institutions
Bending of rules
Ignoring formal regulations
Ignoring NGO messages
Articulation
Rejection of forest law
Articulation of beliefs and former government regulation
TIMBER EXTRACTION PRACTICES

Figure 7-2 Institutional bricolage and timber extraction in Chinimbimi

7.2.4 Bricoleurs

Ricardo

Ricardo is a one of the most active and present persons in the Chinimbimi community. He is the current president of the Los Laurelles association, the president of the local health centre, and leader of his neighbourhood. He likes to seize any opportunity to make himself heard. He lives in the centre with his wife and children. Near his house, he has a small plot with some fruit and vegetables, but he mainly works in his fields with palm fibre and cattle. Now and then, he sells timber. Although fibre is his most important product economically, Ricardo still regards cattle as his most important source of income. His forest and land use system provides him with a rather comfortable income.

As president of Los Laurelles, Ricardo uses this association very actively to demonstrate his ability as president. He wants to have a political career and to be more active in regional government. Consequently, he uses this association to display his abilities to others. However, this goes further than just showcasing his organisational skills. He also sees Los Laurelles as the embodiment of what migrant farmers stand for in terms of norms and beliefs. He, for example, connects norms regarding appropriate land use and work attitude to the association. He likes to explain that this organisation is more than just a producers' association.

Another aspect important to Ricardo is to use Los Laurelles to prove that migrant farmers are superior to the Shuar. By doing so, he creates a certain 'us' versus 'them' situation that he often uses in his more general communication as well.

> *The Shuar do not work, they take stuff from the forest and sell it cheaply. They only hang around. God has ordered us to work in order to eat. Our fathers taught us to work. I have worked all my life and now I have my money, my property. If I had not worked, I would not have had anything. (Ricardo, 2007)*

Ricardo's bricolage activities thus focus on the recombination of all sorts of internal and personal norms and beliefs with the more formal structure of the association. In this process, he goes further than most other community members. In a certain way, he positions himself rather differently than other migrant farmers. However, this does not pose many problems him. Apart from some minor conflicts with fellow association members, Ricardo still has enough leeway to do what he wants.

> *I work for my village. Although many people tell me not to, I do work for my village. It makes me a good man. (Ricardo, 2008)*

This active role derives from the authoritative resources that he possesses and that are ascribed to him. Because of his formal functions in the community, his personal characteristics such as his loud voice, and his charisma, he has sufficient authority to actively participate in processes of institutional bricolage. These authoritative resources have resulted in a situation in which Ricardo is powerful enough to steer certain aspects of the association in his own direction and to link it to his own needs and aspirations.

Ricardo's role in processes of institutional bricolage involves mainly the local Los Laurelles association. Processes of aggregation and alteration have affected the establishment and organisation of this association. Ricardo has been particularly active in processes of aggregation: the recombination of both external USAID rules and internal norms and beliefs. He uses the association to demonstrate the capacities of migrant farmers and to distinguish himself from other cultural groups. However, Ricardo does not just participate in processes of institutional bricolage; he also actively entwines his own activities with aggregation processes. His authoritative resources allow him to strategically link personal political ambitions to Los Laurelles. This makes his role in processes of institutional bricolage important.

Eric

Eric is a middle-aged man who lives in a big house in the centre of Chinimbimi. He has large areas of land on which he mixes cattle farming with palm fibre collection. In addition, Eric is one of the fibre buyers in the community. Whereas most Chinimbimi people sell their fibre to buyers passing the town, Eric buys fibre from everybody in the region and sells it in large quantities. Because of these bigger quantities, he obtains a better price for the fibre. This extra income and his large land parcels have made Eric one of the richest members of the community. This economic wealth has made him an important actor in town. However, his wealth has resulted in him not participating in the Los Laurelles association. He does not need the association to improve his income, and he does not feel the need to collaborate with the rest of the community. He feels he collaborates enough with the buying and selling of fibre.

Palm fibre trading has increased his income substantially. It provides him with all the money he needs for cattle farming. However, the effects of the palm fibre income do not only concern income-related aspects, Eric also changed certain norms on forest and land use systems. These alterations are visible when Eric talks about his work in general.

> *I do not need to work the whole day. I have labourers, which I need to check now and then. But most of the time I am at home. I do not want to work in the fields anymore, I prefer to hire people. (Eric 2007)*

He does not mind that his type of work does not correspond with what, for example, Ricardo regards as work. Furthermore, Eric now sees the fibre palm as his most important and preferred forest use system. Whereas most inhabitants of Chinimbimi remain cattle farmers, Eric focuses more and more on palm fibre and sees cattle as a worthwhile investment for the future.

> *Fibre is the money of the moment, with cattle I have to wait for it to develop. (Eric, 2007)*

As a bricoleur, Eric particularly takes part in processes of alteration of socially embedded institutions relating to palm fibre collection. The income from palm fibre has altered the traditional beliefs and norms on appropriate forest and land use. A final example of this concerns the Shuar. In contrast to many farmers in Chinimbimi, he does not try to exclude the Shuar. He buys the fibre from everybody: migrant farmers and Shuar. This shows that, although he is still a migrant farmer with cattle, his personal norms have been subject to change. In this, he differs from other community members who prefer to exclude the Shuar from income-generating practices. The fact that he is able to be inclusive and different derives from his financial resources. His economic position in the community provides him with enough authoritative resources to do what he wants. He does not need to be a member of the association. He determines himself how he works and with whom he deals. People need him as he is always able to buy fibre from them if their need to sell is high.

Isabel

Isabel is a married woman whose husband is currently working in the United States. She has one son. Unlike the previous actors, she does not have a forest and land use system that mixes cattle and palm fibre. Her main income comes from fibre collection alone on a small area of three hectares. Additional income comes from some small-scale production of fruit trees around her house and occasional timber extraction. However, because of the money sent by her husband in the US, she has been able to build a new house and send her son to school. Lately, Isabel has bought two pigs with the help of the municipality. However, these pigs are costing her much more than she anticipated. It leaves her feeling lost and without many resources to change her life in the way that she would like.

Isabel is a member of Los Laurelles. She states that her main reason for being a member is that it provides her with an opportunity to improve her economic position. Her small plot with pure palm fibre forest does not generate enough income, and Isabel is not able to extend her land. However, her reasons for joining the association are not purely economic. Her family are members of the association as well. Her brother is its vice president. Being a member of Los Laurelles has given Isabel an opportunity to share her experiences with others. She asserts that she likes to collaborate with other members of the association, especially the women. The association, furthermore, gives her hope for a better future.

> *The association can improve what God has given us: the fibre. It is important to me to continue the work my fathers have given me. (Isabel, 2007)*

Isabel feels that her situation is rather problematic. Her income barely suffices to pay her son's school fees, and she misses her husband who is living in the United States. She also believes that the institutional influences on fibre collection or timber extraction are not applicable to her.

> *There are NGO messages on regeneration of fibre trees. These are important. We need to plant more trees, not only palm trees. However, I cannot do so as my land does not have sufficient room for this. (Isabel, 2008)*

Isabel's role in processes of institutional bricolage is limited to the alteration of the NGO norms. These norms relate to timber extraction and promote the sustainable use of forest resources. Isabel ignores these rules by stating they do no apply. Contrary to the previous actors, Isabel is a woman with few authoritative resources. However, this has not stopped her from voicing her opinion. Her confidence to do so comes from being a member of Los Laurelles. In a way, she has benefited socially from being part of this association. Furthermore, she feels strengthened by the fact that her brother is its vice president. She is gaining more knowledge and more confidence to continue and find other income-generating opportunities. However, Isabel's case also demonstrates that bricoleurs with few authoritative resources are not able to play an active role in processes of institutional bricolage and to interweave their own ideas and activities with these processes. Her only bricolage activities relate to the ignoring of the NGO norms on reforestation of palm trees, and these activities are almost invisible and happen very gradually. She is not capable of leaving her mark on the alteration of bureaucratic institutions.

Pablo

Pablo is one of the older inhabitants of Chinimbimi. He is the only person in the village who has a forest and land use system that is quite different than the rest. His system consists mainly of cattle farming and the collection of fibre. However, he has also dedicated a large piece of land to agroforestry by planting fruit trees. Furthermore, his forest is one of the most diverse in the area as he has been practicing reforestation. In addition to this, he has a small shop selling a variety of items. Pablo is one of the initiators of the Los Laurelles association. This has given him some status in the community as he is still respected for this inventive idea. Over the years, however, Pablo has withdrawn from community life and the association. He states that he prefers to dedicate his time to his own production system. As it turns out, the social benefits from participating in an association, which are imperative to Isabel for example, are not important to him anymore. To Pablo, Los Laurelles is just a producers' association. He does not perceive it as the essence of norms and beliefs of migrant farmers, like Ricardo does.

> *Los Laurelles only makes brooms, I have already been making my own brooms for years. My interests also lie in working with other ideas. (Pablo, 2008)*

One of his interests lies in reforestation and the planting of trees. This is the result of his adoption of certain ideas born out of interaction with a personal network of friends that Pablo has outside the community. This network consists of engineers and members of the NGO SFA. Consequently, Pablo has moved away from the traditional forest and land use system that relies on the extraction of resources only, and he now focuses more on planting. Furthermore, he does not ignore the messages on reforestation and sustainable use of forest resources expressed by NGO SFA. Many of his ideas came from this NGO, which also provided technical assistance and seeds. This shift from the association and into the planting of trees has resulted in a change in his social position in the community – a change that is felt by Pablo.

> *I am the only one that plants trees. That's why they all criticise me in Chinimbimi. (Pablo, 2008)*

Pablo's role in processes of institutional bricolage is different as it relates to the embedding of the NGO norms. Although the rest of the community ignores these externally introduced institutions, Pablo has chosen to embrace them and to use them for his own benefit in order to create his preferred livelihood. He has been able to make this shift because of his authoritative resources consisting of respect and a social network. He is still respected for his dedication that led to the founding of Los Laurelles. The fact that he has left the association is regretted by most community members. However, another important authoritative resource is his social network outside the community, consisting of engineers. To him, these people are very important. They have given him access to information and resources necessary for his agroforestry system.

7.2.5 Conclusions on institutional bricolage in Chinimbimi

This case of Chinimbimi is a somewhat different case than others. Processes of institutional bricolage in Chinimbimi do not relate to an external event such as the introduction of a new practice or technique by an NGO, or new government regulations. External events or new rules often result in active processes of institutional bricolage in which community members often consciously reshape the institutional framework affecting their practices. This case is different in the sense that the processes of institutional bricolage mainly involve less distinctive events of an existing practice. In spite of this, different processes of institutional bricolage affect palm fibre collection and timber extraction in Chinimbimi. Processes of aggregation and alteration mainly impact palm fibre collection, whereas timber extraction is the principal focus of processes of articulation.

Box 7-1 Embedded rules of migrant farmers

The former rules of the Ministry of Agriculture

The migrant farmer looks at me indignantly. "Before, we had more freedom and we were heroes. Now we are treated like we are the destroyers of the forest, whereas it is the Shuar who are destroying it. We are only building up this region."

The new forest law enacted by the Ministry of the Environment in the early 2000s has changed the situation for migrant farmers. Instead of being free to practice cattle farming, they now have to obey rules and regulations. For many migrant farmers it is a bitter pill to swallow. In the 1980s, the Ministry of Agriculture stimulated farmers to move to the Amazon and facilitated their cattle farming by creating flexible rules, credit systems, and supportive mechanisms. Migrant farmers were treated as if they were saving this underdeveloped region of Ecuador, as if they were pioneers. Now, migrant farmers are facing restrictions and the flexible rules and credit systems are gone.

"If I want to sell timber, I need this piece of paper. It costs money to get this document. Then I need to pay labourers to fell the tree since I am too old to do it. Then the merchants come in, these are the real mafia, they offer the lowest price possible for the timber. In the end, I have nothing. Things have changed over the last year and if I have to choose between the Ministry of the Environment and the Ministry of Agriculture, I choose the second one and I do not comply with the forest law."

The collection of palm fibre seems at first sight a straightforward forest use system driven by the commercial value of the fibre. The local Los Laurelles association was established in order to further improve the commercialisation process. However, examination of the local Los Laurelles association reveals that processes of aggregation accompanied the founding of this association. Los Laurelles is seen not just as an economic organisation but also as an organisation representing the norms and beliefs of migrant farmers. For some, these social aspects have even become rather important. In addition, it reaffirms their identity in comparison to the indigenous community. Through aggregating these social norms and beliefs with the rules relating to the organisation, the association has grown in importance.

Timber extraction mostly involves processes of articulation. The migrant farmers all practiced cattle farming before they arrived in the Amazon. They continued these processes in the Amazon, and this required clearing forest for pastures. In addition, these traditional practices used to be supported by regulations of the Ministry of Agriculture. However, the rules changed from facilitative agricultural regulations to restrictive forest regulations. The proposed forest management plans stood in stark contrast to the embedded institutional framework relating to traditional beliefs and normative ideas about the right system for land use. Consequently, the forest regulations are rejected in Chinimbimi.

Chinimbimi is a good example of the internal development of a commercialised forest and land use system. Many communities do not have access to an economically viable perennial forest product such as palm fibre, but Chinimbimi has demonstrated a high level of incorporation of it in their traditional cattle system. Furthermore, palm fibre collection has supplanted the position of timber extraction in the forest and land use system. Farmers only occasionally extract timber, whereas palm fibre is collected daily. As a result, the pressure on timber as the only source of income from the forest has diminished, although it must be said that not many trees are left standing in Chinimbimi. Furthermore, the collection of palm fibre is not influenced by regulative rules or an NGO project for example. This implies that the number of externally introduced rules and norms is relatively low. Therefore, processes of institutional bricolage are not as visible as in situations in which new rules are being introduced.

7.3 El Eden

The village of El Eden lies on an unpaved dirt road that crosses the lowlands and goes deeper into the forest (see Map 6-1). The landscape is a mixture of pastures and forest. Regularly, stacks of wooden planks are piled beside the road, waiting for the timber merchants to buy them. A soccer field without grass or goals and a school consisting of one classroom indicate that you have reached the centre of El Eden. The houses are not located next to the road but are hidden in the bushes and the forest. Almost all the women and men work in the forest during the day. The hidden houses and the absence of people gives El Eden a somewhat deserted feel. Both migrants and indigenous Shuar live in the region surrounding the village, but the inhabitants of El Eden are all indigenous Shuar. As explained above, the Shuar originally inhabited the Amazon area in the province of Morona Santiago. The arrival of Spanish missionaries led to drastic changes in their culture. Nowadays, they speak Spanish, have Spanish names, and marry only one wife, whereas before they had their own language, names, and polygamist rules (Rudel and Horowitz 1993). Recently, the community has been undergoing more changes as infrastructural development has brought the city closer to the community.

7.3.1 Forest practices in El Eden

Shuar communities in general are very forest dependent. An important part of their livelihood consists of the collection or extraction of forest products. For example, the Shuar regularly hunt, collect non-timber forest products such as medicines, nuts, or berries, and extract timber. This part of the forest use system is undertaken by the men. Most of the food production comes from large forest gardens that are managed and maintained by women. Because of the cultural changes, the commercial extraction of timber has become a dominant feature of the Shuar's forest use systems. This holds true for the inhabitants of El Eden also: the change in culture has increased the need for an income and the pressure on timber extraction has therefore risen. The local NGO SFA has noticed this increase in pressure and has consequently introduced a new source of income: balsa plantations. These are small-scale plantations of about a hectare on which this fast-growing tree is planted.

Timber extraction

Timber extraction is part of the traditional livelihood of the Shuar in El Eden. It used to be only for subsistence purposes. Men would extract timber for the construction of houses or fences. To the present day, timber is also extracted for firewood. In those days, there was no demand for money as everything was non-commoditised and exchanged at local markets. Now, the Shuar need money to pay their children's tuition fees at school and to have access to health services. This change has had a rather big impact on the forest as it has triggered the need for a monetary income. Now, timber is the most important source of income, mainly because it is relatively easily accessible: all the Shuar have large areas of forest from which to extract timber.

However, this timber extraction is bounded by regulations. As explained, the government stipulates a forest management plan, PAFSi, for every commercial extraction of timber. Not only does the government prescribe this forest management plan, but also the local NGO SFA attempts to stimulate the formalised extraction of timber. However, in contrast to the government regulations, the NGO adopts a softer approach through promotion and trying to raise awareness of sustainable forest practices. These two external institutions form the bureaucratic institutional influence on the local forest practices.

The socially embedded institutions consist of local indigenous rules, norms, and beliefs. The indigenous rules stem from the indigenous political organisations. As explained, these political organisations were born out of discontent with the Ecuadorian government and are regarded as important representative organisations by Shuar communities. Furthermore, the main Shuar federation allocates land to new communities and guards the indigenous rules and rights. Examples of these rules and rights are that the Shuar are not allowed to sell their indigenous lands and that indigenous people have the right to do with the forest whatever they want[15]. They grant the community of El Eden unlimited access to the forest. This freedom, however, is not to be misused, as the Shuar have community norms on forest practices. Forest practices that lead to an overuse of forest resources are considered inappropriate and unacceptable. Community members are expected to use only those resources needed and to have a deep respect for nature. This deep respect stems directly from the traditional forest culture of the Shuar.

Other socially embedded institutions relate to timber extraction in a more indirect manner and are not forest-specific. These cover the whole livelihoods of the Shuar in general. The first institution is the Shuar's belief in their independence. As described above, the political organisations of the Shuar were born out of feelings of discontent with the government and driven by a need to be independent. The relation between the state and the Shuar has always been troubled and even worsened when the migrants moved to the Amazon. This traditional belief in an independent Shuar culture that does not approve of government interference is still alive today. The second institution concerns local norms on desirable livelihoods that resemble city livelihoods. This is particularly visible among the younger generations. These norms, however, contradict the traditional norms on forest use as they approve of an increase in income generation from the forest in order to achieve a desirable life. Table 7-3 gives an overview of the different institutions relating to timber extraction in El Eden.

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[15] Interview member of Shuar Federation FICSH (2008), community members El Eden (2008), and members of NGO SFA (2007)

Table 7-3 Institutions and timber extraction in El Eden

Bureaucratic institutions	Socially embedded institutions
Regulative rules	
Forest Law, PAFSi regulations (government)	Indigenous rules and rights, unlimited forest practices (Shuar Federation)
Social norms	
Norms on sustainable forest use (SFA)	Community norms on forest use Norms on desirable livelihood (younger generation)
Cultural beliefs	
	Beliefs on forest identity Beliefs on independence

Balsa plantations

Balsa plantations are not a traditional practice of the Shuar in El Eden. NGO SFA introduced them as a new alternative to timber extraction. As explained before, the NGO worried about the increasing pressure on timber extraction as the only source of income. The project has only been running for a few years and has already encountered several problems. Many project participants were not completely successful in growing all the balsa seedlings given to them. However, SFA is continuing the project and keeps on providing assistance to anyone that has trees. The balsa plantations in El Eden should not be seen as large-scale plantations with hundreds of trees neatly planted in lines. They are small-scale individual plantations, consisting of one hectare of cleared land on which trees are planted.

In contrast to timber extraction, balsa growing is not bounded by government rules. This is another reason why NGO SFA introduced the species as it is seen as an easy and legal way to make an income, although this does not imply that there are no bureaucratic institutions relating to the plantations. The introduction of balsa is accompanied by bureaucratic norms of the NGO SFA on reforestation and sustainable use of forest resources. These are the same norms as those described above in relation to timber extraction.

The socially embedded institutions relating to balsa plantations are almost similar to those affecting timber extraction minus the local Shuar rules on unlimited forest practices. These are the norms on appropriate forest use and desirable livelihood and the beliefs on forest identity. The local belief on independence and the rules of the Shuar on unlimited forest use do not apply here, as the presence of NGO SFA is very welcome. Unlike the relationship with the government, this bond between the local community and SFA is characterised by trust and friendship[16]. Table 7-4 gives an overview of the main institutions affecting balsa plantations in El Eden.

Table 7-4 Institutions and balsa plantations in El Eden

Bureaucratic institutions	Socially embedded institutions
Social norms	
NGO norms on sustainable forest use and reforestation (SFA)	Community norms on forest use Norms on desirable livelihood (younger generation)
Cultural beliefs	
	Beliefs on forest identity

7.3.2 Timber extraction and institutional bricolage

Both government regulations and local institutions, such as the indigenous federation, community norms, and traditions, have an effect on timber extraction. These institutions become reshaped or renegotiated in processes of institutional bricolage. Two main processes can be distinguished: the **articulation** of socially embedded institutions and the **alteration** of socially embedded institutions.

The processes of **articulation** of socially embedded institutions involve the forest law regulations. These processes are rather strong and quite visible in the community as they touch upon an important aspect in Shuar society: the unwanted interference of the government. As explained before, the relationship between the government and the community of El Eden is troubled, as the Shuar do not like the government to intrude. A long history of government intrusion, the Shuar argue, has brought problems such as the influx of migrants and restrictive rules. Consequently, the community members reject these regulations by claiming their own traditional independent forest identity or by referring to the regulations of the indigenous federation. These indigenous organisations are perceived as very important and sometimes referred to as 'the real government'[17]. Consequently, the El Eden community members feel that they are able to withstand the government influence as they are backed up not only by their own local socially embedded institutions, but also by a broader array of Shuar rules, norms, and beliefs. This makes the socially embedded institutional framework a barrier for bureaucratic institutions that is hard to break down.

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[16] Interview community members El Eden (2007) and SFA (2007)

However, one of the consequences of articulation is that it can lead to a leakage of what these traditional institutions mean. This leakage is particularly visible in the Shuar claims to independence. These claims are first and foremost political, developed over time, and stressed by the political organisations of the Shuar. However, when these same claims are made in different situations, they run the risk of losing their original meaning. For example, the same claim about independence is made regarding timber extraction. However, timber extraction is already structured by norms on appropriate forest use that disapprove of unlimited forest extraction. In a way, the independence claim contradicts the local norm on forest use. Furthermore, it is not a political statement but merely a expression of resistance to the government. Independence thus means something different in the situation of timber extraction than in a political situation. In combination with the existing norms, it is questionable whether this claim is actually valid.

The second process of institutional bricolage relating to timber extraction is the **alteration** of socially embedded institutions. Alteration of socially embedded norms implies the gradual change in norms and beliefs of the community in El Eden. This alteration is the result of the presence of the NGO SFA. In the context of timber extraction, SFA has been promoting the forest law and sustainable forest use. This has resulted in renewed attention being paid to the existing local norm on forest use. The El Eden community members were already aware of the need for forest preservation, as it is their main source of food. The NGO message reaffirms this traditional norm and even reinforces it. People mention their renewed realisation of the importance of forest protection because of SFA. Furthermore, the NGO presence also resulted in a change in the traditional belief on independence. This belief implied that the Shuar community did not need anybody and resulted in a rather closed attitude towards outsiders. However,

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[17] Interview community member El Eden (2008)

SFA's work in the community has resulted in a change in this belief. Although community members still claim their independence, they have become more open towards outsiders. Figure 7-3 gives an overview of the processes of bricolage relating to timber extraction in El Eden.

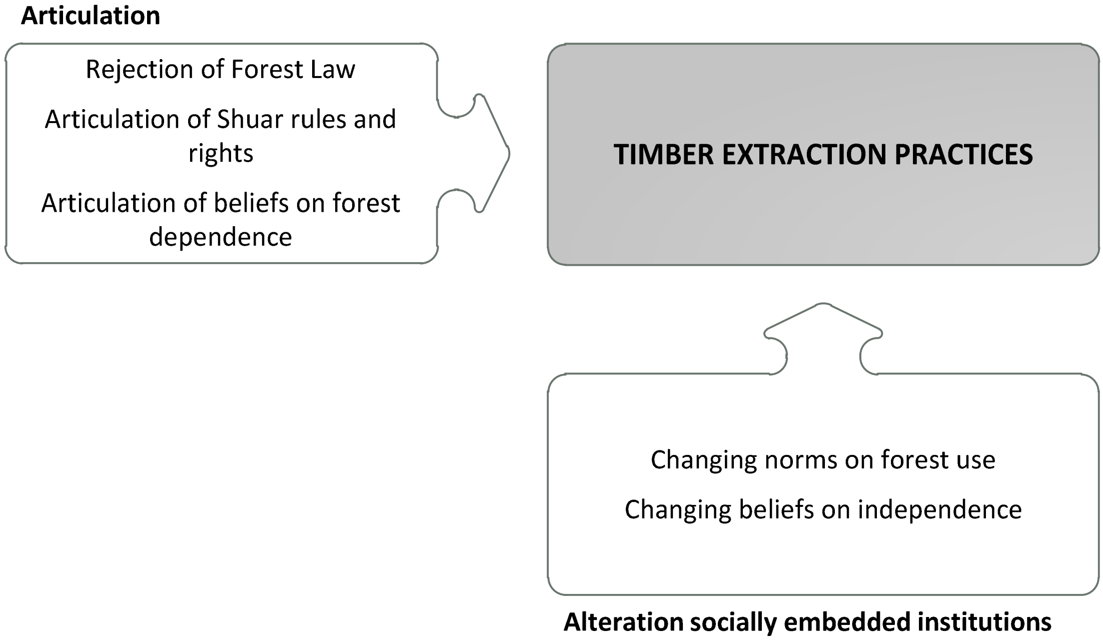
Articulation
Rejection of Forest Law
Articulation of Shuar rules and rights
Articulation of beliefs on forest dependence
TIMBER EXTRACTION PRACTICES
Changing norms on forest use
Changing beliefs on independence
Alteration socially embedded institutions

Figure 7-3 Institutional bricolage and timber extraction in El Eden

7.3.3 Balsa plantations and institutional bricolage

The NGO SFA introduced balsa plantations in El Eden in order to provide the community with an alternative to timber extraction. Earning an income from a plantation is expected to diminish the pressure on timber extraction as the sole source of income. Several institutions accompany the introduction of this new forest practice. These institutions in turn are subject of processes of **aggregation** and **alteration**.

The process of **aggregation** mostly concerns the recombination of NGO norms on reforestation and sustainability with local norms on forest use. The local norms on forest use contain the moral obligation not to overuse the forest resources as the Shuar traditionally depend on these resources. The NGO SFA message regarding sustainability links up with this pre-existing norm, and this facilitated its embedding. However, there were also other facilitating aspects contributing to aggregation. First, the NGO SFA has a well established relationship with the community, and especially with the community president. This trusting relationship has led to a higher acceptance level of NGO messages. Secondly, the local need for income and the changing lifestyle and ideas about an appropriate livelihood also contributed to the process. Balsa is perceived as an extra source of much needed income to pay for the desired lifestyle. It therefore caught the attention of the community members and led to the embedding of the NGO norms through recombining them with this local norm.

The process of **alteration** of NGO norms on reforestation and sustainability involves a group of participants. This process of alteration led to the ignoring of the SFA norms. Similar to the process of aggregation, community members joined the balsa project in order to gain an extra income. However, contrary to the process of aggregation, a group of these participants chose not to embed the NGO norms on reforestation and sustainability. In particular, younger inhabitants of El Eden are not that concerned with conservation issues and prefer a monetary income. Therefore, they chose to ignore the normative message of the NGO.

The final identified process of **alteration** concerns embedded norms on forest use. The SFA presence and its balsa project have led to a renewed appreciation of the forest. The need for sustainable forest practices is again highlighted. Although the norms on forest use already existed for generations, community members feel that they are reminded again of the value of the forest. The SFA presence also resulted in an alteration of Shuar beliefs on independence. As explained before, the feelings of independence were accompanied by a relatively closed attitude towards external interventions. The SFA presence changed this belief. This process is similar to the identified process of alteration regarding timber extraction. Figure 7-4 provides an overview of the processes of institutional bricolage in El Eden.

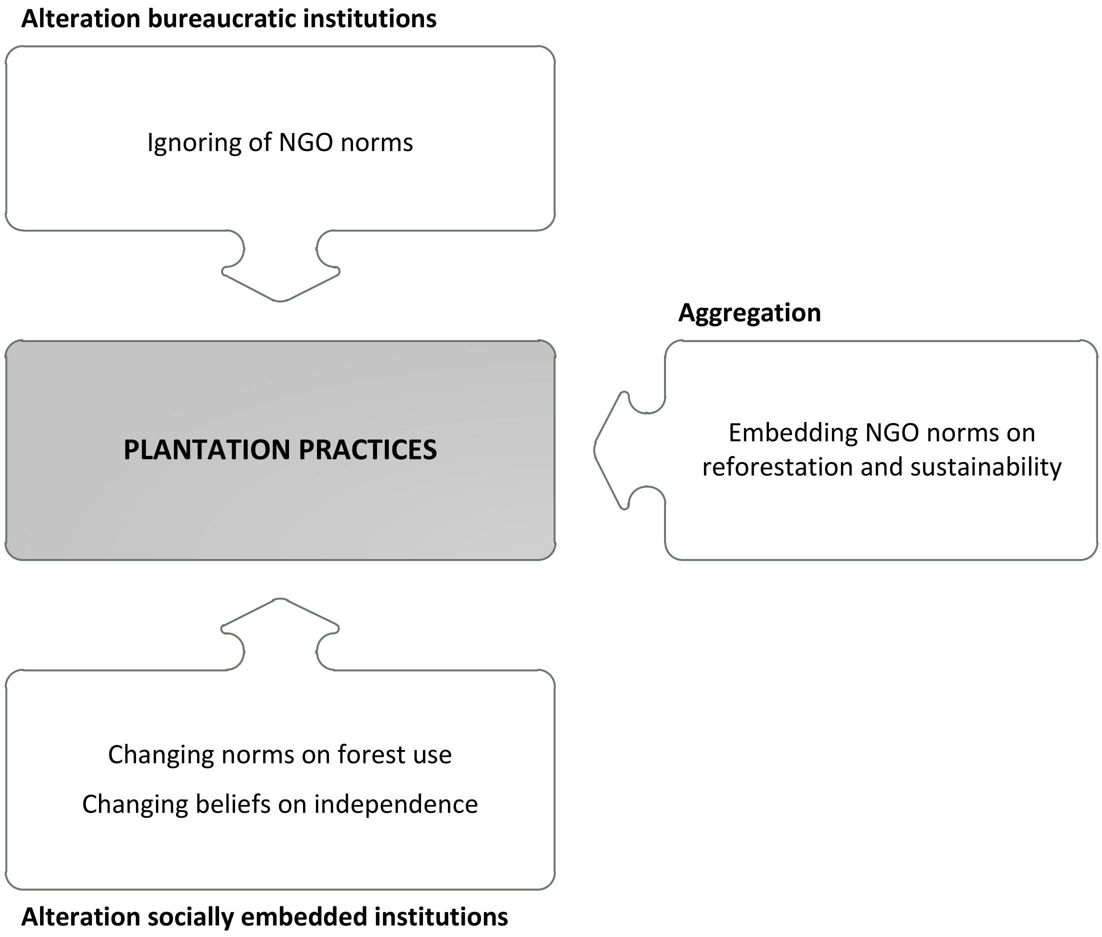
Alteration bureaucratic institutions
Ignoring of NGO norms
Aggregation
PLANTATION PRACTICES
Embedding NGO norms on reforestation and sustainability
Changing norms on forest use
Changing beliefs on independence
Alteration socially embedded institutions

Figure 7-4 Institutional bricolage and balsa plantations in El Eden

7.3.4 Bricoleurs

Juan

Juan is the president of the El Eden community. He is open-minded and is continuously trying to find new possible sources of income for the community. He sees it as his duty as president to try to develop the community and set the right example at the same time. As president of the community, Juan enjoys the respect of the community. In general, the community regards him as a good leader who is working hard to develop El Eden[18]. Furthermore, he has a good relationship with the NGO SFA[19]. All these aspects have conferred on him a certain authority and respect.

Juan does not like the forest regulations on timber extraction. He therefore does not have the required forest management plan.

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[18] Interview community members El Eden (2007, 2008)

[19] Interview member NGO SFA (2007)

> *These laws are too restrictive and offer no alternatives. (Juan, 2007)*

Furthermore, he has problems in acknowledging the authority of the government and its interference in what he calls the Shuar identity. He states that his community has the indigenous right to have unlimited access and use rights. The government cannot prescribe anything.

He did engage in balsa plantation. To him this is important, as it is also a demonstration of his idea that a president should fulfil an exemplary role in the community. He sees it as his duty to find alternative sources of income. As a result, Juan has opened up the community to external interventions and NGO projects. Furthermore, the balsa project to him is a perfect opportunity to underline the community norms on sustainable forest use.

> *We have all these norms to protect the forest. You cannot just go and cut down trees if you do not really need to fell them. (Juan, 2008).*

However, he also recognises the changes among the younger generations and the effect this has on their traditional livelihoods.

> *We used to have all these traditions. Now, this is not important anymore. My children want to watch TV instead of talk and want to eat rice instead of yucca. (Juan, 2008)*

Juan's role in processes of institutional bricolage relates to different aspects. First, he rejects the forest regulation by articulating his own indigenous beliefs. Second, he aggregates the NGO norms on sustainability and reforestation by adopting the balsa project and using these NGO norms as a reminder about the local norms on forest use. Finally, he acknowledges the changes in indigenous traditional lifestyle. Although he has not embedded the local norms on desirable livelihoods, he does admit that income generation is increasing in importance. This active role in processes of institutional bricolage is made possible by his authoritative resources. He is rather aware of the responsibilities that come with his job as community president. He states that he therefore uses his authority for the benefit of his own community. He has been rather successful in bringing in projects and stimulating community participation. As a result, he can be considered a social change agent. He managed to structurally change the community in order to make them more open towards external interventions while at the same time reviving the cultural traditions.

Gabriel

Gabriel is an adult married man in his late thirties with 13 children. Although he is still relatively young, he is already a granddad. Many children and marriage at an early age are typical of traditional Shuar culture. Furthermore, Gabriel is a board member of the community organisation and is considered as Juan's right-hand man. Next to Juan, Gabriel is regarded as one of the most powerful men in El Eden. His 13 children have increased his need for money. Consequently, Gabriel is always looking for new opportunities to earn an income. He therefore participates in the balsa project and sometimes works as a carpenter. Gabriel collaborates with Juan in the balsa project. Together they came up with the idea of working on the same balsa plot.

Although Gabriel acknowledges the need for reforestation and the more sustainable use of resources, he does not comply with the forest law. As an independent Shuar, he dislikes state interference intensely. Furthermore, because of his large family, he needs relatively easy sources of income that do not entail too many regulations. Gabriel therefore focuses on income generation. The many children and the need for certain city products have resulted in a focus on timber extraction.

> *I do want to extract more timber; I want to plant more trees for this purpose. I need more income to pay for all my children. (Gabriel, 2007)*

Although regarded as a powerful man, Gabriel does not play a significant role in processes of institutional bricolage. Like many Shuar, he does not like to comply with government regulations. He therefore rejected the forest law by articulating his traditional independent identity. However, the household situation does not allow him to incorporate his own activities in these processes of bricolage and to find some room for manoeuvre. The number of mouths to feed is simply too big for Gabriel to dedicate much time to participation in processes of institutional bricolage. Gabriel's main objective is to find an income. As a result, he participates in the balsa project. However, his role in the balsa project has also led to a renewed appreciation of the forest. As described in the processes of institutional bricolage relating to balsa plantations, SFA's norms on sustainability have renewed the social Shuar norms on forest use. Gabriel is one of the people that have aggregated these norms.

Rigoberta

Rigoberta is Juan's sister. She lives in the house next door to him with her husband and nine children. Like most of the women in El Eden, Rigoberta works mostly in the gardens. This is the traditional work division among women and men: women work in the gardens near the house and men work in the forest. Her husband mainly extracts timber to generate income. Rigoberta herself dedicates her time mainly to production in the garden and to her children. Her husband is often away during the day. She cannot read or write and relies on the information that is brought to her by her brother Juan.

Timber extraction is the main source of income. Rigoberta explains that there is a community norm that allows timber extraction if there is a need, otherwise the forest is left alone. She and her husband know of the forest law regulations but they do not have the required individual forest management plan. Similar to other Shuar they reject the forest law because of discontent with the government. Furthermore, she feels it is unnecessary as she thinks that they only extract small quantities.

> *Yes, there is a law but we are not setting up a management plan. But we do not extract that much since you get tired of felling trees without a chainsaw or other proper machines. (Rigoberta, 2007)*

Rigoberta's perception on the forest has changed because of recent messages on reforestation. She and her husband see that the forest has changed and that they might run out of forest resources in the future; this in turn might have an effect on their forest and land use system.

> *It has changed a lot, the forest, now we have these ideas about reforestation, this might have an influence on my timber extraction, but I do not know for sure. (Rigoberta, 2007)*

Rigoberta's case demonstrates that her role in institutional bricolage is limited. Although she and her husband reject the forest law by articulating traditional beliefs, she lacks the authoritative resources to completely reshape the institutional framework, mainly because of her gender, lack of knowledge, and lack of economic resources. Her relationship with her brother is, in this sense, very important. He provides her with the new information on, for example, projects. Because of this information, Rigoberta is aware of the NGO activities in the village and participates in SFA meetings. She has therefore embedded the NGO norms on reforestation as she can see how quickly the forest has changed because of overuse of forest resources. However, she does not have the means to actually do something with this realisation.

Hernán

Hernán is a middle-aged married man with two children. He lives next to the school and works mostly in his garden. He describes himself as an agriculturalist, indicating that his interest lies more in agricultural production than in other practices. However, his timber extraction is still his most important source of income. Hernán participated in the SFA balsa project; however, it proved to be more challenging than he thought. After a few problems, he decided to leave the project and continue his normal routine. However, since that project he has a more open mind towards new and sound opportunities to earn a better income.

Hernán' case demonstrates a change regarding the traditional lifestyle. His forest and land use system no longer bears much resemblance to the traditional forest-dependent livelihoods; he states that he is just looking for economic opportunities like everybody else. Consequently, he has collected some seeds from different NGOs and started planting them while dreaming of owning a cattle herd one day.

> *We don't have a traditional way of producing anymore; we are just copying the migrants. (Hernán, 2007)*

Timber is also important to Hernán. Like the rest of the community, he does not have a formal forest management plan. His reason is quite clear: he does not recognise the Ecuadorian government.

> *We have our own government; I only listen to them and not to the government in the city. (Hernán, 2007)*

Hernán is just one of the many men from the community who lives an ordinary life. He has no special position or formal role in El Eden. Neither has he access to many authoritative resources. However, he demonstrates a clear rejection of the forest law by articulating his own independence. Strengthened by his indigenous heritage, he feels strong enough to confront the government regulation. However, Hernán' case also demonstrates the shift in desirable livelihoods described before. Whereas the traditional livelihood does not aim at income generation, is forest dependent, and disapproves of overusing forest resources, his ideas focus on money making and he even perceives the migrant livelihoods as desirable. Consequently, he has altered the NGO SFA norms on reforestation and sustainability.

7.3.5 Conclusions on institutional bricolage in El Eden

The case has shown that timber extraction and plantation are subject to processes of articulation, aggregation, and alteration. The processes of institutional bricolage were mostly characterised by a reaction against government interferences. Plantation practices were different in the sense that an NGO introduced them. This difference in intervening organisation resulted in different processes of institutional bricolage.

Box 7-2 Local indigenous beliefs

Changing beliefs in Shuar culture

"This is what we always did: we would sit and tell stories," the Shuar Indian starts to talk. He talks about when he was a young boy. In those days, there were many more parrots and monkeys. Now, they are gone because the migrants have cut down the forest. "Nothing is the same anymore, my children do not want to sit down and talk but prefer to listen to the radio."

The traditional beliefs of the Shuar are still very present among the older generations of the Shuar. The forest, to them, not only contains food resources, but is also a place to collect medicine, to see spirits, and to recover. In the old days, many songs existed about the Shuar culture and its relation with the forest. After the missionaries came, the Shuar culture started to change. In those days, the local language was replaced by Spanish and so were the indigenous names. However, the traditions were still strong. "We had songs about our traditional work; women would sing certain songs which were filled with rules of when to go to the forest and what to do. Now, these songs are forgotten."

Today, the younger generation of Shuar has discovered the city. Radios have replaced song singing, and people now watch DVDs on the television. The Shuar Indian looks sad when he states that the younger generation does not even want to eat the typical food anymore. The traditional beliefs on the forest are rather quickly making room for new ideas and new traditions.

Institutional bricolage relating to the government was characterised by strong feelings of dislike for state intervention. Any state intrusion was met by making claims on traditions, independence, and a relative level of autonomy, especially in respect of the forest. Sometimes the government was not even considered, as Shuar communities have their own indigenous political organisation that they regard as their proper government. Consequently, timber extraction was seen as a traditional right for the community of El Eden, something that belonged to the Shuar. Therefore, the restrictive government regulation was not welcomed and led to processes of articulation in which the forest law was rejected. Although the actors did not all possess the same number of authoritative resources, all of them were capable of rejecting the forest law.

Processes of institutional bricolage that involved the NGO norms on sustainability and reforestation were different. Contrary to their views on the government, the Shuar do not see the NGO presence as unwelcome or meddling. Unlike the government, the NGO put a lot of effort into trying to establish good relations with the community. This has paid off. The community welcomes the NGO's ideas. The president in particular is open towards, and appreciates highly, the facilitation offered by the NGO. An important reason for this is the fact that the Shuar are increasingly forced to generate incomes to pay for school and health services. Furthermore, the norms of the NGO do not contradict existing norms and beliefs of the Shuar on forest use. Consequently, the normative messages of the NGO on reforestation and sustainable forest practices are not met with rejection or negativity.

The main reasons for the processes of institutional bricolage are varied. Identity is an important logic of action as the community often feels it needs to strengthen itself against the influence of the government and the migrants. Before, the Shuar's indigenous territory was extensive, but nowadays they have to share it with migrants because of government-initiated reforms. On the other hand, these migrants and their presence in nearby towns such as Macas have had an effect on the community as well. Some community members participate in processes of institutional bricolage because they want a different life – one that is based on the attractiveness of the city or on other aspects now considered desirable by the younger generations.

In the middle of these processes of change, the community president tries to build bridges between the older and younger generations by trying to offer alternative sources of income without losing their ethnic identity. He has been quite successful in his attempts. The community is growing, and facilities such as electricity and schools are already available in the community. Furthermore, the community is trying to become more aware of forest use. Despite these successes, the president worries about the future. He sees the changes and remembers how life was when he was young.

7.4 La Quinta Cooperativa – Luz de America

The road to the village of La Quinta Cooperativa – Luz de America travels through several Shuar villages located on the higher areas around the Upano River (see Map 6-1). After passing these villages, the road descends to the riverbed, and then climbs steeply up to the highest part of the plateaus that surround the Upano River. Several waterfalls cross the unpaved path, pink orchids hang over the road, and there are amazing views over the Upano valley with a volcano in the background. The road and its beauty raise expectations about the village ahead. These expectations are not met however. When one enters the village, the first things one sees are the wooden two-storey houses. On closer inspection, it is clear that most of these houses are abandoned; windows are broken and doors are closed with locks that have not been opened in years. La Quinta Cooperativa – Luz de America, also more commonly known as La Quinta, is almost a ghost town. Of the 70 families that moved here, only ten are left. The humid conditions have affected the health of many of the remaining families. The exhausted soils have decreased the quality of the pastures. These two factors combined have negatively impacted cattle farming: the main source of income for these migrant farmers. As an alternative, the community members of La Quinta try to make an income by selling the timber on their land or participating in the few development projects of NGOs.

7.4.1 Forest practices in La Quinta

The forest and land use practices in La Quinta are similar to those of Chinimbimi as both communities consist of migrant farmers from the highlands. Migrant farmers in general practice cattle farming as their main source of income, as it was their traditional land use system in the highlands. Cattle farming has had its impact on the landscape as it has resulted in a high level of conversion of forest into pastures. Nowadays, this conversion does not happen that frequently. Most farmers have created sufficient pastures, and the decrease in cattle production and community members has lessened the need for new pastures. Besides cattle farming, the community members extract timber and have small agricultural plots, some fishponds, or chickens. Timber extraction is an important source of income for community members. It is furthermore indirectly related to cattle farming as it provides the necessary source of income for investment in cattle farming. Agricultural production in La Quinta used to have an important function. Some years ago, many farmers produced a local fruit called naranjilla. The production of this fruit was even supported by the government. However, the intensified production was quickly halted when a disease swept through the region. The naranjilla production never recovered from this. Recently, some development organisations, both government and non-government, have started small projects in La Quinta. One of them is a fish project, another involves poultry. As a result, some members of La Quinta have fishponds with tilapia, and others have chickens. Of all these practices, timber extraction is the most important as it yields the biggest income.

Timber extraction

Timber extraction is a practice that was not directly important to the migrants. When they settled in the areas, they felled trees in order to create pastures and nothing more.

They were not sold back then, as the farmers did not realise their commercial potential. This situation quickly changed when merchants started to pass by, asking for timber. Now, it is extracted weekly or biweekly by the farmers and sold on Saturdays to merchants passing by. The extraction happens mostly in the fringes around the pastures, as it is easier to transport timber from those areas than from the forest itself. As a result, it is a very important source of income. As cattle farming does not provide a weekly income, community members extract timber to be able to buy food at the market or to invest in cattle. Other forest practices, such as the conversion from forest to pastures, are not that important anymore as most of the pastures are already created and there is no need for new pastures.

Several institutions affecting timber extraction in La Quinta are similar to those affecting timber extraction in Chinimbimi. First, the forest law stipulates the PAFSi regulations for commercial timber extraction. Second, the local NGO SFA promotes reforestation and sustainable use of forest resources. Third, the former rules of the Ministry of Agriculture on land titling still affect timber extraction today. The forest law and the NGO norms form the bureaucratic institutions impacting on timber extraction. The former regulation of the Ministry of Agriculture is part of the socially embedded institutional framework.

However, there are also other embedded institutions that show similarities with the embedded institutions in Chinimbimi. Local norms refer to the way the community members view appropriate work practices. The farmers of La Quinta consider it appropriate to work hard and to have cattle. They frown upon indigenous Shuar communities that, in their eyes, do not work hard and do not strive to own cattle. Although these norms are broadly similar to those pertaining in Chinimbimi, it seems that these norms are much more expressed, as cattle farming is the only main source of income. These norms connect to local beliefs on traditional cattle farming that in turn links up with their identity. It is this belief in particular that results in distress among the farmers of La Quinta. They wonder why the government is not doing more to help them, now that they are struggling. Table 7-5 summarises the main institutions affecting timber extraction in La Quinta. It is clear that there are not many difference between the community of Chinimbimi and La Quinta. However, there is a difference in the responses of local farmers to these institutions. This difference is explained below.

Table 7-5 Institutions and timber extraction in La Quinta

Bureaucratic institutions	Socially embedded institutions
Regulative rules	
Forest Law, PAFSi regulations (Ministry of the Environment)	Former land titling regulations (Ministry of Agriculture)
Social norms	
Norms on sustainable forest use (SFA)	Norms on land and forest use
Cultural beliefs	
	Beliefs on traditional cattle farming

7.4.2 Timber extraction and institutional bricolage

The institutions described above are reshaped or renegotiated in processes of institutional bricolage. The institutions affecting timber extraction are subject to multiple processes of institutional bricolage. These are processes of **articulation**, **aggregation**, and **alteration**.

The process of **articulation** mainly concerns the government's forest regulation: the PAFSi regulation. Almost every person in La Quinta rejects this regulation, as it does not match the existing traditional beliefs. Again, there is a great similarity with the processes of institutional bricolage on timber extraction in Chinimbimi. This is not surprising, as both communities draw upon their traditional beliefs as cattle farmers. These beliefs concern the right of migrant farmers to collect timber in order to manage their cattle farming practices. The feelings of the La Quinta community members are strong concerning this particular issue. In this, they differ from Chinimbimi. These strong feelings result from the fact that, besides cattle, there are not many alternative sources of income. Timber extraction is the only other income that can be considered as substantial, although it barely covers expenses. Therefore, the La Quinta community members realise that any restriction on timber extraction has significant consequences. This is not the case in Chinimbimi as people there have multiple sources of income.

Not everybody rejects the forest law regulations. There is one person who has recombined these regulations with his own norms and beliefs. Consequently, timber extraction is also subject to the process of **aggregation**. The reasons for this individual process of institutional bricolage are the following. First, it is driven by the fact that he wants to reduce the chance of losing his timber revenues to the police. In other words, concern about sanctions is an important motivation. Secondly, his relationship with the NGO SFA has altered his internal norms on appropriate forest use. Over the years, SFA has visited the community to talk about the need for sustainable forest use and provided technical assistance where necessary. Consequently, SFA has built up personal relations with certain community members. This facilitated the process of aggregation, as SFA was able to explain, promote, and facilitate the drawing up of a forest management plan. In this way, it reduced the perceived cost of investment for this particular person.

Another process concerning timber extraction is the process of **alteration** of externally introduced regulations. In contrast to aggregation, this process relates not to a single person but to a larger group. This process can be compared to the process of articulation as it leads to the ignoring of the forest law. However, the difference is that this process is less strong and concerns the bending of rules instead of making claims about beliefs. Some migrant farmers do not reject the forest law but state that it does not apply to their situation as these rules are only relevant for larger quantities of extracted timber. Small quantities of timber do not require a management plan, they argue. By bending these rules, they negate the forest regulations.

The final process of institutional bricolage is the **alteration** of local norms on appropriate land use. In spite of rather strong feelings on cattle farming, the NGO SFA did realise a change in perceptions on local land use among some community members. Whereas the norms on appropriate work practices mostly involved the creation of good pasture for cattle, recent practices consider the forest much more. Conversion of forest into pastures no longer takes place, and timber is only extracted from certain selected areas. These changes are mostly driven by factors mentioned earlier, such as the decrease in the need for pasture creation, health problems, and exhausted soils. However, the combination of these factors with SFA's messages on sustainable forest use has made some farmers in La Quinta realise that there is need for conservation. Without a more sustainable use of forest resources, they will lose this source of income completely. In addition, the lifestyle of the migrant farmers has also affected the way some farmers look at the forest. Before, the trees meant nothing but a source of income. Now, people express their fondness for looking at trees and seeing their beauty. Figure 7-5 provides an overview of the processes of institutional bricolage in La Quinta.

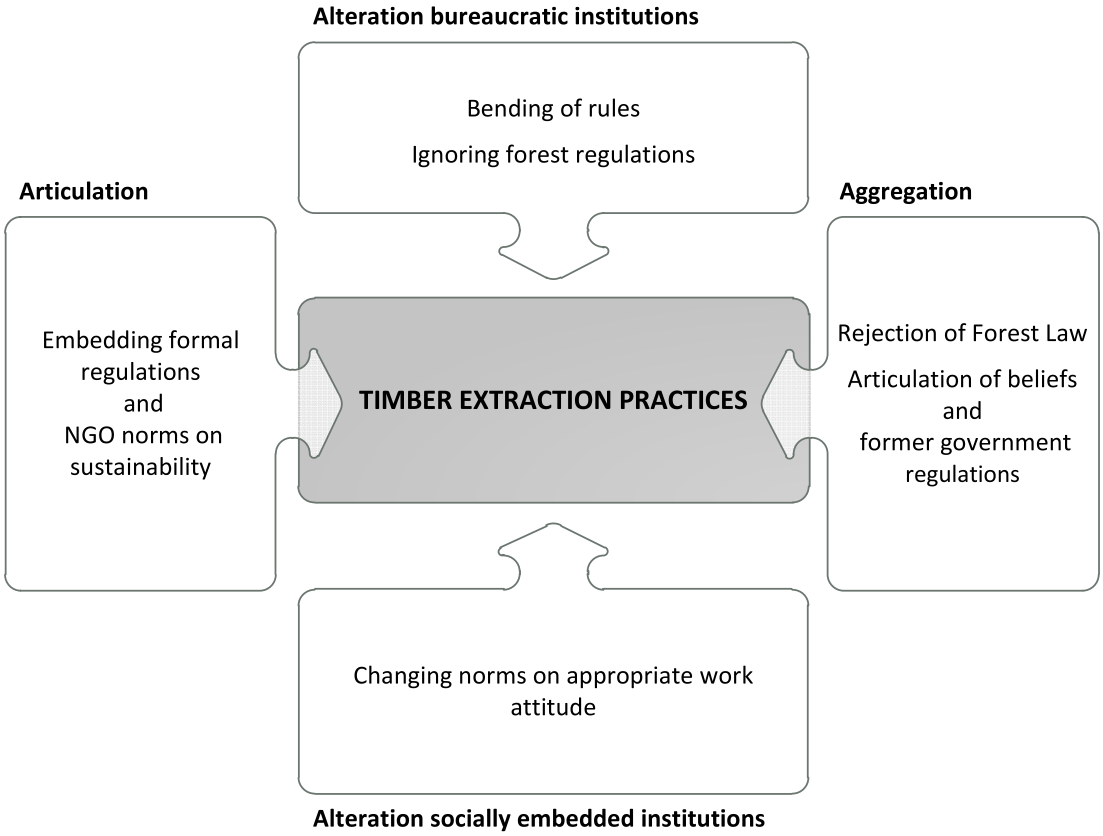
Alteration bureaucratic institutions
Bending of rules
Ignoring forest regulations
Articulation
Embedding formal regulations and NGO norms on sustainability
TIMBER EXTRACTION PRACTICES
Aggregation
Rejection of Forest Law
Articulation of beliefs and former government regulations
Changing norms on appropriate work attitude
Alteration socially embedded institutions

Figure 7-5 Institutional bricolage and timber extraction in La Quinta

7.4.3 Bricoleurs

Javier

Javier is the former president of La Quinta; he had this function for many years and recently resigned due to his age and availability. He was also one of the first people to arrive in La Quinta. Although originally a cattle farmer, Javier changed his land use system after most of his cattle were stolen. Now, in addition to a few cows, he engages in some small-scale agriculture for commercial purposes. Furthermore, his wife runs a small shop in La Quinta. Because of his age, Javier works only on the lands near the house. He does not frequently visit the areas located further away. His health problems affect his timber practices. Since he is not really able to extract timber anymore, his revenues from timber selling have become small.

Javier extracts timber without a management plan. He does not see the point in setting up a plan, as his revenues from timber extraction are very low.

> *After I sell these trees I have to pay my labourers, after I have paid them, there is almost no money left. A PAFSi plan would also cost money, and the price of timber is not really higher. (Javier, 2007)*

In addition, he does not agree with the regulations and the change in attitude of the government. First, the government was supportive towards the migrants; now, the rules are too restrictive. This feeling of discontent is fuelled by the fact that a large number of his cows were stolen while being transported to the market of a faraway city. Because of this income loss, he has sold some of his land and has been looking for state support.

> *First, we could get loans. Now, it is almost impossible to have cows. I cannot get a loan anymore since my cows were stolen. The government is not helping me anymore. (Javier, 2007)*

The whole situation has contributed to Javier's rejection of the forest regulations. As a cattle farmer, he feels that he can claim the right to extract timber without the state interfering. He furthermore states that he does not regard himself as destroying the forest. He sees himself as developing the Amazon region. His pastures are to him a demonstration of what he considers the right work attitude and a representation of what the identity of cattle farmer stands for.

Javier's role in processes of institutional bricolage mostly concerns the articulation of his beliefs. This role in these processes is characterised by feelings of disappointment and dismissal, as community members do not regard this forest practice as the main focus of their land use system. This is even stronger in Javier's case as he lost his cattle in a robbery and realised that the state did not support him anymore. He is furthermore an example of how many migrants in La Quinta think about the regulative rules that focus on timber extraction. Javier's role as president has conferred him with authoritative resources. This has facilitated the way in which he is able to express his opinions among the rest of the community. As ex-president of the community, his perceptions are regarded as important and are even commonly agreed upon by other community members[20], who consequently follow his example and reject the forest law as well.

Edgar

Edgar is a neighbour of Javier's. He lives in one house with his wife and his brother-in-law. He has five children who have all left La Quinta. Edgar is struggling to make ends meet. He and his family suffer from illnesses caused by the rainy climate on the Upano plains. Consequently, he has not been able to look after his cattle for a while, and his forest and land use system is rather neglected. To still make some income, Edgar occasionally extracts timber and furthermore produces vegetables and chickens in his garden around the house.

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[20] Interviews community members La Quinta (2007, 2008)

Edgar extracts timber without a forest management plan. His reason for this is similar to Javier's: he does not feel that a management plan confers many benefits. In addition, because he extracts only small amounts, he feels that he does not need to legalise it.

> *It is only little-little timber; I don't need a forest management plan for it. (Edgar, 2008)*

However, Edgar does recognise the need for conservation of the forest. Over the years, he has experienced the results of unlimited timber extraction. Now, he sees that he does not have many alternative sources of income, and his bad health prohibits him from extracting timber from his remote areas of land. Furthermore, the norms of the NGO SFA have affected his thinking on forest resources. As a result, he has started to plant some trees in the forest in order to leave something for his children.

> *I saw the consequences of tree cutting. That is why I planted some trees on my land. Now the trees are big, but I still want to wait twenty years more in order to give them to my child. (Edgar, 2008)*

Because of his situation, Edgar's role in processes of institutional bricolage is not that active. He participates in processes of articulation and alteration of local institutions. However, his health does not allow him to further explore the possibilities of institutional bricolage. He is not able to connect his own wishes and desires or to defend his personal beliefs and ideas. His reason for rejecting the forest law is mainly that he does not see the need. Nor does he have the means or energy to set it up. Processes of alteration merely seem to reflect the realisation that he should have done things differently. Although he planted trees, he does not see an opportunity to extract them, as his health does not allow him.

Raúl

Raúl is a somewhat younger married man who lives in La Quinta with all of his eight children. He lives next door to his brother Carlos. Raúl did not arrive with the rest of the community. He decided to move to La Quinta after some years of living alone in the forest. His production systems consist of cattle farming and timber extraction. His wife, in addition, grows some herbs in the garden and sells them at the Saturday market in the nearby town, Macas. Furthermore, Raúl is one of the richer inhabitants of La Quinta.

Unlike the rest of the community, Raúl focuses very much on timber extraction. He extracts regularly and actively manages the remaining forest on and around his pastures. Furthermore, he is the only person in the community with a forest management plan. He likes this plan as it gives him a certain amount of security.

> *These regulations are good, since they provide me security and protect the forest for my children. (Raúl, 2008)*

Raúl decided to switch to legal commercial timber extraction after the NGO SFA promoted sustainable forest use and explained the PAFSi regulations. However, he already knew that tree conservation and forest management were important. Before arriving in the community, he had worked for different farmers that were already aware of the role of timber and the need to conserve it for future extraction. Therefore, he recognised the SFA message on sustainability and linked it to his own work experiences on these farms. He consequently adopted the forest management plan.

Raúl therefore has a rather distinct role in processes of institutional bricolage. He is the only person in the community with a forest management plan. He has furthermore aggregated the external norms of the NGO with his own norms on appropriate forest and land use. He has been able to do so as his financial situation is different than that of most community members. He still has his children living with him; they help him by working on the farm. He has the largest number of trees in the community, as he was always careful not to fell every tree when creating pastures. Furthermore, he never experienced the hassle of demonstrating landownership by deforestation, as by the time of his arrival land titles had already been determined. These economic resources have given him a certain amount of authority. This has been noticed by external NGOs who show a preference for working with him. These authoritative resources enable him to go in a different direction than most of the other inhabitants of La Quinta.

Carlos

Carlos is Raúl's brother. Similar to the rest of the community, his forest and land use system consists mainly of cattle farming and timber extraction. In contrast to most of the farmers in La Quinta, he has some dairy cows. With the milk, he makes cheeses that he sells at the market in Macas. Like his brother Raúl, he is relatively successful in managing his cattle together with the income from timber and other commercial crops. Furthermore, his children still live with him on the farm and help him out.

However, unlike his brother Raúl, he has stopped using a forest management plan. The reason for this is the same as for many other migrant farmers: he feels that it is not necessary as the amount of timber he extracts is decreasing.

> *Yes, I have had several forest management plans, but because I do not extract that much I sometimes work with a plan, and sometimes without. At this moment, I do not have one. (Carlos, 2008)*

Carlos' timber extraction has become less important as he has found an alternative source of income in dairy cattle. Furthermore, he learned from his brother that he should not completely convert all the forest into pastures. This has given him a larger number of trees on his pastures than other community members. The combination of timber extraction with dairy cattle has lessened the pressure on the forest as sole supplier of income. Carlos demonstrates an awareness of the need for conservation that is based on ecological considerations.

> *I do not extract my timber from the forest; I extract it from my pastures. It is much easier this way than felling trees in the forest. Besides, I do not want to cut down the forest, this is not right. The forest brings us the water we need. Without trees, this would turn into a desert. I have seen it in other areas. (Carlos, 2008)*

It is not only his realisation that felling trees would lead to desertification of the area that has led Carlos to alter his opinion on the forest. Whereas older generations see the forest as a source of income, Carlos' perception of trees also entails emotional aspects that sometimes resemble slightly those of indigenous communities, as they relate to beauty and enchantment.

> *If you go to a pasture and see the trees that are in blossom or flowering, these little scents of these flowers, it is a beauty. After you cut down this tree…then there won't be perfume in the forest anymore. (Carlos, 2008)*

Carlos' role in processes of institutional bricolage concerns the alteration of both forest regulations and local norms. Carlos has bent the rules of the forest law by stating that he does not need a management plan for timber extraction. Furthermore, he demonstrates an alteration of local community norms on appropriate land and forest use. According to inhabitants, timber mostly serves an economic purpose and is a means to finance cattle farming. Carlos shows that the forest also has an emotional value for him. This change in perception, however, is possible because Carlos' position in the community differs from actors like Javier and Edgar. Similar to Raúl, Carlos still has the resources and the health to work in the fields and generate an income that enables him to survive and that leads to an alteration of his local norms.

Box 7-3 Local migrant norms on forest and land use

The right way of working

The trees make room for a muddy pasture. Here and there, some trunks or fallen trees are still visible. Scattered over the pastures are a few trees providing shade for cows. The pasture is completely covered in long grass. The migrant farmer looks proudly over his pastures and says, “This is the right way of working.” Then, he waves to the forest behind the pasture. “These Indians are completely destroying the forest, they take everything from it. I leave it alone; I only have my pasture and only use what I need.” This is an example of how farmers look at their practices and compare them to the Indians. They are convinced that their way of working and producing is the right way. The Shuar Indians are the forest destroyers, not the farmers.

This idea of ‘working the right way’ is important to the migrant farmers. It is almost regarded as an expression of their identity as cattle farmers and backed up by many years of stimulatory government regulations. In the old days, these farmers were helped by the government to set up a healthy and prosperous farm. They were told that they were important contributors to the development of Ecuador and were made feel like important pioneers. Years of positive stimulation have resulted in feelings of superiority towards the indigenous communities.

“The Shuar are lazy, they only work when they feel like it,” the migrant farmer further explains. He points out a temporary shelter in the forest constructed by the Shuar and used for hunting. “They just invade our land and steal our resources. That is wrong. That is not the right way of working.”

7.4.4 Conclusions on institutional bricolage in La Quinta

The different processes of institutional bricolage concerning timber extraction demonstrate that different factors can be influential. The contextual factors of the case, the conditions of the soil, and the age and the health of the community members, have led to different processes of institutional bricolage. Older members often suffer from bad health, and this affects their capabilities; however, they are also much more likely to claim their traditional identity. Younger members, such as Raúl and Carlos, are still able to generate a sufficient income and explore other alternative sources of income. They demonstrate a greater ability to deal with changes in soil conditions, the formal institutional framework, and to see different market opportunities.

However, in general community members do not comply with the government regulations on timber extraction. Either they demonstrate an aversion to the regulations as they conflict with traditional beliefs or they do not consider them because they are not applicable to their situation. Whatever the reasons, the impact of these bureaucratic institutions is small. This lack of influence is related to the contextual factors mentioned above. Some local community members face far bigger problems than the sanctions they might face because of their illegal timber extraction. Some community members even state that they are simply not able anymore to look after their cows as the distance between the pasture and their house is too far too walk. They are too sick to leave the house. Furthermore, former government regulations have always supported the migrant settlers. The La Quinta community members find it hard to deal with the restrictions of the government regulations.

Negation or rejection of the forest regulations does not imply that external institutions do not have any effect on forest practices. Although community members do not comply with the forest law, there is a noticeable change in the socially embedded institutional framework surrounding forest practices. This change has been initiated by a combination of factors. First, the local NGO SFA is working with community members on alternative sources of income. The effects of these projects, however, are small; the soil in La Quinta does not allow for agroforestry or large-scale agriculture. Some members of the community state that even the grass does not grow anymore. However, the interaction between the community and SFA has allowed SFA to promote its norms on sustainability and reforestation. As a result, some community members are demonstrating a shift in their norms on the forest. Second, the poor soil conditions are contributing to this process as community members realise they should have done things differently. People claim that, if they had known, they would not have cut down so much of the forest to create pastures. Now, only Carlos and Raúl have enough timber left to still make an income. It is they who are showing the biggest change in their local norms on trees as they are starting to appreciate the forest as much more than just a source of income.

The diverse processes of institutional bricolage concerning timber extraction in La Quinta can be explained by the lack of social cohesion in the community. As explained before, many community members have already left La Quinta to live in the city or to move back to the highlands. In particular, the children of the settlers do not live in the community anymore. Besides the fact that this has turned La Quinta almost into a ghost town, the farmers that still remain are too busy looking after themselves. Consequently, there are not many farmers willing to dedicate time to community building or collaboration. The fact that it took a long time to find Javier's successor as president is an indication that the members are not that concerned anymore with community issues. An important consequence of this is that it affects the external aid from government or other civil society organisations. The lack of social cohesion due to out-migration results in low levels of participation in development projects. This low level of participation in turn leads to NGOs or government agencies not coming to this community anymore. Consequently, the lack of social cohesion and the decrease in resources that enable an actor to participate in processes of institutional bricolage have led to a situation in which institutions are not that actively reshaped anymore. This has led to an institutional void in the community of La Quinta.

8 COMPARISON OF CASES AND ANALYSIS OF INSTITUTIONAL BRICOLAGE

8.1 Introduction

The previous empirical chapters described the different processes of institutional bricolage affecting specific identified forest practices. On the basis of these data, I provide in this chapter an overview of these processes of institutional bricolage and discuss the differences and similarities between them. First, I make a comparative assessment of the different types of institutional bricolage observed in the cases. Second, I analyse and compare these processes on their general characteristics, giving specific attention to the actors and institutions in processes of institutional bricolage. Finally, I identify the main reconsiderations of the theory of institutional bricolage.

8.2 Comparative assessment of institutional bricolage processes

The six cases from the Bolivian and Ecuadorian Amazon reveal that local forest practices are structured by a variety of institutions that are either bureaucratic or socially embedded. When new bureaucratic institutions, such as forest regulations or NGO norms, enter the arena of local forest practices, local actors generally respond through bricolage processes. These processes of institutional bricolage may not only transform the bureaucratic rules and norms but also result in changes in existing socially embedded rules, norms, and beliefs. In Chapter 2, three main processes of institutional bricolage were identified: aggregation, alteration, and articulation. Aggregation concerns recombination and involves the intentional or unintentional acceptance of bureaucratic institutions by relating them to socially embedded institutions. Aggregation may lead to the creation of multipurpose institutions. These multipurpose institutions often derive from the piecing together of bureaucratic institutions and embedded institutional elements. Institutions that have been designed to have one single purpose can become multifunctional and draw on both traditional and modern forms of interaction and knowledge (see also section 2.4.3). Alteration may relate to either bureaucratic or socially embedded institutions. Alteration of bureaucratic institutions can imply conscious renegotiation and rule bending but also the negation or ignoring of certain rules as people may interpret and translate bureaucratic rules as not applicable. The alteration of socially embedded institutions is much more gradual or fluid, and less conscious. Finally, articulation is connected with claims on traditional identity, possible leakage of meaning, and the more active rejection of bureaucratic institutions (see section 2.4.3). The following section gives a comparative overview of the processes of institutional bricolage in the various case studies from Bolivia and Ecuador. This overview is followed by an analysis of the identified processes of institutional bricolage, focusing on both actors and institutions.

8.2.1 Bolivian processes of institutional bricolage

The three researched case studies in Bolivia are 12 de Octubre, Buen Futuro, and Palmira. Table 8-1 provides an overview of the main characteristics of these cases. The 12 de Octubre community is known for its communal forest management plan. With the help of an NGO, the community established a local association in order to organise the extraction of timber through a forest management plan. On top of that, it also communally organises the collection of Brazil nuts. Consequently, formal government regulations of the forest law and norms of NGO IPHAE[21] on collective action and sustainability have been influencing these two traditional forest practices. The Buen Futuro community has no collectively organised forest practices. In spite of the promotion of collective Brazil nut management plans, this community individually collects Brazil nuts. However, the community is involved in an NGO IPHAE agroforestry project. Furthermore, one member of the community has been playing an important role in changing the forest practices and the traditional perceptions on forest resources in the community. This member is a migrant from the highland area of Bolivia who has introduced the community to his way of producing and working. The Palmira community is fragmented. Due to small land areas, scarcity of Brazil nuts, and a social conflict, members of the community show individual responses towards an NGO IPHAE agroforestry project. This social fragmentation in the community has also resulted in the failure of several other development initiatives. As a result, some of the community members are very disappointed about external influences whereas other have benefitted considerably from them.

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[21] Instituto Para el Hombre Agricultura y Ecología

Table 8-1 Overview of the main characteristics of the Bolivian cases

Case	Socio-cultural background	Main livelihood	Dominant forest practice
12 de Octubre	Peasant	Forest extraction Small-scale agriculture	Brazil nut collection Timber extraction
Buen Futuro	Peasant	Forest extraction Small-scale agriculture	Brazil nut collection Agroforestry
Palmira	Peasant	Small-scale agriculture	Agroforestry

Aggregation processes

Processes of aggregating bureaucratic and socially embedded institutions were observed in all three cases. In most instances, these processes entailed the recombination of NGO norms on sustainable use of resources, collective action, and reforestation with local norms on appropriate ways of life and goals. At first sight, local actors adopted the NGO norms as these norms provided a possible source of income for local smallholders. However, processes of aggregation involved more than just survival techniques. They also entailed strategic motivations, sometimes influenced by certain authoritative persons or more unintentional processes of recombination.

An example of a general form of aggregation processes can be found in Palmira. In this community, the process of aggregation involved the NGO norms in the agroforestry project and local norms of those actors still participating in the project. These actors have consequently adopted certain NGO norms on sustainable resource use and have recombined them with their own norms on appropriate and desirable livelihoods. These local norms are very much influenced by the proximity of Riberalta. As most of the community members have houses in Riberalta, their lives have become influenced by the city: their idea about an appropriate livelihood is based on the perceived desirable life in Riberalta. The agroforestry income that would enable them to enjoy a city lifestyle and the lack of other alternatives can be regarded as the main reasons why the selected actors aggregated various NGO norms with their own. As a result, they adopted the agroforestry practices and embedded the norms of the NGO on sustainable resource use. This type of aggregation also occurred in the other communities. In these cases, the motivation to achieve a better and more desirable life was said to be an important reason for aggregation.

Aggregation processes can be very strategic in nature. An example of processes of strategic aggregation can be found in 12 de Octubre where the lack of formal land titles proved to be an important factor in the local responses to the proposed management scheme. Aggregation in this community happened during the development of the collective forest management scheme. Similar to the community of Palmira, the aggregation processes were partly related to the recombination of bureaucratic institutions with embedded ones on desirable life and traditions. However, these processes were also related to the lack of formal land titles. The community of 12 de Octubre had never been able to formally claim land and this had led to problems with people trespassing on the land they regarded as theirs. This lack of formal land titles motivated the community to establish a community forest management plan as it would lead to a firmer informal claim on land.

The process of aggregation found in the community of Buen Futuro is an example of how certain authoritative persons can influence these processes. In this case, the local agroforestry project of the NGO was accompanied by NGO norms on collective action and reforestation. These norms were accepted as the agroforestry project itself provided the community with the opportunity to follow up on their own institutionalised ideas about appropriate and desirable lifestyles. Consequently, NGO norms were recombined with local norms. This process was very much influenced by a migrant settler. This migrant settler was considered by the rest of his community as a knowledgeable and wise man with a rather productive system of forest practices. Consequently, he played an important stimulatory role in the smallholders' acceptance of the NGO norms.

Processes of alteration of bureaucratic institutions

The processes of alteration of bureaucratic institutions in the cases entailed either the alteration of government forest regulation or the alteration of NGO norms on reforestation, collective action, or sustainability. Similar to aggregation processes, these processes can vary in character. In some instances, rules were intentionally bent to serve a certain purpose. In other instances, these processes were less obtrusive or happened more gradually.

An example of intentional processes of alteration comes from Buen Futuro and concerns Brazil nut collection. As the formal government regulations prescribe a Brazil nut management plan, the local NGO promoted these regulations in the community. However, some local actors bent the government rules by claiming that the Brazil nut management plan was not necessary or applicable in their situation. The community constructed circumstances in which they justified their noncompliance with the forest law.

In addition to this strategic type of alteration of bureaucratic institutions, other processes of alteration were observed. These processes appear to be less strategic and less intentional. For example, the initial objective of the NGO that facilitated the drawing up of a forest management plan in 12 de Octubre was to set up an agroforestry project. However, as this objective did not correspond well with their traditional practices, the community changed the aim of the forestry development scheme to timber extraction and Brazil nut collection. In Palmira also, NGO norms on collective action and reforestation were altered by some of the actors, resulting in some of them leaving the agroforestry project and the continuation of illegal timber extraction. These processes of alteration reveal that the forest regulations and NGO norms were adapted to enable compatibility between internal strategic purposes, traditional identities, and external rules, and to increase the legitimacy of peasant identities.

Processes of alteration of socially embedded institutions

The processes of alteration of socially embedded institution in the researched cases appear to be less intentional and conscious than those of bureaucratic institutions. These processes are much more gradual. Furthermore, these processes also appear to be linked to larger processes of change happening in the region such as modernisation, commercialisation, and changing perceptions on preferable livelihoods. Alteration of socially embedded institutions can lead to changes either in social norms or in traditional beliefs.

Examples of gradually changing social norms can be found in all three cases. However, a good example of this was observed in Buen Futuro. As explained before, this community was a peasant community in which one migrant farmer lived. Coming from a different region, this migrant farmer had different perceptions on production systems and norms on what he considered the appropriate use of forest resources and the appropriate work attitude. These norms were considerably different than those of the rest of the community as they were much more proactive and productive than the extensive, extractive practices of the local community. The migrant settler changed these local norms as he demonstrated that, with greater effort and an intensification of production, one could make a better income.

Another influence on the change in local norms was the NGO presence. Some community members have adopted more proactive natural resource management practices. In Palmira, the most successful agroforestry producer has altered his own beliefs and norms on forest use. He no longer favours living off traditional forest extraction; he favours agroforestry and forest conservation instead. He argues that he no longer wishes to extract timber and that he sees the need for conservation. This change in attitude and forest practice has, although to a lesser extent, also become notable among other agroforestry producers.

Finally, processes of alteration also concern traditional beliefs. For example in 12 de Octubre, alteration has involved the gradual change in traditional beliefs on the forest practices of timber extraction and Brazil nut collection. As a result of NGO influences and the wish for a better life, traditional beliefs on forest practices are shifting away from the traditional extractive identity to a more systematised commercial agricultural identity. This shift, however, has not been influenced by NGOs only; it has been just as much affected by the presence of large landowners in the area who appear to be making a good living out of cattle and agriculture.

Articulation processes

Articulation processes in the Bolivian cases were noted in the community of Buen Futuro and Palmira. In each case, these processes were different. In Buen Futuro, the process of articulation was more hidden, less fierce, and more fluid. In Palmira, the processes observed were a stern, strong rejection of bureaucratic institutions that was fuelled by disappointment.

The process of articulation in Buen Futuro relates to the Brazil nut management plan. Although some community members were rather receptive to the NGO's promotion of a collective Brazil nut management plan, others objected and maintained their traditional practices of open access, individual collection of Brazil nuts. In some cases, this objection resulted in the articulation of their traditional identity as Brazil nut collectors. To them, Brazil nut collection defines their identity as extractive peasants. It is regarded as a traditional right to have full access to their Brazil nut trees. In this perspective, a formal Brazil nut management plan was regarded as a restriction to this right and as the government ignoring their identity. Consequently, the processes of articulation concerned claims on their identity and traditions. However, these claims were not strongly expressed but mostly uttered through statements about traditional practices that were taken for granted and a general unwillingness to change them.

A stronger articulation process took place in Palmira. This process related to those actors that did not participate in the agroforestry project. Whereas some actors had made a success of agroforestry, others had turned away from it and returned to their traditional forest practices based on resource extraction. Often, this leaving of the project was accompanied by disappointment as the agroforestry systems did not work and expectation were not met. In this context, actors justified their choice to leave the project and reject agroforestry as a practice by claiming that agroforestry was not a traditional forest practice and actually stood in the way of the more traditional practice of Brazil nut collection. In a few instances, the collective agroforestry project was also seen as being in conflict with certain traditional religious beliefs that frown upon men and women working together in one group. Consequently, these actors rejected the norms accompanying agroforestry by claiming that it did not match their tradition.

Conclusions on the processes of institutional bricolage in the Bolivian cases

The above processes of institutional bricolage share certain common characteristics but also illustrate differences between communities. An important difference is the degree of intensity. The reason for these differences seems to be more related to the specific contextual factors of the community or even the personal characteristics of the involved bricoleurs. In spite of this, certain more general conclusions can be drawn on the processes of institutional bricolage.

The processes of institutional bricolage have various triggers. One of these triggers found in all three of the communities was the presence of, and collaboration with, a local NGO. It turned out that not only was the relationship between the communities and the NGO characterised by trust, but also the NGO itself was regarded as an influential and powerful organisation. For example in 12 de Octubre, the NGO presence was considered very important in the drawing up of a community forest management plan and the founding of the association to organise timber extraction. In the other two cases, the NGO was the main external influence in the community, facilitating agroforestry projects and promoting the sustainable use of forest resource. This local presence of NGOs can be contrasted to the much lower local presence of government organisations

Another influence on the processes of institutional bricolage was the presence of authoritative local bricoleurs. The migrant settler in the community of Buen Futuro was a good example of this. Although the community traditionally engaged in the extraction of the abundantly present Brazil nut, this migrant settler was able to influence the traditional norms and beliefs relating to these extractive practices. He was considered economically successful and knowledgeable because of his innovative agricultural and agroforestry practices. As a result, he is an important factor in explaining why Buen Futuro community members adopted certain NGO norms and recombined them with their own. The other cases demonstrated that there are differences in levels of authority among bricoleurs. Depending on their authoritative resources, local people relate in different degrees to such bricoleurs.

A final conclusion that can be drawn from the Bolivian processes of institutional bricolage is that it is not only forest institutions that take part in it. Institutions on livelihood practices are important as well. The Palmira case is a good example of this. In this case, the church had an effect on the negation of NGO norms on collective action. Furthermore, contextual factors may also play a role in institutional bricolage, such as the location of the village, its distance from markets, ecological conditions, and land availability. Table 8-2 gives an overview of all the main processes of institutional bricolage identified in the Bolivian cases.

Table 8-2 Main processes of institutional bricolage identified in the Bolivian cases

Processes	Description
Aggregation	
12 de Octubre	Recombining forest law, NGO norms (CA, SF), local norms, and beliefs on timber extraction and Brazil nut collection
Buen Futuro	Recombining NGO norms (CA, SF), local norms, and beliefs of migrant settler on agroforestry
Palmira	Recombining NGO norms (CA, SF) and local norms on desirable livelihood

Alteration bureaucratic institutions	
12 de Octubre	Adapting forest law regulation and NGO norms on timber extraction
Buen Futuro	Ignoring NGO norms on sustainable forest use for Brazil nut collection Ignoring forest law on Brazil nut collection
Palmira	Ignoring NGO norms on collective action and sustainable forest use through agroforestry
Alteration socially embedded institutions	
12 de Octubre	Changing local beliefs on traditional timber extraction and Brazil nut collection
Buen Futuro	Changing local norms on agroforestry, Brazil nut collection, and sustainability
Palmira	Changing local norms and beliefs on traditional forest practices
Articulation	
Buen Futuro	Rejecting forest law on Brazil nut collection
Palmira	Rejecting NGO norms on collective action and sustainable forest use through agroforestry

CA = Collective action; SF = Sustainable forest use

8.2.2 Ecuadorian processes of institutional bricolage

The three Ecuadorian cases, similar to the Bolivian cases, also relate to different forest practices. These cases are Chinimbimi, El Eden, and La Quinta Cooperativa – Luz de America – also known as La Quinta. Table 8-3 provides an overview of the main characteristics of these three cases. The Chinimbimi migrant community is located in a rather hilly area in which a native palm species grows abundantly. This species is important to the community as it produces a fibre that is commercially valuable. Over the years, the Chinimbimi community members have specialised in the production of this fibre by increasing collection activities, stimulating its growth by selectively extracting other surrounding tree species, and combining this palm production with cattle farming by planting it on the pastures. With the help of a USAID agency and the local NGO SFA[22], the community has founded a producers' association, Los Laurelles. This local

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[22] Servicio Forestal Amazónico

NGO is, at the same time, trying to achieve sustainable management of palm trees and the forest surrounding it. The community of El Eden is an indigenous Shuar community. The Shuar are a large ethnic group characterised by a high level of social cohesion and organisation. Furthermore, the Shuar culture and identity is very much related to the forest. This culture is nowadays under pressure because of influences from nearby towns and surroundings. Furthermore, government regulations not only restrict forest use but also enforce an increased incorporation in markets, as necessary health and educational services have to be paid for. These developments have intensified local incentives to improve income. The local NGO SFA has been trying to lessen the pressure on timber resources by offering community members an alternative way to generate an income: timber plantations. The final case, La Quinta, is, like Chinimbimi, a migrant community. This community traditionally has a land use system focusing on cattle. In the 1980s, the government promoted cattle farming, as it was seen as the preferred tool to develop the Amazon. Farmers were stimulated to move to this region by regulations that for years facilitated land titling and obtaining credits for cattle farming. Recently, however, the government changed the regulations concerning the development of agriculture and became more oriented towards forest conservation, therefore restricting the conversion of forest into pastures. Migrant community members were expected to incorporate these restrictive government regulations.

Table 8-3 Overview of the main characteristics of the Ecuadorian cases

Case	Socio-cultural background	Main livelihood	Dominant forest practice
Chinimbimi	Migrant community	Cattle farming Forest extraction	Palm fibre collection Timber extraction
El Eden	Indigenous community	Forest extraction Small-scale agriculture	Timber extraction Timber plantation
La Quinta	Migrant community	Cattle farming Forest extraction	Timber extraction

Aggregation processes

Similar to the Bolivian cases, aggregation processes were observed in all three Ecuadorian cases. The processes of aggregation in the Ecuadorian cases were a mix of strategic and more unconscious aggregation leading to an institutional framework that is multipurpose. An example of processes of aggregation leading to the creation of multipurpose institutions was observed in Chinimbimi. This community has been collaborating with a local USAID programme in order to establish their producers' association. The USAID organisation offered the community their help in founding this association and designing its institutional arrangements such as regulations on participation and membership, decision-making procedures, collective action, and the equal distribution of income. These bureaucratic norms were introduced by the development agency to ensure an appropriately designed association. However, by recombining these institutions with local norms on appropriate forest use and beliefs on traditional identity, the association became more than just a producers' association. This has been of particular importance to the community as small ongoing conflicts with neighbouring Shuar communities evoked their need to stress their own 'superior' identity. By establishing the association, the migrants felt able to say that they were better in organisation and in identity than the, in their eyes, lazy Shuar.

Processes of aggregation fuelled by strategic actions were mostly visible in the indigenous community of El Eden. As explained, this indigenous community is going through processes of change and commoditisation. Their increased need for income has resulted in their participation in a balsa plantation project of a local NGO. As their culture is traditionally forest related, this community can more easily relate to the message of the NGO to reforest and to use forest resources sustainably. The community members already have a correct notion of sustainable use of forest resources. According to them, people are not allowed to use and extract forest resources irresponsibly. Consequently, community members have acknowledged the importance of forest conservation and therefore have recombined these embedded norms with those of the NGO while at the same time increasing their income.

The observed process of aggregation in La Quinta also reflects an intentional or strategic approach. In this case, a farmer adopted the regulations on forest management plans in order to formalise and secure his income from the forest. However, the difference between this case and that of El Eden is that the motivation behind it was not just based on a need for income but also led by expedience. This example concerns only one farmer. This actor has a small-scale forest management plan that allows him to extract and sell timber legally. He was able to mediate between his own ideas about appropriate forest practices and the norms of the local NGO with whom he collaborates. This collaboration has influenced his decision to start a forest management plan. However, another reason for following legal rules is that he fears the consequences of illegal extraction.

Processes of alteration of bureaucratic institutions

The alteration of bureaucratic institutions in the Ecuadorian cases appears to be the result of rather pragmatic reasoning. Bureaucratic institutions in these cases have been altered because of the perceived hassle or investment they require. As a result, some of the institutional elements of the introduced norms and regulations have been bent in such a way that they become inapplicable to the situation. This process then results in a ignoring of the respective bureaucratic institutions. Although this appears to be a strategic or intentional process, it can also be very natural and unconscious. Local farmers seem to be almost subconsciously participating in processes of alteration.

An example of this type of alteration was found in the El Eden community's plantation project. Some of the practices of the plantation project proved to be rather difficult for some of the farmers. Planting and nursing is not a common traditional practice and was therefore abandoned by a few farmers. The result is that only a few farmers have adopted these practices as well as the related institutional norms on sustainable forest use. Another more visible example of 'automatic rule bending' was observed in La Quinta. Timber extraction provides the La Quinta community with the finance necessary to invest in cattle farming. It is a substantial source of income used to meet cattle farming expenses such as medicine. Furthermore, the revenues from timber extraction serve to cover farmers' day-to-day living expenses. Therefore, the community was unlikely to accept government regulations restricting this income that supports their main livelihood strategy. This has resulted in farmers claiming that they do not require a management plan; it is not applicable to them as the number of trees they extract is low. According to them, management plans are only necessary when the number of trees extracted is higher. This is not explicitly stated in the forest regulation but appears to be the result of rule bending and giving a personal interpretation to the forest law.

Processes of alteration of socially embedded institutions

The alteration of socially embedded institutions in the Ecuadorian cases have been gradual or fluid as well. Similar to those in the Bolivian cases, these processes have been influenced by a certain authority, either a local NGO or an authoritative person within the community. The alterations in socially embedded institutions are sometimes only slight, not very visible. Furthermore, these alterations have not always resulted in changes at the level of the community. Sometimes, alteration processes only lead to changes in personal perceptions, individual knowledge, and specific practices.

In the community of Chinimbimi, the observed process of alteration of socially embedded institutions concerns an individual. After collaborating and interacting with the local NGO, one community member realised the need for conservation and reforestation. Consequently, he looked for new ways to make an income without extracting timber. He created a network of people outside the community that helped him with new forest practices such as planting trees and starting a production system based on the mixing of fruit trees with cattle. He therefore constructed a new normative framework for his forest practices based on new ideas from different people.

Examples of alteration of socially embedded institutions that affect a whole community were observed as well. In Chinimbimi, the foundation of the producers' association has stimulated a change in the norms on community life and community development. Before, people did not collaborate much with each other. After the establishment of the association, people began to recognise the importance of community collaboration as a tool for development. In La Quinta and El Eden, the presence of the NGO has led community members to reconsider their norms and beliefs on the appropriate use of forest resources. Community members are starting to see the need to manage forested areas, not only for economic purposes but also for conservation purposes.

However, in La Quinta this change in local norms on forest conservation has not led to substantial changes, as the circumstances in this community do not provide enough room for change. The degraded soils and health problems make it virtually impossible to create new pastures. In El Eden, this change in local norms and beliefs has had two effects. On the one hand, some Shuar, especially older ones, are re-evaluating and re-emphasising their traditional norms on the forest. These Shuar are concerned about the changing culture and therefore recognise the need for sustainable resource use, promoted by the NGO. On the other, the younger Shuar are much more drawn towards a city lifestyle and even cattle farming. They are less concerned with nature as they become less forest dependent. In other words, there appears to be a split in the community between the different generations in which each one is trying to legitimise its position through the processes of institutional bricolage.

Articulation processes

The observed articulation processes in the Ecuadorian cases also reveal rather strong processes. In each case, the government's regulations on forest use were met with claims on identity and traditions. This led to the rejection of forest regulations in all three cases. In these processes of articulation, non-forest institutions were important in making the claims on tradition. The claims on identity were very much related to social identity and past events in general.

The processes of articulation in the two migrant communities of Chinimbimi and La Quinta were rather similar. The government forest law prescribes that timber extraction should be carried out in accordance with a small-scale logging plan. However, the local migrant farmers objected to this regulation, as it clashed strongly with their traditional identity as cattle farmers and with their history as colonist farmers. During the colonisation era, these famers were portrayed by the government as 'developers of the Amazon'. The original bureaucratic institutional framework was designed to facilitate their coming to the Amazon and their cattle production. In this context, the Ministry of Agriculture set up more flexible regulations concerning timber extraction. This changed after the introduction of the new forest law. When this law was introduced to the farmers, they made a claim on their traditions as cattle farmers and drew upon the past as a justification for their rejection.

In El Eden, the process of articulation of socially embedded institutions also concerned the government's forest regulation. The forest law was largely rejected, as it did not correspond with the community's socially embedded beliefs and identity. It was even regarded as a threat to Shuar identity in general, as it is diametrically opposed to the ideas and values for which the Shuar culture stands. This gap was even further widened by the troubled past that Shuar Indians have had with the government. These problems originate from the moment the Ecuadorian government started to govern the Shuar communities. After a while, the Shuar felt that they were no longer independent and resisted the regulations of the Ecuadorian government. These problems increased when the government stimulated migrant settlers to move into the Amazon, leading to a decrease in Shuar territory. Many El Eden inhabitants claimed that they did not regard the Ecuadorian government as theirs and would prefer to see their own political Shuar organisation as the true government. In this case, community members made claims on their traditional ethnic right to do with the forest what they claim is necessary or possible. Government regulations appear to be blocked by strong, unquestionable socially embedded institutions. However, these institutions are also prone to change as a result of NGO activities, nearby cities, and other external factors. It was observed that the traditional beliefs and norms were experiencing a leakage of meaning. In particular, when a culture is slowly changing because of the influence of cities, the embedded traditions also lose their meaning.

Conclusions on processes of institutional bricolage in the Ecuadorian cases

From the observed processes of institutional bricolage some general conclusions can be drawn. Similar to the Bolivian processes of institutional bricolage, the local NGOs in Ecuador seem to have had an impact on many of the processes. Their interaction with the community has resulted in local farmers embracing some of their messages and also changing their forest practices as a result. For example, the El Eden community changed its traditional garden production as a result of development activities of an NGO.

Another general observation can be made in respect of non-forest aspects that appear to play an important role in institutional bricolage. The local association in the Chinimbimi community is an example of people responding to externally introduced institutions out of a need to differentiate themselves from the neighbouring indigenous community. To them, their local association is the proof that they are superior to these communities. The Shuar norms and beliefs on independence in El Eden have also influenced processes of institutional bricolage, especially in the context of responding to government institutions. In La Quinta, the inhabitants' history as colonist farmers was an important factor in processes of articulation.

Finally, contextual factors also may influence processes and outcomes of institutional bricolage. Processes of institutional bricolage in El Eden, for example, have been influenced by a nearby city. A relatively rapid change in local norms and beliefs has been taking place in El Eden, especially among its young community members. This has not only resulted in a change in what is considered traditional in this community; it has also led to an increase in the need to open up to the outside world. The relationship between the NGO and the community has resulted in NGO influence on the otherwise rather closed culture of the Shuar. In La Quinta, the poor soil conditions and the weather resulted in low revenues and many illnesses. Many community members had already moved out of this community and those left had neither the resources nor the motivation to adopt the forest regulations or NGO norms. The poor geo-morphological conditions of this case proved to be an important factor for people not going along with the messages of the NGO and the government. Table 8-4 gives an overview of the main processes of institutional bricolage as identified in the cases in Ecuador.

Table 8-4 Main processes of institutional bricolage identified in the Ecuadorian cases

Process	Description
Aggregation	
Chinimbimi	Recombining NGO norms (CA), local norms, and beliefs on palm fibre collection
El Eden	Recombining NGO norms (SF) and local norms on timber extraction and balsa plantations
La Quinta	Recombining forest law, NGO norms (SF), and local norms on timber extraction
Alteration bureaucratic institutions	
Chinimbimi	Ignoring forest law on timber extraction
El Eden	Ignoring NGO norms on sustainable timber extraction
La Quinta	Ignoring forest law on timber extraction
Alteration socially embedded institutions	
Chinimbimi	Changing local norms on palm fibre collection and timber extraction
El Eden	Changing norms and beliefs on livelihood, culture, and timber extraction
La Quinta	Changing norms on timber extraction
Articulation	
Chinimbimi	Rejecting forest law on timber extraction
El Eden	Rejecting forest law on timber extraction
La Quinta	Rejecting forest law on timber extraction

8.3 Analysing identified processes of institutional bricolage

The overview of the processes of institutional bricolage demonstrates a great variety in processes, actors involved, and institutions affected. Each case shows that processes of institutional bricolage are locally specific. This section analyses the findings in relation to the model of institutional bricolage by assessing and comparing the impact of different actors and institutions. It analyses the processes of institutional bricolage as identified in the research. It discusses the agency of local farmers in the processes of institutional bricolage as identified in the research. It describes the varying influences and roles of the different types of institutions in relation to forest practices. It discusses the influence of external government and non-government institutions on forest practices. Finally, it concludes by further reconsidering the theory of institutional bricolage.

8.3.1 Actors

In processes of institutional bricolage, actors are responsible for the reshaping of various institutions. In this section, two aspects of agency are discussed: (1) logic of action and (2) different types of bricoleurs. First, the processes of reshaping are linked to various logics of action. In Chapter 2, the logics of action were categorised under three aspects: authority, legitimacy, and identity (see section 2.4.4). Authority relates to the logic of instrumentality. This logic of action derives from conformity to rules or requirements set by certain authoritative actors or organisations. Conformity to rules, the acknowledgement of authority, and the prevention of sanctions by authorities are important reasons to act. Legitimacy relates to the logic of appropriateness. Actors act out of a deeper morality or social obligation that is based on norms on appropriate behaviour within a certain group or community. Finally, identity is associated with the logic of orthodoxy. Orthodoxy, as a shared framework of meaning, is considered a traditional logic of action. People's actions are related to their identities and traditions, i.e. to their socio-cultural backgrounds (Scott 2001).

Second, within processes of bricolage, different types of bricoleurs exist. These differences are based on the characteristics of the bricoleur, in particular his/her authoritative resources. In this study, authoritative resources concern different types of social, human, or economic resources that enable bricoleurs to participate in processes of institutional bricolage. They can vary from political power, formal roles, economic wealth, kinship, marriage, to personal characteristics such as knowledge or eloquence. As the number of authoritative resources differs among actors, not all bricoleurs have the same role in processes of institutional bricolage. Actors who possess or have access to these resources are better positioned to participate in processes of institutional bricolage and thus are more able to influence the outcomes of these processes.

Logic of action and processes of institutional bricolage

From the data analyses and case descriptions, it was possible to identify the motivations behind the responses of actors in processes of institutional bricolage in various instances. This revealed, however, that different processes of institutional bricolage could not easily be related to specific logics of action. Nonetheless, this section describes examples of the three logics of action and tentatively relates them to the three processes of institutional bricolage – aggregation, alteration, and articulation – in order to identify possible patterns.

In respect of the logic of instrumentality, or authority, three observations can be made. First, the expected relationship between the logic of instrumentality and government regulations was not clearly found. Regulations work with sanctions that should force people to comply with them. However, this was not very noticeable in the communities. Only a few actors clearly indicated that the controlling mechanisms of the government were a good enough reason for adapting forest practices to governmental regulations.

Second, the authority of local NGOs was found to be a reason for institutional bricolage in many of the cases. Often, they were the only external organisation that visited the researched communities on a rather frequent base. Therefore they were able to become a relatively large institutional influence in the communities. This underlines the important role of NGOs and the authority granted to them. Although NGOs do not have instruments to legally sanction noncompliance with their norms, local communities often expressed the concern that disobedience on their part could lead to serious consequences, such as a withdrawal of development projects. In the researched cases, it was generally known among actors that NGOs did not like to work with disorganised and difficult communities. As they were often very dependent on NGO aid, local communities thus made the effort to commit to the NGO norms and adapt their institutions to those of the NGOs. Consequently, authority was often identified in processes of aggregation, which in many instances involved the recombination of NGO norms and local institutions, as well as in processes of alteration of socially embedded norms towards those of NGOs.

Third, authority was also a factor in processes of institutional bricolage instigated by authoritative bricoleurs within the communities themselves. Especially in communities with one dominant actor, or leader, the logic of instrumentality became very important. People followed the (new) ideas and messages of this actor as it was in their best interest to do so; objecting to them could easily lead to social exclusion. The influence of local leaders led to several processes of institutional bricolage, of which alteration of socially embedded institutions was the most common.

The logic of appropriateness, or legitimacy, was found to be a reason for institutional bricolage on numerous occasions. Legitimacy was often seen in relation to local institutions, especially local norms. Two observations were made in respect of the logic of appropriateness. First, the researched communities showed that their actions were frequently structured by internal norms about appropriate forest use. This was best shown in the indigenous community in Ecuador. The adoption of a proposed forest practice was to a large extent based on its match with internal norms on sustainable forest use. This logic of action was particularly visible in processes of aggregation leading to adopting new forest practices.

Second, the logic of appropriateness did not relate only to internal norms on forest use. It was also observed in relation to norms on behaviour in general, such as politeness and respect. For example, NGO norms were often embedded because of the trusting and friendly relationship they had with communities. Consequently, local farmers were more willing to accept NGO norms. They did not consider it to be appropriate to dismiss the norms of the NGOs. In these cases, legitimacy was linked to processes of alteration of socially embedded institutions.

In relation to the logic of orthodoxy, or identity, it is easier to distinguish patterns. As in the researched cases the motivation to act was born out of a perceived threat to an identity, it was more noticeable than the other logics of action. Identity was an important motivation for many actors to act. Cattle farmers, for example, did not want to follow forest regulations as they saw themselves mainly as farmers. Indigenous communities did not like any government interference as it contradicted their independence. Peasant farmers perceived themselves as part-time forest extractors and did not like to see restrictions on this traditional practice. Identity as logic of action was most clearly visible when actors took part in processes of articulation, i.e. rejecting external rules, norms, and beliefs.

In conclusion, certain patterns regarding the relationship between processes of institutional bricolage and logics of action seem observable. The process of aggregation was, for example, often linked to authority and to legitimacy. In the case of authority, a person or organisation was responsible for the recombination of institutional elements. In the case of legitimacy, it was the apparent overlap or commonality between the introduced institution and existing norms on forest use. The process of alteration was also linked to legitimacy. This time, it was norms on general behaviour that stimulated the alteration of local norms on forest use. Finally, processes of articulation related mostly to identity and the logic of orthodoxy.

Different bricoleurs

As explained above, actors can have different roles in processes of institutional bricolage. This difference can be based on whether the process of institutional bricolage is a strategic process or more gradual and fluid. In the case of strategic, purposeful institutional bricolage, the access to authoritative resources determines the extent to which an actor can respond to institutional influences. When processes of institutional bricolage are less intentional, the importance of authoritative resources becomes less vital.

In the case of strategic institutional bricolage processes, actors with authoritative resources appear to be able to partake more in processes of institutional bricolage than actors without. They can become rather powerful bricoleurs or even social change agents. The difference between bricoleurs and social change agents is that bricoleurs are capable of participating in processes of institutional bricolage but are not willing or able to initiate community-wide changes in the institutional framework. Change agents are capable of provoking a communal change in the bureaucratic and socially embedded institutions affecting forest practices. A good example of a local change agent is the migrant settler in Buen Futuro in Bolivia. His authoritative resources consist of economic wealth, knowledge, and relations with NGOs. Because of these resources, he was able to change the internal norms and beliefs on forest practices – a change that resulted in forest and land use practices that are more intensive. In contrast, bricoleurs are able to influence institutional bricolage processes, but not to cause wider social change. The president of the local association in the Ecuadorian community, Chinimbimi, is one example. He has mixed the objectives of the association with his own ideas and plans. Now, the association to him is not just a productive association but also a political organisation and a representation of the identity of migrant settlers in the Amazon. To him, this organisation defines his community, his religion, and his ideas.

Communities without social change agents or strong bricoleurs appear to demonstrate a lower level of internal organisation or lack at least a collective appearance to the outside world. Communities such as Palmira in Bolivia and La Quinta in Ecuador come across as individualistic communities in which it is hard for any person to influence the whole community. In Palmira, social conflict has resulted in a fragmented community. La Quinta's situation is different, as a strong president has stepped down and the community members are migrating to another city due to the harsh conditions prevailing in the area. Both communities suffer from a lack of NGO projects, as NGOs in general prefer to work with communities who have a clear structure or a strong leader.

This preference for collective action is expressed not just by NGOs but also by governments, as timber extraction should preferably happen through a community forest management plan. Therefore, a strong bricoleur in favour of these rules and norms could play a key role in implementing them. This is reflected in the observation that development agencies or government officials often prefer to work primarily with presidents of communities (Cleaver 2005). The cases of Buen Futuro in Bolivia and El Eden in Ecuador are examples in which this has worked out well. However, there is a danger in focusing on these persons. First, it can be conceived of as elite capture that may result in a further marginalisation of the poorer community members. Second, the bricoleur could oppose the bureaucratic institutions of NGOs and government and deliberately sabotage development projects. Third, if this bricoleur does not take on the identity of a social change agent, the community runs the risk of further fragmentation as economic differences may increase.

As stated earlier, the role of bricoleurs depends a lot on access to authoritative resources. As Cleaver (2002, 2005) states, people without authoritative resources are not able to participate in the processes of institutional bricolage and reshape institutions to the extent a strong bricoleur can. However, as important as authoritative resources may seem, they are not a necessary condition for any actor to take part in processes of institutional bricolage. This research has demonstrated that more marginalised members of communities are just as capable of being a bricoleur. However, their role in processes of institutional bricolage is much smaller than that of authoritative bricoleurs. Marginalised farmers have fewer resources and less time to reshape institutions, especially to alter institutions in such a way that benefits them. Their bricolage practices appear less intentional.

Whatever the case, the important role of the bricoleurs makes institutional bricolage an authoritative process that does not necessarily lead to more equity among the local actors or increase social capital. Moreover, institutional bricolage may even reinforce the position of strong bricoleurs and social change agents. In particular, a community with a low level of internal organisation can be prone to a form of aristocracy in which a few powerful people rule. As the personal motivations of these actors may be different than those of the community, they alienate themselves from the community. The case of Palmira in Bolivia shows that the relatively successful agroforestry producers in the community have an exclusive relationship with the local NGO. In addition, they do not feel the need to share their knowledge with the poorer members in order to achieve some collective level of economic development.

In conclusion, the effect of the role of bricoleurs on a community is twofold. On the one hand, they can positively contribute to community development, community coherency, or the embedding of external norms on sustainable forest practices. For example, a strong leader can be responsible for a feeling of unity in a community. On the other hand, the role of bricoleurs can result in an increase in inequality. This is especially visible in communities that have a more individualistic culture or do not have social change agents. In these communities, more egoistic bricoleurs may arise and negotiate their personal interests without taking community needs into account. This process can lead to elite capture and exclusion of poorer actors (Cleaver 2005).

8.3.2 Institutions and institutional bricolage

In the context of institutional bricolage, institutions can be categorised as bureaucratic and socially embedded rules, norms, or beliefs. In the different cases, these two main categories of institutions each have a specific impact on forest practices and are subject to different institutional bricolage processes. Bureaucratic institutions are externally introduced and are generally subject to active processes of institutional reshaping. Bureaucratic institutions are defined in this research as formalised arrangements relating to government organisations, NGOs, or other external agencies. Examples of bureaucratic institutions introduced by the government in the case studies are the forest law regulations. Bureaucratic institutions of NGOs are, for example, the promotion of sustainable resource use. They can also contain norms on the appropriate way to socially organise the use of forest resources. Socially embedded institutions are already in existence over a longer period and are mostly exposed to gradual processes of institutional bricolage. Socially embedded institutions are the existing rules, norms, or beliefs that are already part of social life and culture in local communities. Examples of socially embedded institutions are traditional beliefs or social community norms. Embedded institutions, however, can also consist of rules that were formerly bureaucratic. For example, local communities can embed former regulations that were stimulatory or useful, such as the former agrarian regulations in the case of the Ecuadorian migrants.

Several general conclusions on the role of different types of institutions in the various processes of institutional bricolage can be drawn from looking at the identified processes of institutional bricolage. First, aggregation is one of the most frequently identified processes in the researched cases. Both bureaucratic and socially embedded institutions were subject to this process. Aggregation processes involved mostly the recombination of NGO norms and local norms. This reflects the case descriptions in which it became apparent that NGOs are one of the most important influences on local forest practices. Second, the type of institution that appears to be most often subject to processes of institutional bricolage is norms. For example, the norms of local NGOs were in many cases reshaped or integrated in the local institutional setting of a forest practice. In other words, although NGO norms are adopted through aggregation processes, they are also very much subject to alterations. On the other hand, many local norms have been subject to processes of change because of this same NGO presence, ecological conditions, nearby cities, or other factors. Socially embedded beliefs also appear to be more prone to change than might be expected. Often, beliefs are portrayed as strong barriers to external influences as they are part of tradition. However, it appears that socially embedded beliefs are frequently reshaped as well.

In this research, no specific attention was given to market institutions. As many of the proposed innovations in forest management concern a strengthening of commercial forest use, this institutional dimension deserves further attention in future studies on institutional bricolage and forest governance. The next section goes further into some of the general findings of this specific research by explicitly relating the processes of institutional bricolage to the influence of government regulations, the role of NGOs, and local institutions.

Relative influence of government regulations

From the case descriptions, it is possible to conclude that government institutions have a hard time influencing local actors. Despite decentralisation processes aimed at increasing local participation and a more bottom-up approach, the forest law regulations often lack legitimacy. This results in a strong alteration of government regulations varying from rule bending to negation or neutralising them. Furthermore, government regulations often cause local communities to articulate much more their traditions and identity. This is most clearly visible in the selected migrant communities in Ecuador, who enjoyed a rather long period of government support regarding their forest practices but are now facing many restrictions on what they consider traditional or appropriate actions.

This reshaping of bureaucratic institutions, however, does not occur only because local resource users perceive these institutions negatively. Frequently, the governments in countries like Bolivia or Ecuador seem to lack resources to effectively monitor and control forest regulations. The area to control is too extensive, and the local timber extraction practices are on too small a scale to be noticed. In Ecuador for example, controls on illegal timber extraction focus on timber buyers rather than on extraction practices. The police mostly control the main roads in order to catch the illegal transport of timber. Consequently, timber buyers simply reduce the distance over which the timber is transported by selling it at local markets, avoid main roads, or do not drive in the trucks typically used for timber transport. This makes the impact of bureaucratic institutions on practices much more complex as it involves not only processes of institutional bricolage but also a lack of state capacity. Weak states, corruption, and the role of institutions in this is a common problem in natural resource management in developing countries (Robbins 2000). Furthermore, problems with corrupt civil servants in these countries add to the difficulty of controlling forest regulations. A final reason for the alteration of government regulations is the fact that the governments in both countries appear to remain a rather distant organisation for local communities. In spite of processes of decentralisation, government organisations were locally described as alien and difficult to deal with.

Importance of NGO norms

Whereas governments in the selected cases seem to struggle to have an impact on local forest practices, NGOs are much closer to communities selected by them and have therefore more opportunities to affect forest practices. Consequently, NGOs have a different – and apparently more significant – role in processes of institutional bricolage than the government. In contrast to government regulations, NGOs' institutional norms are less ignored. They are affected by the same processes of alteration, but this time these processes resemble processes of adaptation, renegotiation rather than negation or neutralisation. Furthermore, identified NGO norms in the selected cases also involve processes of aggregation in which these external norms are recombined with local ones.

Although the role of these NGOs has become rather important in the researched communities, not all NGOs can be considered as having a similar impact. In general, there is a distinction between civil society NGOs and ecological NGOs. The mission of civil society NGOs is not only to increase more sustainable use of forest resources but also to stimulate community development, community rights, and in general an empowerment of rural smallholders. Ecological NGOs focus mostly on ecological issues and technical solutions to improve livelihoods as well as conserving the forest. Therefore, the diversity of norms that accompany the projects in the communities served by ecological NGOs may be less than that of civil society NGOs.

In addition to the influence they exert at the local level, NGOs are important actors in the promotion of forest regulations. As explained earlier, the government sometimes solicits the assistance of NGOs in this as it feels that it has not the capacity to do the job itself. However, NGOs become involved in this promotion not just because they have been asked by the government, but also because they link forest regulation to their own agenda and expertise (Benneker 2008). In this way, NGOs are able to kill two birds with one stone: by promoting the forest law, NGOs are able to promote their own agenda and ideals such as community development, collective action, or gender balance. This could even mean that NGOs selectively promote certain aspect of the forest regulation that better link up with their ideas, and ignore others. In conclusion, the incorporation of external concepts such as the forest law also seems to be subject to processes of reshaping as NGOs interpret these issues through their own ideological lenses.

Changing social norms in localities

The case studies demonstrate that, in many processes of institutional bricolage, embedded social norms are prone to change. All of the cases show some change, whether big or small, in the existing norms on appropriate practices. These norms, however, do not always relate directly to the forest but can also be linked to a general culture or community identity. In this case, norms are then derived from embedded beliefs; they are a further crystallisation of traditions and culture and demand a commitment from the community rather than being based on a shared meaning. An example of this type of norm can be found in the indigenous case of EL Eden in Ecuador where community members have strong social norms developed from their history. These norms more or less prescribe the ways in which community members are expected to manage and use the forest.

Norms can also be the result of contextual factors such as the proximity and attractiveness of cities and towns. They do not relate to tradition, but are more a result of contemporary ideas and influences from other, more urban, livelihoods. These norms contain elements such as an ideal type of livelihood or desirable way of life – elements that are based not solely on economic motivations but also on personal ideas about the preferred life. For example, the Palmira case in Bolivia shows that the influence of the city has resulted in a decrease in importance of community norms and a growing internalisation of the lifestyle of the nearby city, containing all kinds of values and ideas.

One of the main processes of institutional bricolage relating to these embedded norms is their alteration. As stated above, each case contains one or more local norms that have changed. One of the main reasons for changing these norms is the presence and authority of NGOs. Although NGOs do not yet have the authority to enforce compliance with forest laws, they do have the resources to affect local norms. This influence of NGOs is not dependent on the type of NGO as both countries show similar changes. However, the changes are more profound in the Bolivian cases. Again, the local NGO present in each of the Bolivian cases has a much more dominant role than that in the Ecuadorian cases.

Cultural beliefs as barriers to change

Socially embedded beliefs derived from cultural traditions are regarded as the institutions that are most deeply embedded. These beliefs are the less visible institutions and are characterised by a certain taken-for-grantedness. Consequently, these institutions are rather strong in each of the identified processes of institutional bricolage. They are often important and are not likely to be adapted; they appear nonnegotiable. Regularly, bureaucratic institutions are regarded in the researched communities as being disharmonious with these beliefs. This causes actors to make claims on their traditions in order to protect them. Consequently, the most intense process of institutional bricolage relating to cultural beliefs is articulation as it involves the strongest emotions, the strongest actions, and the strongest opinions.

Although beliefs appear to be nonnegotiable in processes of institutional bricolage, they are subject to processes of change too. In processes of articulation in particular, actors often make claims on what is traditional in different situations. Applying the same tradition in various circumstances can change the meaning of traditional as it does not apply in the same way in each of the different situations. An example of this is the claim on traditions made in the indigenous case of El Eden in Ecuador. Their traditional livelihood is not only based on the forest but also characterised by a high level of independence. Their claims on traditions relate precisely to those two aspects: forest and independence. In other words, they have always been free to do whatever they want to do with the forest, and they have traditionally a deep respect for the forest. These claims are made mostly in response to government regulations. However, they are also made to account for the illegal selling of timber and for the – sometimes destructive – resource extraction from the forest, in which case they even contradict local existing norms on sustainable resource use.

A final note on the articulation of beliefs concerns the influence of the outside world on local traditions. Due to processes of modernisation, increased incorporation in markets, and the temptations of nearby cities, traditional lifestyles are changing. For example, the same indigenous case in El Eden is experiencing rapid changes in culture and tradition in which the differences between one generation and the next are substantial. This could indicate that, along with the changes in general traditions and lifestyles, cultural beliefs are changing as well and are not as nonnegotiable as they seem. However, during the observed processes of articulation in the case studies, these beliefs appeared in discussions as strong and as unalterable as if there had never been a change in traditions the first place.

In spite of this image of cultural beliefs as barriers, the findings of the research show that in several cases beliefs did become subject to processes of change. This can be explained by the concept of leakage of meaning (Douglas 1987). The meaning of what is traditional can change if certain traditions are claimed in situations to which they do not apply. In other words, a traditional belief is still claimed by actors despite the fact that it does not apply to the situation anymore as the traditional lifestyle has changed. A related concept is the reinvention of tradition (Prickett 2009). In contrast to leakage of meaning, this concept implies a much more conscious attitude as it focuses on the manufacturing of traditions to make sense of the past. This concept relates to a more strategic type of articulation. In conclusion, although beliefs may seem nonnegotiable, they are prone to change, especially when the general livelihoods of communities are also changing.

8.3.3 External institutional influence on local forest practices

Given the specific focus of this study as introduced in Chapter 1 regarding the impact of forest governance on forest practices, this section describes the influences of only those institutions that have been externally introduced by governments and NGOs. This influence of government regulations or NGO norms on forest practices is an issue that is of relevance for society and policy in general. From this study one can conclude that the local impact of bureaucratic institutions is subject to different processes of institutional bricolage. Depending on their characteristics, they can be rejected through articulation, altered in content, or aggregated with socially embedded institutions. Three concluding remarks can be made.

First, the impact of government institutions is limited. Many of these rules and regulations are restrictive and often in conflict with existing forest practices, livelihoods, and local cultures of smallholders. The regulations are perceived as complicated, costly, and time consuming. Communities have difficulty relating to them. Some even regard them as an insuperable threat. As a result, many of the regulations are ignored or rejected. Only a few examples of compliance with the forest law were found. On top of that, governments are limited in resources and mechanisms to ensure compliance (see section 8.3.2). They are weak states often experiencing problems with corruption (Robbins 2000).

Second, NGO impact appears to be much bigger. A number of reasons could account for this. One reason is that, in contrast to the government, local NGOs are very much present in local communities. As a result, they possess alternative mechanisms of control that are not based on sanctions in the strict sense but more on mutual agreement, commitment, and social obligation. Furthermore, NGOs seem to be aware of the problems associated with compliance with forest regulation and anticipate them by offering alternative sources of income that are not bounded by legislation. The agroforestry projects in the Bolivian cases or the balsa projects in Ecuador are examples of types of forest use that are, in theory, not regulated by the government. There are no rules regarding harvesting the fruit or maintaining these trees. NGOs understand that, in order to ensure a greater success rate for their projects, they need to offer simple but profitable alternatives to timber extraction.

Third, bureaucratic influence appears to have a bigger impact when introduced in a local community through norms rather than rules. In the cases in which smallholders complied with the forest regulations, the NGO was indicated as key in convincing these smallholders of the need for this compliance. Often, this convincing was done by appealing to the moral aspect of biodiversity conservation and not by using sanctions as threats. In cases of noncompliance, the NGOs frequently achieved changes in socially embedded institutions by using normative messages rather than rules. People were better able to relate to these messages than to regulations.

In conclusion, the chance of bureaucratic institutions becoming accepted by local communities seems to be greater if local communities can relate to these institutions. In this view, there can be a vital role for NGOs, as this research has shown that their norms do have an effect on local forest practices. If an entry point – a so-called door in the wall of impenetrable embedded institutions – exists, it is mostly likely to be a normative institution. Therefore, bureaucratic institutional influence can happen and is most likely to be effective when it takes place through norms. As the NGOs in the selected cases also promoted forest regulation, the impact of the forest regulation has increased as well. These findings suggest that the common image in forest policies of a linear and hierarchical influence of regulative government institutions does not seem to hold up in the researched communities. Rather, what appears is an image of a more normative influence happening through the relationship between NGOs and local communities that are consequently reshaped.

8.4 Reconsidering institutional bricolage: a metaphor

In Chapter 2, I introduced the definition of institutional bricolage by Cleaver (2002): institutional bricolage is the construction and borrowing of different existing institutional elements in order to create ad hoc institutional frameworks for forest practices. After the comparison and analysis of the empirical data, a further reconsideration of the theory seems necessary. Institutional bricolage involves the processes of reshaping rules, norms, and beliefs at the interface of disparate institutional frameworks, both bureaucratic and socially embedded. These processes occur when new bureaucratic institutions are introduced into a local setting, such as a community with an existing setting of socially embedded institutions. The previous chapters described and analysed the various responses, or processes of institutional bricolage, that occurred when bureaucratic institutions were introduced into local communities. As the local contexts consisted of different institutions and other case-specific factors, these processes were different in each case.

This section focuses on the outcomes of these processes, that is, what happens after these new bureaucratic institutions are introduced. This does not imply that institutional bricolage only happens after the introduction of, for example, an external regulation. It is a continuing process that changes all the time as a result of different and new external influences, insights, relationships, and more. This research, however, specifically looked at the processes of institutional bricolage surrounding the introduction of new formalised institutional arrangements.

The process of institutional bricolage that happens when bureaucratic institutions are introduced into a pre-existing socially embedded setting can be described metaphorically as resembling a rock that is thrown into a pond. As it enters the water, it creates a ripple on the surface that widens out and becomes smaller. The rock, in this case, is the bureaucratic institution that has been ‘thrown into a pond’ of socially embedded institutions and produces an overall effect, namely the ripples in the water. But suppose the rock does not necessarily sink in the water and is not always as solid as it would appear. For example, the rock may remain solid and unchangeable, it may spread out over the surface as if it was made of oil, or it may dissolve in the water as if it was a lump of sugar.

There are at least three possible outcomes of this rock-like item being thrown into the water that have also have been identified in this research. It could bounce off the water, as if thrown on ice. In this case, the rock does not enter the water and is forced to go in another direction. If the ice is soft, the rock leaves a mark or a dent on the ice and remains on the ice while transforming into a film, like oil. The final process is the process in which the rock enters the water normally and then dissolves in the water like sugar. In other words, there are at least three consequences or outcomes of the different processes of bricolage. Each of these outcomes relates to one of the three processes: aggregation, alteration, and articulation. Figure 8-1 is a representation of the different outcomes of institutional bricolage processes.

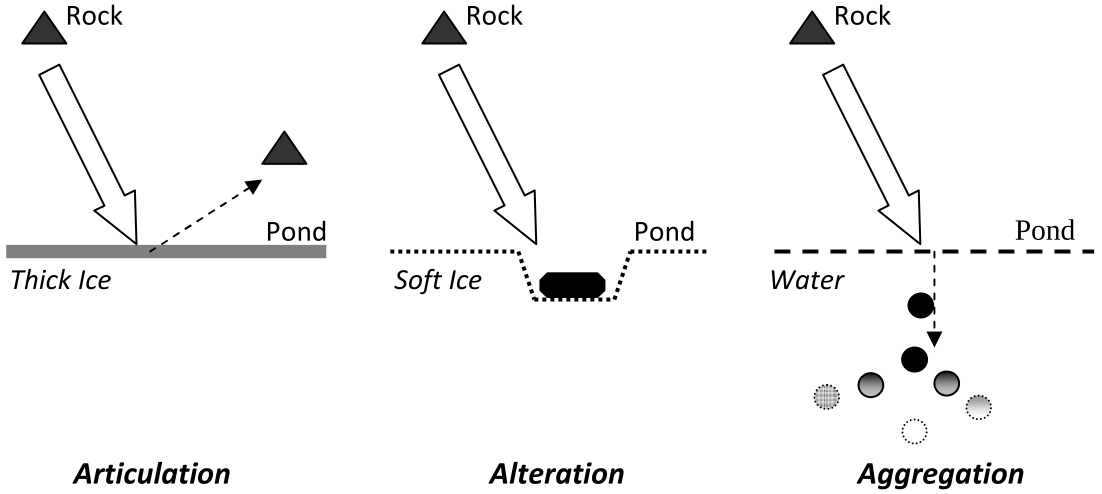

Figure 8-1 'Rock in pond' image of institutional bricolage

Aggregation, or the recombination of different institutional elements, is analogous to the rock sinking into the pond. In this case, external regulations and norms are, to a certain extent, adopted and combined with the local institutions. In general, this does not always lead to a modification in these institutions. The outcome of this process can be described as a more or less balanced situation in which both types of institution correspond, or are even in harmony. This process results in the necessary correlation between the formal bureaucratic institutional frameworks and embedded institutional elements (Cleaver 2002).

Alteration of both bureaucratic and socially embedded institutions resembles the rock being thrown into the half frozen water. The bureaucratic institution leaves a mark on the local institutional framework but does not achieve its original objective: to be incorporated in the aquatic system rather than merely making a mark on the surface. In this process, bureaucratic institutions are altered and partly adopted, and socially embedded institutions can change considerably. This situation results in a change, a shift, or a modification in the institutional framework in which it is hard to predict the actual outcome.

Articulation of socially embedded institutions is analogous to the rock being thrown on thick ice. The bureaucratic institution bounces off the shield of socially embedded institutions. The embedding of the bureaucratic institution is minimal, hardly even existent, and the socially embedded institutions appear nonnegotiable and unchangeable. However, the articulation of socially embedded institutions in different situations can also lead to a gradual change in these institutions. This process may result in a situation of normative pluriformity and selective adherence to different institutional features (Benda-Beckman and Meijl 1999; Cleaver 2002). This process of articulation results then in a situation resembling a clash, a friction, or a discord between the different types of institutions.

9 CONCLUSIONS AND REFLECTIONS

9.1 Introduction

At the beginning of this thesis, I expressed my initial surprise regarding the high level of local dynamics in the seemingly tranquil Amazon. Although the world mostly describes the Amazon as a vast forest region and a biodiversity hotspot, I found out during the research that the Amazon is not that one-dimensional. It is not always that green and tranquil; sometimes, it does not even have trees. This view, to me, resembles the view I had during the plane journey over the Amazon: from a distance, it all looks harmonious and peaceful. That same metaphor of the plane journey can also be applied to the development of forest policy in the Amazon. From a distance, certain notions seem to exist based on concepts like homogeneity and makability of society that dominate the formulation of rules and regulations on forest use and conservation. These notions do not take into account the local specifics, especially in terms of social aspects. In that sense, this research paints a different picture. This picture acknowledges the local context and questions the great faith in formal institutional arrangements that continue to influence policy (Cleaver 2002).

In many cases, the development of new forest policies has resulted in decentralised forest governance. By shifting power and responsibilities to lower levels of government and increasing the participation of local people, it is believed that local forest practices will become more sustainable, and that this will in turn lead to the preservation of the Amazon (Kaimowitz, Thiele et al. 1996; Kaimowitz, Pacheco et al. 1998; Larson, Pacheco et al. 2007). However, these reforms have not always led to the intended effects.

These effects lead us to two important considerations that have formed the starting point of this research. First, the effects of forest policy are not linear and predictable, as unexpected outcomes often result (Kaimowitz, Pacheco et al. 1998; Perz 2002; Andersson 2003; Kauneckis and Andersson 2009). Second, the trust in the makability of society, which is inherent in most policy designs, falsely assumes a certain control or predictability over the agency of actors. As it turns out, we cannot precisely predict what will happen after a policy reform, when new regulations become introduced to forest users, and when local forest users respond to these changes in the formal institutional framework. As stated in Chapter 1, there is a lack of understanding of the institutional effects of policy reforms, especially at the local level (Cleaver 2002).

This lack of understanding holds especially true in today's forest governance regimes in which the situation has become quite fuzzy, as many new agents have entered the policy arena (Andersson 2006; Lemos and Agrawal 2006). Not only are governments drawing up regulations, but also civil society organisations are introducing local communities to their own conventions and their own interpretations of the forest regulations. This research has particularly demonstrated the important role of NGOs in comparison to that of the government. In many of the cases, it was the NGO that was responsible for introducing forest regulations, encouraging community development, opening up markets, and promoting the acceptance of global conventions and standards.

The puzzle I attempted to study with this research focused, on the one hand, on these policy changes and their particular effect on forest practices, and, on the other, on the way local forest user respond to the institutional changes. It is important in this context to acknowledge the fact that the local institutional frameworks do not solely consist of formal institutions but also of the more informal traditional beliefs and local social norms. I thought that it would be interesting to analyse how this institutional framework changes in response to the reforms in forest policy. Consequently, the objectives of this research focus on both these aspects: the impact of the different institutions on forest practices and the way local forest users are dealing with this. A final objective was then to weigh these findings in the context of sustainability and how it could contribute to global discussions.

This final chapter contains the conclusions of, and reflections on, this research. First, I present the main empirical conclusions of the research by answering the three research questions. I then reflect on the role of institutions and actors in forest governance. This reflection is followed by a discussion on the relevance of research findings in respect of sustainable forest management. Finally, I revisit the theoretical framework and reflect on the methodology used for this research.

9.2 Answering the research questions

In Chapter 2, I identified three research questions (see also section 2.5.1):

1. How do institutions, either externally introduced or locally embedded, affect the forest practices of small farmers in the Amazon region of Bolivia and Ecuador?
2. How do local smallholders in the Amazon region reshape bureaucratic and socially embedded institutions affecting their forest practices?

3. What conclusion can be drawn from the local processes of institutional bricolage in the Amazon region about the role of institutions and actors in developing sustainable forest practices?

In order to answer these three main research questions, I selected three Bolivian and three Ecuadorian cases located in the Amazon. In these six cases, over a period of two years I conducted semi- and unstructured interviews with, and administered questionnaires to, key respondents, and conducted group interviews and informal chats with members of the communities and group exercises with the whole community. Furthermore, I collected data through participant observations and plain observations in the six communities. These data were supplemented with interviews with key representatives of NGOs and other organisations active in the community and with partners of the ForLive project, researching the ForLive database, and literature and documents research (see also section 3.3)

The six cases illustrate the great variety of ways in which local communities interact with the forest. The Bolivian cases entailed three peasant communities that each has its own distinctive way of organising its forest practices. The first case, 12 de Octubre, has a communal forest area on which timber is collectively extracted under a forest management plan. However, the revenues from the Brazil nut collection in that same area contribute the most to the community members' income. The second case, Buen Futuro, also involves the collection of Brazil nuts, but concerns agroforestry and agriculture as well. This shift to agroforestry can be explained by the presence of a migrant farmer who, by setting a rather successful example as the main agroforestry producer in the community, stimulated the community to embrace this new forest practice. The final Bolivian case, Palmira, concerns a community with poor access to resources. Small land parcels, a large amount of deforestation, and social conflicts have led to a situation in which community members do not display any great interest in collaborating with each other. As a result, external aid –which generally favours an organised community– hardly ever comes to this community. One attempt to introduce agroforestry in this community has consequently led to a variety of responses and results.

Only the Ecuadorian cases involve different social groups. The first case, Chinimbimi, concerns a migrant community that lives mainly off cattle farming and the collection of palm fibre. This collection of fibre from a local palm species has resulted in substantial income generation. The second case, El Eden, is an indigenous community with a high level of forest dependency. This community tries to make an income by extracting timber and managing a timber plantation. It finds itself torn by modernisation processes: younger generations are attracted by the city lifestyles whereas older community members try to stress their cultural relationship with the forest. The final Ecuadorian case is La Quinta Cooperativa – Luz de America. This migrant community mainly focuses on cattle farming. However, degraded soils have made it harder for these community members to make a living. As a result, many of these farmers extract timber to make ends meet.

9.2.1 Diverse institutional influence on smallholder forestry

The first research question dealt with the different institutional influences that could influence the forest practices of smallholders. In Chapter 2, I explained that institutions do not consist solely of rules. Although it is very common to define institutions as rules of the game, in this research I divided institutions into rules, norms, and beliefs. Rules are regulative institutions that are legally sanctioned. People comply with rules to avoid sanctions. Norms are normative, binding expectations that are morally governed. Norms are followed as it is appropriate to do so. Beliefs are traditional cultural cognitive institutions that are traditionally supported. Beliefs structure behaviour as they represent routines and traditional identity (Scott 2001). These three types of institutions can be either bureaucratic or socially embedded (Cleaver 2002). Bureaucratic institutions are those institutions that are new and externally introduced in a community, whereas socially embedded institutions already exist and are part of social life. Although bureaucratic institutions appear to be more formalised than socially embedded institutions, this is not necessarily always the case. The separation between bureaucratic institutions and socially embedded institutions is not fixed. Rather, it should be regarded as a scale alongside which the institutions 'move'. Bureaucratic rules, norms, and beliefs can become embedded in social life and vice versa (see also section 2.4.1). Figure 9-1 is based on a snippet of the conceptual framework used for this research and illustrates the differentiation in the various types of institutions. The identification of this variety in types of institutions involves not only looking at the specific institutions impacting on local forest practices but also assessing the general forest governance regimes and socio-cultural institutions relating to the different farmer groups of the two research areas: the Bolivian and Ecuadorian Amazon.

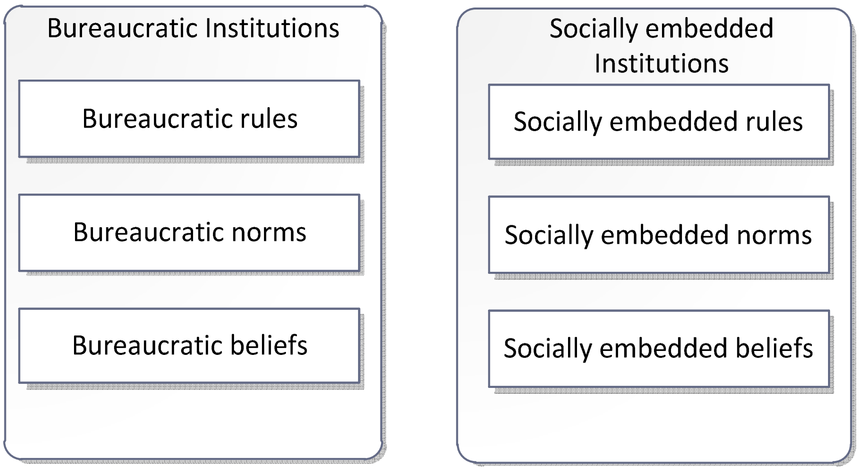

Figure 9-1 Different types of institutions

In forest governance, different types of bureaucratic institutions have been designed to manage the forest resources. These different bureaucratic institutions consist of a mix of rules, such as the forest law, and norms on sustainability, participation, or collective action. The decentralised forest governance regimes of Bolivia and Ecuador aim at conserving the forest while, at the same, providing opportunities for community development. Each country, however, has a slightly different approach to this objective. Bolivia focuses much more on collective action as an instrument for sustainable development and conservation of the forest. The Bolivian forest management plans often require some level of community organisation. Furthermore, the Bolivian NGO active in the cases was a strong advocate of collective action. Ecuador, in contrast, addresses the individual by implementing regulations for individual forest management plans.

These forest governance institutions are introduced to local communities that are governed by their own socially embedded institutions. Although these socially embedded institutions differ per community, it is possible to identify the general socio-cultural characteristics and traditional identity of the local communities. In total, three main socio-cultural groups were identified in the selected cases: peasant farmers in Bolivia, migrant farmers in Ecuador, and one indigenous Shuar community in Ecuador. The peasant communities, also known as campesinos, are originally from different regions in Bolivia but have been living in the northern Bolivian Amazon for generations. These communities have adopted forest practices that concentrate on the extraction of forest resources, in particular the collection of Brazil nuts. Their relationship with the forest, although of long duration, is mainly economic. The migrant communities in Ecuador have a more recent relationship with the forest as they were originally cattle farmers that moved into the Amazon because of government stimulation in the 1980s. Their relationship with the forest is of a functional character as the forest income supports their cattle farming. The third socio-cultural group is the indigenous Shuar. The Shuar have a strong relationship with the forest as it is not only their main source of income but also co-defines their culture.

The difference in forest governance regimes and socio-cultural groups brings with it a difference in bureaucratic and socially embedded institutions affecting local forest practices. These differences are further noticeable at the level of the small farmers. At this local level, the farmers reshape and piece together the different institutions at hand. This leads to very diverse results. In spite of the diversity, some general conclusions on the specific types of institutions can be made. In the researched communities, the bureaucratic institutions identified were bureaucratic rules, such as the forest law, and bureaucratic norms of, for example, local NGOs active in the community. In the same communities, the socially embedded institutions consist of local rules, such as those of local community associations, local norms such as shared community norms or religion, and local beliefs such as traditions. This research looked at which type of institution influenced forest practices the most. First, I discuss the difference in influence between bureaucratic and socially embedded institutions. Then I describe the differences between rules, norms, and beliefs.

Bureaucratic versus socially embedded institutional influence

Comparison of the influence of bureaucratic and socially embedded institutions leads to the following conclusions. As already stated, the identified Bolivian bureaucratic institutions focus on community organisation, whereas the Ecuadorian institutions are more individually designed. The local socially embedded institutions depend on the internal relationship each socio-cultural group has with the forest. This relationship with the forest turned out to be an important factor in compliance with, or resistance to, bureaucratic institutions. The Bolivian peasant communities in the researched cases, for example, have a history of collecting forest resources. This collection and access to it have never been limited by government regulations. As this collection has become part of local culture, government restrictions on forest resource extraction are not considered popular. In the case of migrant farmers in the Ecuadorian cases, their weak relationship with the forest was a motivation not to comply with the forest regulations, as they were considered not important. These farmers continued to draw on former agrarian regulations as their main livelihoods centred on cattle farming, and everything else was secondary. The indigenous community's strong relationship with the forest proved to be a barrier to the implementation of bureaucratic institutions. They did not want their traditional practices, which largely define their identity, to be restricted by regulations.

In respect of the specific types of institutions – rules, norms, and beliefs – more specific conclusions can be made regarding their influence. In this research, **bureaucratic rules** are identified as the government regulations relating to the use and management of forest. The influence of this type of institutions is limited, as many local actors do not comply with the forest law. Besides the fact that these regulations are often regarded as being in discordance with local practices and local institutions, the limited impact of the government appears to be also related to the lack of resources for monitoring and control. As they are 'weak' states, the Bolivian and Ecuadorian governments remain rather distant institutions with little authority at the local level.

Bureaucratic norms were mainly recognised in the researched communities as NGO norms on forest use, such as norms on sustainable use and appropriate ways to achieve it. These norms have a much greater impact on forest practices. Over the years, NGOs in the communities have been quite active in promoting sustainable forest use, community development, and even the government's forest regulations. There are several reasons for the influence of NGO norms on forest practices. First, NGOs often offer some of the few opportunities for local communities to receive some modicum of much needed development aid. NGOs are, therefore, often very welcome. This has, for example, resulted in the establishment of trusting relationships between certain communities and NGOs. Second, NGOs work at the local level with the local actors, whereas governments are not able to do so. As a result, NGOs appear to be much more popular among the local communities than the distant and abstract government. Third, the observed NGOs do not just implement regulations and restrictions but tend to introduce their ideas as norms that appear much more open and lenient than rules. However, that does not mean that ignoring these norms is without consequences. One of the examples of NGO norms being rather strict is the norm on collective action and community organisation observed in the Bolivian cases. Without a community organisation, NGOs appear not very willing to work with these local communities. Not complying with this norm thus means that a local community misses out on development projects. This was visible in particular in the Bolivian case of Palmira.

Socially embedded rules, as identified in this research, are the rules of a local community organisation but can also be former government regulations that have become socially embedded in a community. The rules of a local community organisation, such as a producers' association, are mostly rather general rules on how one should behave within the association. For example, in these cases the institutions entail rules on participation in meetings, membership contribution, and voting. However, these rules can also be important in the construction and maintenance of an identity. As explained elsewhere, the relationship between Ecuadorian migrant farmers and indigenous Shuar is troublesome. In one example of a migrant case, socially embedded rules of a local organisation were used not only to stress identity as cattle farmers but also to claim superiority to the Shuar. In this case, the cattle farmers regard their level of organisation as proof that they are smarter and more hard working than the, in their eyes, 'lazy' Shuar. Another example of embedding former government rules comes from Ecuador and concerns former regulations of the Ministry of Agriculture that were favourable for migrant farmers. Migrant farmers still relate to these outdated regulations and sometimes act as if these rules were still in operation.

Socially embedded norms are defined in this research as the norms of the community or a group of actors that contain descriptions of what is considered appropriate. For example, indigenous norms identified in one Ecuadorian case state that it is considered inappropriate to extract an unlimited amount of forest resources. Other identified norms concern ideas on appropriate general lifestyles that are believed desirable and often heavily influenced by nearby cities. In this research, socially embedded norms are identified as important in forest practices as they are frequently crystallised out of local traditions and common norms that originate from earlier times. These local norms, however, are frequently subject to change. Often the changes in these socially embedded norms appear to be affected by nearby cities, markets, or visiting NGOs. This research suggests that particularly the influence of NGO norms on local communities is substantial as local norms often increasingly resemble those of the NGO. Another considerable influence on community norms is that of the city and its desirable lifestyle.

Socially embedded beliefs are the traditional beliefs that are deeply embedded in the researched communities. These beliefs are used, in this research, to claim an identity and to resist outside interference. A good example of this is the traditional beliefs of the indigenous community in Ecuador. This Amazon community is staunchly independent and has no desire to be controlled by the state. This strong belief is an obstacle to most government interference. As a result, embedded beliefs appear to be nonnegotiable barriers to forest regulations. However, the identified beliefs were found not to be inflexible. Similar to the gradual changes in norms, beliefs seem to be also under the influence of the outside world. This was particularly visible in the indigenous community where traditional livelihoods are changing and younger generations are increasingly adopting the lifestyle of the cities and abandoning their forest-dependent culture. Furthermore, the claim on what is traditional can also be subject to leakage of meaning. In the researched cases, not every farmer knows precisely what 'traditional' means and sometimes employs it in non-applicable situations. As a result, what is considered traditional loses its meaning.

Conclusions on institutional influence on forest practices

In conclusion, the way in which institutions influence forest practices is determined by the type of institution. In this research, bureaucratic institutions have a different influence than socially embedded institutions as they are often much more explicit and formalised than socially embedded institutions that, in turn, seem to appeal much more to internal feelings about what is right and what is wrong. This research has furthermore observed that the influence of socially embedded norms and beliefs appears to be considerable. These institutions were found to be strong in the researched communities as they entail a certain expectation of the community regarding its members. Abandoning these norms could lead to processes of distancing or estrangement from a community. The same goes for beliefs. These institutions are directly related to a sense of belonging and identity, and for many people it is unthinkable to abandon these institutions. However, closer investigation in the communities revealed that these institutions are changing too, and sometimes this change is rather rapid. All kinds of factors can be suggested as a reason for this change, such as markets, nearby cities, globalisation, relationship with people from outside the community, and, last but not least, visiting NGOs. This study focused in particular on the influence of bureaucratic institutions in the form of NGO norms. Similar to socially embedded ones, these bureaucratic norms appeal to feelings of appropriateness. NGOs in all the researched cases maintained a good and long-lasting relationship with the community, especially in the initial phase of their projects. Therefore, people felt less inclined to disrespect these norms, as they felt committed to the NGO and the project because of this relationship. Local farmers seem to respond more to the 'softer' social norms than strict, sanctioned regulative rules.

9.2.2 Different bricolage practices of smallholders

The second research question focuses on how local farmers reshape the institutions affecting their forest practices. This question thus centred on bricolage practices: the different identified processes of institutional bricolage and the different roles of actors in these processes. In this research, three processes of institutional bricolage have been identified: articulation, alteration, and aggregation. These processes can either have a strategic and conscious character or be more unintentional and gradual. The first process, **articulation**, is perhaps the most intentional process of institutional bricolage. In this research, it often implies a clear rejection of bureaucratic institutions as they contradict the local identity of an actor. Processes of articulation are for example visible when a community strongly opposes any government influence and starts to invoke its traditional identity. The second process, **alteration**, involves the adaptation of institutions. In this research, this process was found to be either strategic or gradual. An example of strategic alteration involved the bending of forest rules in a Bolivian case in order to obtain land titles more easily. Gradual alteration of – in most cases – local institutions can happen under the increasing influence of the outside world. For example, the proximity of cities or visiting NGOs can have a great impact on local norms. The third process observed in the cases is **aggregation** and involves the recombination of bureaucratic and socially embedded institutions. This process can also be either strategic or unintentional and gradual. Some researched communities prefer to see their local institutions 'backed up' by formal ones. In Ecuador, for example, a local community established an association for the collection of palm fibre; this implied a recombination of NGO norms and their own. By doing so, they were able to stress their identity and their image of well organised cattle farmers much more formally than before. The process of aggregation appears to be less conscious when it involves adopting NGO norms that easily relate to communities' own institutions. NGO norms on sustainability were very easily accepted in the Ecuadorian indigenous community as those norms were in accordance with its own norms on sustainable use of forest resources.

Authoritative resources of bricoleurs

In these identified processes, the role of **bricoleur** is very important. Bricoleurs are actors that reshape and reconstruct the institutional framework affecting their forest practices. However, not every bricoleur in these processes is the same. This research seems to demonstrate that there is a difference among actors in the extent of their involvement in processes of institutional bricolage. This difference is largely influenced by the number of authoritative resources, for example money, knowledge, political power, and kinship, allocated to, and mobilised by, the actor. An authoritative bricoleur appears to be more able to play a strategic role in local processes of institutional bricolage. He can influence the outcome of these processes in such a way that he, or his community, benefits. Powerful bricoleurs can also transform into social change agents. One of the Bolivian cases provides an example of this, in which a particular migrant farmer was considered a very successful entrepreneur and knowledgeable man. As a result, he was able to change local community norms and beliefs on forest extraction 'as the only forest practice' and to initiate a producers' association for agroforestry production.

However, authority is not the only determining factor affecting the processes of institutional bricolage. People without authoritative resources can also contribute to the change of local institutions. This is particularly visible with the more gradual processes of institutional bricolage resulting in changes in local norms and beliefs. Often, these changes are evoked by the level of exposure to the outside world, such as NGOs or nearby cities. In this case, the number of authoritative resources of specific bricoleurs is not the main influence. Rather, bricoleurs play a kind of 'ad-hoc' role.

Conclusions on bricoleurs

In conclusion, institutions are subject to institutional bricolage processes that are, intentionally or unintentionally, initiated by actors. These actors piece together the different institutional elements at hand. The result and consequences of these processes of institutional reshaping can be big or small, depending on the situation and type of institution. For example, government rules were found to be often subject to active processes of institutional bricolage in which the actors consciously changed them, or rejected them. In contrast, the reshaping of local institutions could be much smaller in extent and scale. The amount of reshaping of socially embedded institutions seems to be less than that of bureaucratic ones. In the researched cases, social norms and beliefs are mostly subject to gradual processes of reshaping, of which the actor is much less aware.

Furthermore, institutional bricolage is an authoritative process in which certain actors are more capable bricoleurs than others. Although in principle all the farmers in the researched communities can be considered bricoleurs, the ones with more authoritative resources were much more active or more creative, so to speak. Also, these more authoritative bricoleurs tended to be more strategic in their behaviour. Consequently, processes of institutional bricolage can become very personal and relate to only one person or household. This holds especially true for those bricoleurs with social networks that extend outside the community. Sometimes this means that one person has a different outlook on his forest practices than the rest of the community. In some of the researched communities, this resulted in the bricoleur becoming a social change agent, whereas in others it led to a certain amount of exclusion. This means that, in general, bricoleurs play an ad-hoc role in processes of institutional bricolage that is hard to predict.

9.2.3 Implications for developing sustainable forest practices

The final research question concerns the conclusions that can be drawn from processes of institutional bricolage in the Amazon region about the role of institutions and actors in developing sustainable forest practices. In this research, the development of these practices usually implied the introduction of certain external rules and norms on what forest practices should entail. As explained, the governments of both Bolivia and Ecuador implemented a new forest law to stimulate the sustainable use of forest resources through forests management plans. In the researched communities, NGOs were primarily responsible for the translation of the global standards on sustainability into practical norms that could be introduced into the community. As with other externally introduced institutions, these government regulations and NGO norms were subject to processes of institutional bricolage. The type of process of institutional bricolage determined the chance of the government forest regulations and NGO norms on sustainability being adopted. As it turned out, the researched communities and farmers were found to be more receptive towards the NGO norms than to the government's forest regulations, which were largely ignored.

However, government regulations and NGO norms on sustainable forest management are not the only institutions regarding sustainability. Communities can also have local institutions containing intentional or unintentional notions on sustainable forest use. For example, the indigenous community in Ecuador has always been very dependent on forest resources. This dependency is not only functional, because the relationship that the indigenous community has with the forest is important to both its livelihood and its cultural practices. As a result, any unlimited thoughtless forest practice is disapproved of, as it would decrease the stock of the much needed resources and is considered as a sign of disrespect to the community's forest-dependent culture. However, the existence of such norms does not automatically imply that these actors are not extracting timber at all or trying to sell as much as possible. Nevertheless, the existence of local norms on sustainable use of forest resources does facilitate the adoption of NGO norms on sustainability, as they more or less resemble each other.

From the findings in this research on the different roles of actors in institutional bricolage, several conclusions can be drawn in relation to the development of sustainable forest practices. First, authoritative bricoleurs can be either a great help or a hindrance in the development of sustainable forest practices. If these bricoleurs do not like the proposed regulations or implied norms, they have the resources to defy these institutions or even to mobilise the whole community against them. However, a powerful bricoleur in favour of these changes can facilitate the process enormously. These actors can collaborate with NGOs, influence a community, or even increase the level of necessary community organisation. This level of community organisation is important in trying to initiate the development of sustainable practices. After all, a lack of organisation decreases the chance of embedding the involved NGO norms in the entire community.

The adoption of externally induced sustainable forestry practices in local communities depends not only on the role of bricoleurs but also on the nature of the institutions. Some local institutions are a great barrier to sustainable forest practices. The Ecuadorian migrant cases are examples of communities that do not feel a great need to change their forest practices, as they do not consider them as important enough. Their main drive is cattle farming and, as long as they have this particular land-use system, any introduced rule on sustainable forest management is unlikely to become embedded. The chance of adopting sustainable forest practices is greater if dependence on this forest practice and economic benefits are high. One of these migrant cases has shown that the collection of palm fibre has led to an increase in this specific tree in the area. In this case, market-driven incentives for sustainable forest management seem to have a better chance of success than government imposed rules on sustainability. Socially embedded institutions can have an enabling role in the embedding of sustainable forest practices. The previously mentioned example of the indigenous case in Ecuador seems to show this. The introduced NGO norms on sustainable use resembled their embedded institutional framework; and this consequently led to an adoption of more sustainable forest practices. However, this same embedded institutional framework of the indigenous community in Ecuador also led to the rejection of any government interference, even though this aimed at promoting a more sustainable use of forest resources.

9.3 Institutions and actors

The distinction between institutions and actors is one that is often analytically made. However, in practice, institutions and actors are intertwined. As Giddens (1984) argued, structure cannot be regarded as dominant or as standing on its own. Rather, it is influenced by agency. Agency and structure therefore cannot be studied and cannot exist without each other. In this research I take a similar point of view by using institutional bricolage as a version of the theory of structuration. Actors cannot act independently from institutions, and institutions do not simply determine human behaviour. As illustrated by this research and by concepts such as institutional 'shopping', actors often combine elements from different institutional regimes. Such institutional bricolage is initiated by actors; consequently, I see agency as a crucial element in the reshaping of institutions. This next section elaborates on these two main elements of institutional bricolage: institutions and actors.

9.3.1 Institutions

In the context of forest governance or natural resource management, many discussions on institutions have traditionally focused on concepts such as institutional design. This study shows that the role of institutions in forest governance and natural resource management appears to be better represented by concepts such as bricolage and construction (Leach, Mearns et al. 1999; Cleaver 2002). Instead of the image of institutional evolutionary design processes leading to the optimal institutions for resource use, this study suggests that institutional evolution is more ad hoc, less accurate, and more frequently shaped by the past than assumed (Cleaver 2001). From the different bureaucratic and socially embedded institutions in this research, it is possible to conclude that, in these examples, the influence of bureaucratic institutions is quite differentiated.

Furthermore, socially embedded institutions, such as traditions or community norms, appear to play a more crucial role.

This section reflects on the institutions in the context of decentralised forest governance in the Amazon regions of Bolivia and Ecuador. Decentralised forest governance has been introduced by policymakers as the best option to fight natural resource degradation. This bureaucratic institutional framework has been regarded as the main instrument to change current forest practices and transform them into sustainable ones. In this context, it is also interesting to see how formal legislation drips through all the levels of government and how it transforms in the process.

Decentralised forest governance

Environmental governance involves a set of regulatory processes, mechanisms, and organisations to influence environmental actions (Lemos and Agrawal 2006). However, what these processes, mechanisms, and organisations entail is often not clearly defined. The fact that decentralised forest governance is a concept open to many interpretations and definitions may explain why the effects of governance are so diverse (Larson, Pacheco et al. 2007; Kauneckis and Andersson 2009). This study illustrates that forest governance entails a diversity of specific institutional processes operating at multiple levels. A variety of actors play a role in these multiple processes. These factors all contribute to high diversity in respect of responses to new initiatives for improved forest governance.

Decentralised forest governance involves not only the delegation of responsibility for forest management to the local level, but also bureaucratic decentralisation and increased involvement of civil society organisations (Wiersum 2009). This implies a power redistribution among the different levels of government and the opening of spaces for participation by civil society organisations and market actors (Sampford 2002). Such regime changes enable NGOs, amongst others, to become engaged and to voice the interests and demands of the government (Larson, Pacheco et al. 2007). The role of the NGOs in forest governance proved to be of great importance in the selected cases in this research. The reason for this lies in the fact that many communities have developed a solid relationship with the NGOs (Benneker 2008). Another factor contributing to NGOs' importance is the absence of government organisations with sufficient resources to reach local communities. However, especially in marginalised countries, access to these resources is a problem (Uphoff 1993). The fact that NGOs have become engaged in forest governance has consequences. In the promotion of government regulations at the community level, NGOs in one study area seem to reveal a selective attitude towards these rules and often include their own agendas, ideas, and interpretations of the law (Benneker 2008).

Another important norm of decentralised forest governance is the fact that it focuses on local participation. Local participation is regarded as vital for sustainable and effective forest management (Ostrom 1990; Sampford 2002; Andersson 2006). This focus on participation has become in most cases a rule-like institution. Although it lacks sanctioning power, the norm of participation has become an important one to live up to. This situation has even led to examples in which NGOs tend to replace other forest-related government agencies (Pacheco 2004).

In forestry development programmes, often limited attention is given to a clear identification of the different types of decentralisation to the local bureaucracy, NGOs, and local communities, respectively (Wiersum 2009). This creates a fuzzy institutional framework which appeared to have increased the room for manoeuvre and the processes of institutional reshaping for small farmers in the researched cases. In these processes, socially embedded institutions frequently clashed with the bureaucratic ones. Furthermore, forest policy did not always take into account the nature of local institutional structures. The 'problem' of embedded institutions is that they are internalised and hidden. However, this does not mean that they are unchangeable. Socially embedded institutions are open to negotiation; they provide the basis for the conscious and unconscious processes of institutional bricolage. This openness towards negotiation makes these institutions opaque but also robust as they interlink with the social and historical environment of the community (Cleaver 2000, 2002). The implications for forest governance are not easy. The changeability of socially embedded institutions and their interrelations with society and history make it hard to categorise local forest practices and especially the meaning they have for local communities. Therefore, it becomes virtually impossible to design a forest policy that fully considers the embedded institutions and tries to design a policy framework that builds on existing norms and beliefs.

There are various reasons why legislation often does not achieve the intended and desired outcome. First, the actors are not rational, profit maximising actors but rather social actors, part of society and operating in a specific social context (Long 2001; Griffiths 2003). Second, the transmission of a law with all its implications, moralities, and norms never happens in a linear manner, as communication of its legal information is problematic. There is frequently a gap between the intended message of a law and what finally reaches the local forest user (Long 1992; Griffiths 2003; Mosse 2005). Third, formal legislation is not the only existing regulation. The government is but one source of regulation. Local communities have their own embedded institutions that structure their forest practices, and these often enjoy a much higher legitimacy than those of the government (Cleaver 2002).

9.3.2 Actors

In dominant views on natural resource management that focuses on institutional design, actors are often portrayed as rational (Leach, Mearns et al. 1997). The conclusions of this research reveal an active role for local actors as bricoleurs, but not necessarily as rational or conscious. The previous section closed with a reflection on the impact of bureaucratic and socially embedded institutions. It particularly paid attention to the strength of socially embedded institutions in spite of the fact that they are changeable, opaque, and open to negotiation. As a consequence, the introduction of any external institution is often renegotiated or reshaped and compared with the local institutional framework by local actors (Cleaver 2002; Mosse 2005).

Reshaping and renegotiating

As the research has shown, the processes of institutional bricolage can be very intentional and strategic. One of the cases described processes of alteration of forest regulations in order to obtain land titles. In other instances, processes of institutional bricolage appeared to be much more gradual and unintentional. Giddens (1984) and Cleaver (2000) differentiate between routinised activity that is not directly monitored and more conscious activities on which actors can reflect. This more conscious behaviour becomes more visible as actors discursively justify their rule bending or rejection of forest regulations and consciously reproduce their traditions, as was clear in the case of the indigenous community. However, in spite of the fact that this behaviour may appear rational and strategically leading to a certain intended outcome, strategic behaviour may also result in unintended outcomes of which leakage of meaning of traditions is an example. Therefore, processes of institutional bricolage cannot be regarded as purposeful crafting in which specific institutions are deliberately developed. Or as Cleaver (2000, p.

379) states, “bricolage is less purposeful, more partial, ad hoc, and historically embedded than that suggested by the concept of crafting.”

These processes of institutional bricolage, which can be more strategic or more gradual, link to the social concept of agency. Central in this concept is the acknowledgement that actors are ‘knowledgeable’ and ‘capable’ (Giddens 1984). Long (2001) defines agency as having the capacity to process social experience and develop ways to deal with life. Within the limits of information, local actors attempt to work out problems, learn, and monitor their actions, and take into account other people as well as circumstances (Long 1992). This approach also emphasises the diversity in responses to, and effects on, structures that is important in processes of institutional bricolage (Cleaver 2000)

Conceptualising local actors

The description of knowing and capable local actors that have the ability to act upon intervening regulations differs from other conceptualisations that tend to portray local actors as victims, or people without the resources to respond (Long 2001; Mosse 2005). It is irrefutably true that local smallholders encounter many more difficulties than development agencies or market actors that are in a better position to influence policy (Larson and Ribot 2004). However, this does not imply that local actors should be regarded as helpless victims without any room for manoeuvre and completely dependent on external factors to survive (Long 1992). This conception of local smallholders as victims has been invalidated in this research. Rather, the management of natural resources is an area in which local actors actively negotiate, make claims, or pursue their own interest (Leach, Mearns et al. 1999; Cleaver 2002). This research has also shown that, although at the higher levels of governance regimes the amount of local influence is limited, the local level provides room for manoeuvre for local actors to respond in a different way.

Furthermore, issues of dependency are not regarded as the most important obstruction to poverty alleviation, as local actors negotiate their position and organise themselves individually as well as collectively (Nuijten 1992). Examples of this collective organisation can especially be found in indigenous communities (McDaniel 2002). These indigenous organisations can become powerful organisations that negotiate at the national level with governments. The Ecuadorian indigenous federation introduced in this research is an example of this. This does not imply that dependency and deprivation do not exist; however, the ability to organise implies a certain level of strategic action. Actors demonstrate an ability to actively pursue their own social projects and to construct their own patterns of organisation. Often, these local forms of organisation are viewed as corrupt or disorganised, and community members are thought to lack the knowledge and capacities to organise themselves 'the right way' (Nuijten 1992).

This persistent perception of disorganised and corrupt local communities touches another opinion about smallholders as forest destroyers. Peasant farmers in particular are held to blame for forest destruction as increased commercial production leads to mono production resulting in deforestation (Pacheco 2009). However, this perception ignores the aspect of forest regeneration after shifting cultivation, the establishment of forest gardens, and the much higher deforestation levels that result from cattle ranging (Godar 2009; Pacheco 2009). As it happens, the relationship between economic production, peasant farmers, and deforestation is not linear (Perz 2002; Perz, Aramburu et al. 2005). However, at the other end of the scale lies the image of the noble savage, an equally strong misconception on the sustainable practices of indigenous communities (Rudel, Bates et al. 2002). These notions entail a static image of culture which is not subject to change. The noble savage does not overexploit forest resources and will respond to external influence in a forest friendly manner. This image, however, is not correct in itself and neglects the fact that traditions are very much under the influence of change and that indigenous communities are not only forced to adopt a more 'modernised' lifestyle but also want to do so.

9.4 Sustainable forest management

This research takes as its point of departure the discussion on the institutional influences on forest practices and the extent to which local actors reshape the institutions. This discussion is especially important in the context of sustainable forest management in the Amazon. The issue of sustainable forest management first came to prominence in international policies in the late 20th century. In those days, several governments were aiming at increasing the protection of forests and promoting a more sustainable use of forest resources (Oliver 2003; Freer-Smith and Carnus 2008). As explained in Chapter 2, the Brundtland report in 1987 was an important step in the standardisation of sustainable forest management (Brundtland Commission 1987). As a result, new forestry-related international conventions[23] and organisations[24] were developed. This process led to the development of international global objectives on forests and the establishment of several criteria and indicators for sustainable forest management (CIFOR 1999; UN 2010)[25]. Many of these global initiatives emphasised the need for decentralised forest management.

The conclusions of this research assert that the outcomes of forest governance are, to say the least, varied. This has to do with the fact that, in spite international policy norms on how to manage forests, the actual practices of sustainable forest management remain nebulous, are relatively open to interpretation (Leach, Mearns et al. 1999; Schanz 2004; Kant and Berry 2005), and remain dynamic (Wiersum 1995). This openness to dynamics interpretation paves the way for processes of institutional bricolage, leading to positive or negative outcomes for forest governance.

The processes of institutional bricolage, as the research has shown, happen not only at the local level but also, for example, at the level of NGO organisations. Therefore, norms and regulations for sustainable forest management are very likely to be subject to change at various levels. This change may be triggered by different factors such as changing national laws, demand and supply mechanisms for markets, competition between various instruments for sustainable forest management, and civil society pressure for good cooperate environmental policy (Freer-Smith and Carnus 2008).

In view of the contrasting tendency towards top-down implementation of international forest regimes and the introduction of decentralised forest management, it is clear that processes of institutional bricolage shape the way sustainability mechanisms drip through the layers of governance. It has become obvious that many challenges have to be faced in the implementation of sustainable forest practices. The outcome of this research indicates several critical issues for the way this concept is implemented, as it is clear that, in this study, actors do not take account of all the dimensions of sustainability. Although most local actors are aware of the need for conservation, they do not seem to have been informed that sustainability implies much more than ecological sustainability.

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[23] For example the UN Forum on Forest (UNFF), the Ministerial Convention on the Protection of Forests in Europe (MCPFE), and the Intergovernmental Panel on Climate Change (IPCC).

[24] For example the African Timber Organisation (ATO), International Tropical Timber Organisation (ITTO), and the Amazon Initiative.

[25] In addition to the increase in top-down influences from intergovernmental organisations, there are also examples of bottom-up market-driven developments. Examples of these are certified forest management, partnerships, and payments for reducing carbon emissions (Karky and Skutsch 2010; Rametsteiner and Simula 2003; Ros-Tonen, van Andel et al. 2008).

This research has illustrated that the institutionalisation of sustainable forest management mechanisms varies and that the outcomes of multiple development trajectories are unpredictable. This is not a new finding; but this research does describe in detail how these unpredictable outcomes have happened in the six communities and the processes of institutional bricolage that formed the basis for this. From this research, it is possible to conclude that many norms and regulations influence sustainable resource management. This multiplicity of institutions, however, makes it much more complex to research sustainable forest management as it is almost impossible to analyse each factor carefully (Agrawal 2003). Because of the implications of these institutional bricolage processes for sustainable forest management, the focus must be on the content and effect of these processes rather than on their form alone (Cleaver 2002).

9.5 Revisiting the theoretical framework

In Chapter 8, I compared the different processes of institutional bricolage to the processes that may occur when a rock is thrown into a pond. That rock can be considered as a metaphor for a bureaucratic institution that is thrown into an existing pool of socially embedded institutions (see section 8.4). This focus on the processes of external interference through institutions by governments or NGOs implies that my portrayal of institutional bricolage is somewhat different than that presented by Cleaver (2002).

Cleaver (2002, p. 16) uses the concept of institutional bricolage to suggest "how mechanisms for resource management and collective action are borrowed or constructed from existing institutions, styles of thinking and sanctioned social relationships". She purposely uses the word 'construction' as she considers that the term 'institutional crafting' is too deliberate and purposeful to cover what is really happening. The concept of institutional bricolage is for her a tool to understand how individuals reshape and renegotiate institutions as they act as institutional engineers. Furthermore, it enhances the understanding of the complex nature of natural resource management (Cleaver 2002). This research has taken Cleaver's definition of institutional bricolage as its point of departure and tried to further fine-tune the processes of reshaping and renegotiation. In this perspective, I suggested the identification of three more specific processes of institutional bricolage: aggregation, alteration, and articulation.

Although the identification of the three main processes is rather preliminary, the findings seem to have provided enough evidence of the relevance of this categorisation of institutional bricolage processes to regard them as interesting additions to Cleaver's work on institutional bricolage. Of course, it can be argued whether or not these three processes are the only three identifiable processes, or whether there are more. As these processes may sometimes resemble each other, the distinction between aggregation, alteration, and articulation may not always be that clear. However, this research is an attempt to take the concept of institutional bricolage beyond the context presented by Cleaver. Her context focused on collective action in relation to a relatively scarce resource, namely water. The context of this research is different in the sense that it involves individual and communal action regarding a much less scarce resource: trees.

9.5.1 Theoretical reflection on the concept of institutional bricolage

This section focuses on placing the theory of institutional bricolage in the context of other institutional theories on institutional change. After the research, several questions remain regarding the difference between institutional bricolage, institutional change, and the concept of 'shopping' derived from policy science and legal pluralism. As the theories of institutional bricolage sometimes resemble institutional change and sometimes processes from legal pluralism, it is interesting to see where and how these theories overlap and differ. A second aspect reflected upon in this section is the difference in levels of institutional bricolage identified in the research. These two lines of enquiry are elaborated on in the following sections.

Institutional change and the concept of shopping

Embracing the theory of institutional bricolage as a tool to analyse institutional impact should proceed from the questions of (a) what is the added theoretical value of institutional bricolage, and (b) in what way does it differ from existing theoretical concepts? This section compares institutional bricolage with related concepts on institutional change and so-called institutional shopping.

At first sight, institutional bricolage may appear as just another term for institutional change. However, there are several interpretations of the nature of institutional change as the definition of such change depends on one's understanding of the relationship between individuals and institutions (Lowndes 2002). For example, in rational choice theories, institutions change when the individual benefits of change outweigh the cost of changing. This change usually happens when institutions no longer serve a purpose for actors. Sociological institutionalism describes institutional change as enhancing legitimacy. This is, according to scholars of sociological institutionalism, a continuing process, as institutional rules, norms, and beliefs are adapted in order to relate to the ever-changing environment. Historical institutionalism partially shares the views of sociological institutionalism; however, it also identifies the concept of path dependency in which certain events or critical junctures occur at which change happens. These junctures can be seen as branching points with unknown results (Hall and Taylor 1996; Lowndes 2002). Finally, discursive institutionalism focuses on the role of idea and discourse as explanations for institutional change (Schmidt 2005, 2008).

All these theories of new institutionalism provide their own interpretation of institutional change. To overcome these differences, Goodin (1996) distinguishes three main ways in which institutions arise and change that can be considered appropriate for all the theories of new institutionalism. Institutions change because of accident, evolution, and intention. Accidental change is change without any social or natural pressure. Evolutionary change is a model for change that, initially, may happen at random but later on change in a more selective manner that enhances fit with the environment. Intentional institutional change is the product of deliberate intentions of purposive agents. Goodin (1996) furthermore states that any institutional change includes a combination of all three elements.

Comparison of these models of change with the identified processes of institutional bricolage reveals that they reflect a similar focus on the process of institutional change. Processes of alteration of local institutions, in particular, can be considered as institutional change. Furthermore, concepts like leakage of meaning bear a strong resemblance to evolutionary change. In spite of these similarities between Goodin's interpretation of institutional change and my interpretation of institutional bricolage, there are differences. Institutional bricolage implies a very selective attitude to the institutions affecting local practice. In particular in aggregation processes, local actors borrow and construct institutional elements. They do not alter the rules, norms, or beliefs; they construct a certain patchwork of different institutional elements that together give meaning to their forest practices. Just as real-life patchworks, the institutional pieces 'sewn together' do not change, they still reflect their original colours and patterns. Furthermore, institutional change, especially evolutionary change, has the appearance of a neat, calm process, whereas institutional bricolage processes are more ad hoc and messier.

Another concept showing great similarity to institutional bricolage is the concept of 'shopping'. Shopping is a concept used in political science as well as in legal pluralism and in general implies the selection of those institutions most favourable for the actor (Roland 2004). Also known as 'venue shopping' or 'institutional shopping', shopping is a more specific process than institutional change. People shop at different places in search of the most attractive opportunity for achieving their objectives (Baumgartner and Jones 1993; Princen and Kerremans 2008). In legal pluralism, shopping is mostly known as the conscious selecting by actors of the most favourable institution to legitimise their practice (Li 2007). Shopping happens in situations in which formal regulations and customary regulations coexist and actors base their actions on either formal or informal regulations depending on the circumstances. It is not difficult to see the relation between shopping and, for example, strategic processes of aggregation. In certain situations, institutional bricolage appears to be quite similar to shopping. However, shopping has an active and rational connotation and tends to ignore the more gradual, subconscious aspects of processes of institutional bricolage. Aggregation, articulation, and alteration processes are not always active, rational, and strategic as they can be much more hidden.

The fact that institutional bricolage can be characterised as situated at the intersection of theories on strategic institutional shopping and gradual institutional change is the added value of this theory. Whereas many institutional theories do not suffice in explaining fully what is happening at the local level, institutional bricolage draws on the notion that the influence of institutions on local forest practices can very well be explained by using concepts of anthropology or legal pluralism (Mehta, Leach et al. 1999). The institutional bricolage theory embraces both the conscious crafting and the less intentional construction of institutional settings affecting forest practices; this makes it a useful theory to investigate institutional influence on smallholders' forest practices.

Institutional bricolage at different levels

This research focused mainly on the local level, the grass-root level, of institutional bricolage: how do actors respond to and affect institutions and act as bricoleurs? However, during the research it became clear that institutional bricolage does not only occur at the local level. Furthermore, the literature mentions a certain amount of reshaping or transformation of policy intentions at various policy levels (Lanzara 1999; Leach, Mearns et al. 1999; Larson and Ribot 2004; Cleaver and Franks 2005). Therefore, it is expected that institutional bricolage takes place at the multiple levels of decentralised forest governance and can be a strategic or gradual process.

An example of institutional bricolage at a level other than local communities can be found in the activities of the local NGOs and their activities. As explained in this research, the local NGOs play an important role in the promotion and dissemination of government forest regulation. During the process of explaining the forest law to local communities, NGOs reinterpreted the forest regulations. In this process, internal conventions within the NGOs were linked to forest regulation. Therefore, one should not just look at the different outcomes of policy but also acknowledge processes of renegotiation and reshaping during the process of implementation at the level of field personnel (Wiersum 2009). Similar to local level institutional bricolage, one can speculate on the role played by authoritative bricoleurs at the different levels of governance. It is very plausible that different bricoleurs exist at not only the regional and national but also the global level.

9.6 Reflecting on methodology

This research initially adopted a post institutionalist perspective that aimed to explain the relationship between agency and structure in the context of natural resource management by using concepts from anthropology and sociology. Within this framework, the focus was on the interrelationship between actors and different kinds of institutions. This focus on both institutions and actors created certain methodological challenges. What was my departure point or point of entry for interviews? How was I to get information on traditions so deeply embedded that local communities are hardly aware of them? How was I to make sure I had covered all the institutions affecting certain forest practices? How to encounter or where to find processes of institutional bricolage? These were all questions that quickly became important during my research and that I tried to resolve by shifting my focus from institutions and actors to forest practices.

A focus on forest practices has been helpful to cover most of the challenges named above. Focus on forest practices not only provided me with a good point of departure but also enhanced the engagement of local actors in the interviews. Furthermore, it increased the chance that the obtained information would include all the relevant structures and agencies relating to the particular practice. For example, a focus on forest practices resulted in an inclusion of those institutions that were not directly related to the forest, such as agricultural institutions or more general norms on behaviour, which would seem trivial at first hand but proved to be an important influence on the outcome of the processes. The study of practices is not just a study of institutions but also a study of agency containing strategic action and culture (Nuijten 1992). Or, as Orlikowski (2000) explains, rather than looking solely at a particular aspect, such as policy and how it affects behaviour, a practice lens focuses on human agency and the enactment of emergent structures.

This methodological focus on practices links up with a broader scientific discussion in the literature on the 'practice turn'. Without going into the theoretical debate of this practice turn, there are some methodological implications for focusing on practices. These are related to the question of what the term practice means. There are a variety of definitions. Practice, as defined in organisational science, implies a certain repetition since it refers to a recurrent way of doing things. Within that definition, different dimensions exist. A practice can be a learning method, a field of activity, or an indication of the way something is done (Corradi, Gherardi et al. 2008). An important motivation for adopting a practice lens is that it focuses on what people do in reality rather than on what people claim they do, or what they ought to be doing (Schultze and Boland 2000). A practice-based approach thus researches how people solve their problems and develop or construct competencies in practice (Corradi, Gherardi et al. 2008).

This research did not adopt all the potential methodological implications of doing practice research as I applied the concept of practices rather thinly. Practices in my research should mostly be regarded as a point for departure on research or a methodological focus point. It should be interesting for future research to investigate the relationship between institutional bricolage and practice research. This research provides promising starting points for such investigation. Practice research brings out the specific character of behaviour and meaning in certain local contexts (Yanow 2004; Corradi, Gherardi et al. 2008). This local context, meaning, and behaviour are aspects that have always appealed to me. Research to me is not like a plane flight over the Amazon: a distant research that focuses on general images and issues. I prefer to disembark and look at local practices in a complex context.

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SUMMARY

Today's forest policy and national governments in the Amazon face a big challenge; there is a need for regulations that not only consider global discussions on biodiversity conservation and sustainable management but also respect and acknowledge local livelihoods of communities living in the Amazon region, and their need for income. Over the years, many countries have changed from state-driven forest government to stakeholder-inclusive forest governance that aims to include both conservation and development. The shift from government to governance has led to a multiplicity of new formal regulations to structure local forest practices. These new regulations, however, are not the only structurising influence on forest practices, as former government regulations and informal institutions remain of importance for smallholder forestry in the Amazon.

In this situation of institutional coexistence, the outcomes of forest governance in the Amazon are unpredictable. Therefore, this study focuses on institutional influence on forest practices on the one hand and local responses of smallholders on the other. The primary objective of this research is to identify the different institutions affecting forest practices and to analyse their impact on these practices. The second objective is to research how local smallholders respond to and manage these different institutions affecting smallholders' forest practices. The third and final objective of this research relates to institutional possibilities for sustainable natural resource management in the Amazon.

Central in this research is the theory of institutional bricolage. Institutional bricolage involves the constructing and borrowing of disparate existing institutional elements by actors in order to create different institutional arrangements affecting natural resource practices. Local actors thus do not automatically comply with regulations but, consciously and unconsciously, reshape the different institutions at hand. These different institutions are categorised as regulative rules, social norms, and cultural beliefs. This implies that it is not only externally introduced bureaucratic institutions that are important; socially embedded institutions are just as essential. This research identifies three different processes of institutional bricolage: aggregation, alteration, and articulation. Aggregation is the recombination of different institutional elements. Alteration is the adaptation of institutions. Articulation is the stressing and claiming of certain institutions in order to reject others.

For this research, a multiple case study was selected as methodology. A total of six cases were selected in the Amazon region of Bolivia and Ecuador. Furthermore, data were collected using ethnographic methods. The choice of methodology and methods was based on the theoretical framework. The theory of institutional bricolage implies that a researcher should look at local sociological concepts, perceptions, and practices. For this, qualitative methods and case studies are the most suitable tools for research.

The Northern Bolivian Amazon is an area with strong historical links to the extraction of non-timber forest products such as rubber and Brazil nuts. This has impacted the landscape as well as the economy. The social makeup of the region consists of both indigenous and peasant communities. The peasant communities consist of lowland farmers that were drawn to the region by the economic opportunities offered by non-timber forest products. In 1996, Bolivia initiated large-scale reforms to decentralise the regulation surrounding forest use. One of the main aspects of these changes was the stimulation of community forests management, for both timber and Brazil nuts.

The description of the South-Eastern Ecuadorian Amazon reveals a somewhat different development than that of the Bolivian Amazon. In Ecuador, the socio-cultural and political characteristics have been determined by a relatively recent colonisation period initiated by the government. This resulted in a large influx of migrants into areas that were formerly only inhabited by indigenous communities, mainly the Shuar. This colonisation has led to conflicts between migrants and indigenous communities. The 1981 Forest and Conservation Law of Ecuador were replaced by its newer and current version in 2004. In contrast to the Bolivian forest laws, the Ecuadorian legislation tends to focus more on small-scale individual forest management.

Although both countries have a decentralised forest regime, the influence of these bureaucratic institutional rules is small. Despite decentralisation processes aimed at increasing local participation and a more bottom-up approach, the forest law regulations often lack legitimacy. Whereas governments in the selected cases struggle to have an impact on local forest practices, NGOs are much closer to communities selected by them and have therefore more opportunities to affect forest practices through their own bureaucratic institutional norms on appropriate forest use. Consequently, NGOs have a more significant influence on communities than the government.

The influence of socially embedded institutions on forest practices appear to remain big. Local communities have their own particular community norms on what is considered appropriate behaviour which can vary from general norms on commitment to the community to more specific norms on accepted extraction to trees. In addition, each community has their own traditional identity and a long history of routinised forest practices. These socially embedded institutions appear to be strong and often a barrier for bureaucratic influences. However, they are also prone to change in the mentioned processes of institutional bricolage.

When the processes of institutional bricolage – aggregation, alteration, and articulation – are examined in the context of the bureaucratic institutions, the following conclusions can be made. There is a strong alteration of government regulations varying from rule bending to negation or neutralisation. Furthermore, government regulations often cause local communities to articulate their traditions and identity much more. In contrast to government regulations, NGOs' institutional norms are less ignored. They are affected by the same processes of alteration, but this time these processes resemble processes of adaptation, renegotiation rather than negation or neutralisation. Furthermore, identified NGO norms in the selected cases also involve processes of aggregation in which these external norms are recombined with local ones.

Regarding the socially embedded institutions, the research reveals that, in processes of institutional bricolage, embedded social norms are prone to change. All of the cases show some alteration, whether big or small, in the existing norms on appropriate practices. Socially embedded beliefs derived from cultural traditions are regarded as the institutions that are most deeply embedded. In processes of institutional bricolage, these institutions appear rather strong, as they are often articulated when a forest regulation is in conflict with tradition.

Actors can have different roles in processes of institutional bricolage. This difference can be based on whether the process of institutional bricolage is a strategic process or more gradual and unintentional. In the case of strategic, purposeful, institutional bricolage, access to authoritative resources influences the extent to which an actor can respond to institutions. When processes of institutional bricolage are less intentional, the importance of authoritative resources becomes less vital.

This research has revealed that the influence of bureaucratic institutions happens much differently than is generally assumed. Socially embedded institutions, such as traditions or community norms, appear to have a much more crucial role. The 'problem' for bureaucratic institutions is that these embedded institutions are internalised and hidden. However, this does not mean that they are unchangeable. Socially embedded institutions are open to negotiation; they provide the basis for the conscious and unconscious processes of institutional bricolage.

The implications for forest governance are not easy. The changeability of socially embedded institutions and their interrelations with society and history make it hard to categorise local forest practices and especially the meaning they have for local communities. Therefore, it becomes virtually impossible to design a forest policy that fully considers the embedded institutions and tries to design a policy framework that builds on existing norms and beliefs. When this is linked to the discussion on sustainability, it becomes clear that, in spite of the different mechanisms to stimulate sustainable resource management, the outcomes of these mechanisms are, to say the least, varied. This has to do with the fact that sustainable forest management remains a nebulous concept and open to interpretation. This openness to interpretation paves the way for processes of institutional bricolage.

SAMENVATTING

Bosbeleid van landen in de Amazone staat vandaag de dag voor een interessant dilemma. Aan de ene kant is er een grote behoefte aan wet- en regelgeving om tegemoet te komen aan de globale discussies over biodiversiteit, natuurbescherming en het duurzaam bosbeheer. Aan de andere kant moeten deze landen de traditionele levenswijze van bewoners van het Amazonegebied beschermen, een groep die primair is aangewezen op het bos als overlevingsbron. Door de jaren heen hebben veel landen in het Amazonegebied hun bosbeleid veranderd van een door de staat geïnitieerde *top down* interventie naar een inclusief *governance* beleid waarin meerdere stakeholders een rol spelen. Dit nieuwe beleid zette zich in voor het beschermen van het bos en de traditionele leefwijze van de lokale bevolking. De verschuiving van staatssturing naar maatschappijsturing heeft gezorgd voor een toename van nieuwe formele regels met betrekking tot lokaal bosgebruik. Maar er zijn meer structurerende invloeden op het bosgebruik: ook de oude wetgeving en lokale, vaak informele instituties spelen een blijvend belangrijke rol in de bospraktijken van kleine boeren in de Amazone.

In het licht van deze dynamische institutionele co-existentie, is het niet verwonderlijk dat de uitkomsten van het huidige bosbeleid in de Amazone onvoorspelbaar zijn. Het vormt de aanleiding voor deze dissertatie waarin de diverse institutionele invloeden op bospraktijken en de lokale reacties van kleine boeren worden onderzocht. Het doel van dit onderzoek is om, in de eerste plaats, de verschillende institutionele invloeden te identificeren en, ten tweede, te onderzoeken hoe kleine boeren hiermee omgaan en hoe dit hun bospraktijk beïnvloedt. In de derde plaats gaat deze studie in op de vraag in hoeverre instituties mogelijkheden kunnen bieden tot het duurzamer maken van bosgebruik in de Amazone.

Het centrale theoretische raamwerk dat gebruikt wordt in deze studie is de theorie van *institutionele bricolage*. Het Franse woord bricolage laat zich vertalen als knutselwerk, de theorie legt uit dat institutionele raamwerken die het bosgebruik van kleine boeren structureren niet slechts bestaan uit wet- en regelgeving maar meer gezien kunnen worden als een collage of lappendeken van verschillende beschikbare institutionele elementen. Deze instituties kunnen bestaan uit regels, normen of overtuigingen die van buitenaf zijn geïntroduceerd – *bureaucratische* instituties - of die altijd al onderdeel zijn geweest van het lokale leven – *sociaal verankerde* instituties. In deze lappendeken van institutionele elementen spelen verschillende formele en informele regels, normen en traditionele opvattingen een rol. Dit wil zeggen dat kleine boeren niet automatisch formele regels rondom bosgebruik volgen, maar - bewust of onbewust - deze formele instituties hervormen. Dit onderzoek identificeert drie vormen van institutionele bricolage: aggregatie, alteratie, en articulatie. Aggregatie is het hercombineren van verschillende institutionele elementen, alteratie is het aanpassen van verschillende institutionele elementen en articulatie is het benadrukken van bepaalde eigen lokale instituties en het afwijzen de formele instituties.

In deze studie zijn zes dorpen in het Amazonegebied geselecteerd voor onderzoek; drie in Bolivia en drie in Ecuador. De data is verzameld door middel van etnografische methodes zoals open interviews en observaties in het veld. De keus voor deze kwalitatieve methodologie is direct gerelateerd aan het theoretische raamwerk van de studie. De theorie van institutionele bricolage houdt in dat een onderzoek veel aandacht moet hebben voor lokale sociale concepten, percepties en handelingen die het best kunnen worden onderzocht met kwalitatieve methodes. Uit het onderzoek komen de volgende uitkomsten naar voren.

De Boliviaanse Amazone is een gebied met een sterke traditie in het verzamelen van de zogenaamde niet-houtige bosproducten zoals rubber en de paranoot. Deze geschiedenis heeft veel invloed gehad op het landschap, de economie en de sociale samenstelling van de inwoners van de Amazone. Deze sociale samenstelling is een mix van laaglandboeren en lokale inheemse volkeren. De laaglandboeren, die onderdeel vormen van het onderzoek, zijn boeren die vanuit verschillende regio's naar de Amazone zijn getrokken vanwege de economische mogelijkheden van rubber en later de paranoot. In 1996 heeft Bolivia nieuwe gedecentraliseerde hervormingen voor het bos doorgevoerd. Dat heeft geleid tot een beleidsverandering rondom de houtkap en de paranoot. De focus ligt daarin vooral op het collectieve beheer van bos.

De beschrijving van de Ecuadoriaanse Amazone verschilt enigszins met die van Bolivia. In Ecuador is de sociale samenstelling van het Amazonegebied bepaald door een meer recentere periode van kolonisatie die is geïnitieerd door de Ecuadoriaanse overheid. De kolonisatieperiode zorgde voor een instroom van hooglandboeren in de Amazone en leidde tot conflicten tussen deze boeren en de inheemse bevolking. In 2004 is de oude boswet vervangen door een nieuwe, waarin de focus - in tegenstelling tot de Boliviaanse situatie - ligt op individuele beheersplannen.

In beide landen blijkt de invloed van het gedecentraliseerde bosbeleid klein. Ondanks het feit dat decentralisatie er ruimte biedt voor lokale participatie en verantwoordelijkheid lijden de boswetten van de overheid aan een gebrek aan legitimiteit. Daarnaast blijkt dat daar waar overheden worstelen om lokaal bosgebruik te beïnvloeden, lokale NGOs meer succesvol zijn. Zij staan dichter bij de kleine boeren en hebben zodoende meer mogelijkheden om hun gedrag te beïnvloeden. Zij doen dit onder andere door de formele boswetten op hun eigen manier te promoten en te combineren met hun eigen ideeën over duurzaam bosgebruik. Het gevolg is dat NGOs een grotere invloed hebben op lokale dorpen dan de overheid.

Daarnaast is de invloed van sociaal verankerde instituties op het bosgebruik groter dan de bureaucratische instituties. Lokale dorpen hebben hun eigen ideeën over wat men beschouwt als gepast gedrag. Deze kunnen variëren van algemene normen over hoe men deelneemt aan het dorpsleven tot meer specifieke normen over het juiste aantal bomen dat men mag kappen. Tevens heeft elk dorp haar eigen identiteit and tradities met betrekking tot het bosgebruik. Ook al kunnen deze instituties sterke barrières vormen voor bosbeleid, ze zijn onderhevig aan veranderingen in de al genoemde processen van institutionele bricolage.

Kijkend naar de processen van institutionele bricolage – aggregatie, alteratie en articulatie – ten aanzien van bureaucratische instituties kunnen de volgende conclusies worden getrokken. Overheidsregels zijn onderhevig aan duidelijke processen van alteratie. De boswetten worden omgebogen door kleine boeren tot een versie die beter past bij hun lokale omstandigheden. Dit gebeurt vaak via processen van herinterpretatie. Daarnaast leidt de introductie van de boswet vaak tot processen van articulatie van tradities en identiteiten. Institutionele bricolage ten aanzien van NGOs schetst een ander beeld; hun normen worden minder genegeerd en vaker opgenomen - eventueel in aangepaste vorm - in de lokale levenswijze door middel van aggregatie processen.

Processen van institutionele bricolage omtrent sociaal verankerde instituties zijn ook onderhevig aan veranderingen. Het verschil met bureaucratische instituties is dat deze veranderingen echter veel meer gradueel zijn. Vooral de normen rondom het juiste en gepaste bosgebruik zijn onderhevig aan alteratie processen. Tradities worden gezien als instituties die het meest verankert zijn in de maatschappij en deze tradities geven vaak de indruk dat ze een grote barrière zijn voor beleidsmaatregelen van de overheid. Ze worden dan ook vaak gearticuleerd door kleine boeren om de boswet te verwerpen.

Processen van institutionele bricolage zijn in feite handelingen van actoren. Alleen niet alle actoren hebben dezelfde rol in institutionele bricolage. Dit verschil hangt in grote mate af van hun zogenaamde *autoritaire middelen* zoals kennis, macht, status of persoonlijke eigenschappen. Over het algemeen geldt dat hoe meer autoritaire middelen hoe meer een actor in staat is om zijn of haar eigen stempel op processen van institutionele bricolage te drukken.

Deze studie laat zien dat de invloed van de zogenaamde bureaucratische instituties, waaronder de wet- en regelgeving met betrekking tot bosgebruik vallen, anders is dan wordt aangenomen. De instituties die sociaal verankerd zijn in de lokale dorpen zoals tradities en normen, blijken een veel meer cruciale rol in het bosgebruik te spelen. Het 'probleem' waarmee bureaucratische instituties kampen is dat de lokale verankerde instituties vaak geïnternaliseerd en verborgen zijn. Dit betekent overigens niet dat ze onveranderlijk zijn: sociaal verankerde instituties worden ook onderhandeld en vormen vaak de basis van processen van institutionele bricolage.

De implicaties van deze bevindingen voor *governance* zijn niet eenvoudig. De veranderlijkheid van de sociaal verankerde instituties en hun historische relatie met de maatschappij maakt het moeilijk om bospraktijken in kaart te brengen en hun betekenis voor kleine boeren te achterhalen. In de praktijk is het bijna onmogelijk om beleid te ontwerpen dat rekening houdt met de lokale context en verder bouwt op de al aanwezige lokale instituties. Wanneer men dit relateert aan de globale discussie over duurzaam bosgebruik dan komt men tot dezelfde conclusie. Ondanks alle mechanismen die zijn ontworpen is het duidelijk geworden dat de reactie van lokale bosgebruikers erg gevarieerd is en waarschijnlijk ook zal blijven. Deze dynamiek wordt zelfs verder gestimuleerd door het feit dat duurzaamheid een vaag concept is dat open is voor interpretatie. En deze open interpretatie geeft op haar beurt weer ruim baan voor meer processen van institutionele bricolage.

RESUMEN

La política forestal actual y los gobiernos nacionales en la Amazonía se enfrentan a un gran desafío; hay una necesidad de una regulación que no sólo tome en cuenta los debates mundiales sobre conservación de la biodiversidad y gestión sostenible, sino también el respeto y reconocimiento de los medios de vida locales de las comunidades que viven en la región, y su necesidad para generar ingresos. Con el transcurso de los años, muchos países han cambiado de gestiones forestales estatales a mecanismos inclusivos de gobernanza forestal que pretende incluir y armonizar la conservación y el desarrollo. El cambio de gobierno a gobierno ha llevado a una diversidad y complejidad de nuevas regulaciones formales para estructurar las prácticas forestales locales. Estas nuevas regulaciones, sin embargo, no son la única influencia que estructuran las prácticas forestales, puesto que regulaciones de anteriores gobiernos y las instituciones informales existentes siguen siendo de gran importancia para los pequeños productores forestales en la Amazonía.

En esta situación de coexistencia institucional, los resultados de la gobernanza forestal en la región amazónica son impredecibles. Por lo tanto, este estudio por un lado se centra en la influencia institucional de las prácticas forestales y por otro lado en las respuestas de los pequeños productores locales. El objetivo principal es identificar las diferentes instituciones que afectan a las prácticas forestales y analizar sus impactos sobre estas prácticas. El segundo objetivo es investigar como los pequeños productores locales responden y gestionan estas diferentes instituciones que afectan a las prácticas de los pequeños productores forestales. El tercer y último objetivo se refiere a las posibilidades institucionales para la gestión sostenible de los recursos naturales en la Amazonía.

Un aspecto fundamental en esta investigación es la teoría del bricolaje institucional. Esta teoría consiste en la construcción y apropiación de los diferentes elementos institucionales existentes por actores con el fin de crear diferentes arreglos institucionales que afectan las prácticas de los recursos naturales. De esta forma, los actores locales no solamente obedecen con las regulaciones formales de forma automática, sino también, de forma consciente o inconscientemente, reforman las diferentes instituciones con lo que está al alcance de la mano. Estas diferentes instituciones con categorizadas en normas reguladoras, normas sociales y creencias culturales. Esto implica que no solamente

instituciones externas burocráticas son importantes, sino que las instituciones socialmente arraigadas son esenciales.

Esta investigación identifica tres diferentes procesos institucionales de bricolaje: agregación, alteración, y la articulación. La agregación es la recombinación de diferentes elementos institucionales. La alteración es la adaptación de las instituciones. La articulación es la acentuación y la reivindicación de ciertas instituciones con el fin de rechazar otras.

Para esta investigación, se seleccionaron varios estudios de caso caracterizados por su diversidad de contextos y actores. En total, fueron seleccionados seis casos en la región amazónica de Bolivia y Ecuador. Los datos fueron recolectados a través de métodos etnográficos. La elección de la metodología y los métodos se basó en el marco teórico. La teoría del bricolaje institucional implica que un investigador debe buscar a nivel local conceptos sociológicos, las percepciones y prácticas. Para ello, los métodos cualitativos y estudios de casos son las herramientas más adecuadas para la investigación.

El norte de la Amazonía boliviana es una zona con fuertes vínculos históricos con la extracción de productos forestales no madereros como la goma *(Hevea brasiliensis)* y la castaña *(Bertholletia excelsa)*. Esto ha ocasionado un impacto en el paisaje y en la economía. La composición social de la región se compone de comunidades indígenas y campesinas. Las comunidades campesinas esta compuesta por pequeños productores que fueron atraídos a la región por las oportunidades económicas ofrecidas por los productos forestales no madereros. En 1996, Bolivia inició reformas a gran escala para descentralizar la regulación del uso forestal. Uno de los aspectos principales de estos cambios fue la promoción del manejo forestal comunitario de los bosques, tanto de madera como castaña.

La descripción de la Amazonía Sur-Oriental del Ecuador revela un desarrollo algo diferente que el de la Amazonía boliviana. En Ecuador, las características socio-culturales y políticas han sido determinadas por un período de colonización relativamente reciente, iniciada por el gobierno. Esto dio lugar a una gran afluencia de migrantes en zonas que antes estaban sólo habitadas por comunidades indígenas, principalmente los Shuar. Esta colonización ha dado lugar a conflictos entre los migrantes y las comunidades indígenas. La Ley Forestal y de Conservación de 1981 en Ecuador fue sustituida por su versión más reciente y actual en 2004. A diferencia de las leyes forestales de Bolivia, la legislación ecuatoriana tiende a centrarse más en el manejo forestal individual en pequeña escala.

Aunque ambos países tienen un régimen forestal descentralizado, la influencia de estas normas institucionales burocrática es pequeña. A pesar de los procesos de descentralización para aumentar la participación local y un enfoque más de abajo hacia arriba, las normas de la legislación forestal a menudo carecen de legitimidad. Considerando que los gobiernos realizaron un gran esfuerzo para tener un impacto en las prácticas forestales locales, las ONG están mucho más cerca de las comunidades seleccionadas por ellos y por lo tanto tienen más oportunidades para afectar las prácticas forestales a través de sus propias normas burocráticas institucionales sobre el uso adecuado de los bosques. En consecuencia, las ONG tienen una influencia más significativa en las comunidades que el gobierno.

La influencia de instituciones socialmente arraigadas en las prácticas forestales parece seguir siendo importante. Las comunidades locales tienen sus propias normas especialmente en lo que se considera un comportamiento adecuado que puede variar desde normas generales sobre el compromiso de la comunidad, a normas más específicas sobre la extracción consensuada de árboles. Además, cada comunidad tiene su propia identidad tradicional y una larga historia de prácticas forestales rutinarias. Estas instituciones socialmente arraigadas parecen ser fuertes y, a menudo se constituyen en una barrera para la influencia burocrática. Sin embargo, también son vulnerables a cambiar en los procesos mencionados de bricolaje institucional.

Cuando los procesos institucionales de bricolaje - adición, alteración, y la articulación - se examinan en el contexto de las instituciones burocráticas, se pueden hacer las siguientes conclusiones: Hay una fuerte alteración de las regulaciones gubernamentales que varían desde la burla de reglas, negación o neutralización. Además, las regulaciones gubernamentales a menudo causan que las comunidades locales articulen sus tradiciones e identidades mucho más. En contraste con las regulaciones gubernamentales, las normas institucionales de las ONG son menos ignoradas. Estos se ven afectados por los mismos procesos de alteración, pero esta vez estos procesos se asemejan a los procesos de adaptación y renegociación en lugar de la negación o neutralización. Además, normas identificadas de las ONG en los casos seleccionados también implican procesos de agregación en los cuales estas normas externas se recombinan con las locales.

En cuanto a las instituciones socialmente arraigadas, la investigación revela que, en procesos de bricolaje institucional, las normas tradicionales son vulnerables a cambiar. Todos los casos estudiados presentan alguna alteración, ya sea grande o pequeña en las normas existentes en relación a las prácticas adecuadas. Creencias locales que derivan de tradiciones culturales son consideradas como las instituciones que se encuentran más profundamente arraigadas. En los procesos de bricolaje institucional, estas instituciones se manifiestan bastante fuertes, puesto que suelen ser articuladas cuando una regulación forestal está en conflicto con las tradiciones culturales.

Los actores pueden tener diferentes roles en los procesos de bricolaje institucional. Esta diferencia puede ser en función de si el proceso de bricolaje es un proceso estratégico o más gradual y no intencional. En el caso de ser un bricolaje institucional estratégico y deliberado, el acceso a los recursos autorizados influye en la medida en que un actor puede responder a las instituciones. Cuando los procesos de bricolaje institucionales son menos intencionados, la importancia de los recursos autorizados se vuelve menos importante.

Esta investigación ha revelado que la influencia de las instituciones burocráticas sucede de manera muy diferente de lo que generalmente es asumido. Instituciones socialmente arraigadas, tales como las tradiciones o normas de una comunidad, parecen tener un papel mucho más importante. El "problema" para las instituciones burocráticas es que estas instituciones tradicionales se interiorizan y están ocultas. Sin embargo, esto no quiere decir que son invariables. Las instituciones socialmente arraigadas están abiertas a la negociación; se constituyen en la base de los procesos conscientes e inconscientes del bricolaje institucional.

Las implicaciones para la gobernanza de los bosques no son fáciles. La variabilidad de las instituciones socialmente arraigadas y sus interrelaciones con la sociedad y la historia hacen que sea difícil categorizar las prácticas forestales locales y, sobre todo el significado que estas tienen para las comunidades locales.

Por lo tanto, se torna prácticamente imposible diseñar una política forestal que considere plenamente las instituciones locales y trate de diseñar un marco normativo basado en normas vigentes y creencias tradicionales. Cuando esto está relacionado al debate sobre la sostenibilidad, se hace evidente que, a pesar de los diferentes mecanismos para favorecer una gestión sostenible de los recursos, los resultados de estos mecanismos son escasos. Esto tiene que ver con el hecho de que el manejo forestal sostenible sigue siendo un concepto vago y abierto a la interpretación. Este acceso a la interpretación allana el camino para los procesos de bricolaje institucional.

ABOUT THE AUTHOR

Jessica de Koning was born in The Hague in 1976. She grew up in Zoetermeer where she completed her secondary education at the Alfrink College in 1996. In that same year, she moved to Wageningen to study Rural Development Sociology at Wageningen University. The reason for choosing this subject area was not least influenced by her intention to travel the world. During this study period, she completed two master's theses. The first thesis was on development intervention and livelihood changes in a small community in Papua New Guinea. The second thesis was on perceptions about participatory development projects among researchers in the Netherlands. She graduated in 2001. After several temporary jobs with different organisations, she enrolled for a second master's course at Utrecht University in 2004. She obtained her Master's degree in Policy and Organisation in the summer of 2005 with a thesis on the role of migrant policy on perceptions about migrants. After graduation, she returned to Wageningen University to start her PhD on institutional influences and smallholders' forest practices in the Amazon at the Forest and Nature Conservation Policy Group. This PhD proved to be an almost perfect mix of the two studies and her enthusiasm for travelling to remote locations. Since February 2010, Jessica has been working as a post doc researcher at the Forest and Nature Conservation Policy Group at Wageningen University, conducting research on European environmental policy.

TRAINING AND SUPERVISION PLAN

Description	Department /Institute	Year	Credits
I. General			
Writing project proposal	Wageningen University	2005	4
CERES Orientation course	CERES	2005	5
CERES Forest Livelihood and Governance Network	CERES	2005-2006	1
II. Research methods and techniques and domain specific theories			
Practical course on the methodology of fieldwork	CERES	2007	2.5
Project workshop: Case investigation in the Amazon. Pucallpa, Peru	ForLive	2007	3
III. Academic skills			
Scientific Writing	Wageningen Graduate Schools	2008	1.8
Techniques for writing and presenting scientific papers	Wageningen Graduate Schools	2009	1.2
IV. Presentations of research results			
“Institutions and local perceptions – Ecuadorian Examples”.	Seminar “Towards good governance of forest resources in the Amazon: the role of community and smallholder forest management. Wageningen	2008	1
“Global standards – Local Reshaping”	CERES Summerschool 2009, Nijmegen, The Netherlands	2009	2
“Renegotiating institutional boundaries”.	Forstpolitieker treffen 2009. Ede, The Netherlands	2009	1
“Tradition versus Policy: formal and informal institutional influences on forest practices in Bolivia and Ecuador”	The 15th International Symposium on Society and Resource Management. Vienna, Austria	2009	2
“Marco institucional y percepciones locales”	“Investigación del manejo forestal por pequeños productores en la Amazonía”, dissemination events in Bolivia, Ecuador, and Peru	2008	2
V. Other			
WGS Career Assessment course	Wageningen Graduate Schools	2006	0.3
WSG Personal Efficacy	Wageningen Graduate Schools	2007	0.5
MSC supervision	Wageningen University	2006-2009	4
PhD study group “Forest Policy”	Wageningen University	2008-2009	1
Membership PHD Council	CERES	2006-2009	2
Total			**34.3**

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