

Intra-regional migration and the effects on natural resource management by communities in the Bolivian Amazon

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Wageningen University,
August 2009



Acknowledgements

Many people have supported me in one way or another during my fieldwork in Bolivia or during the write-up of my thesis.

First of all, I would like to thank my supervisor Freerk Wiersum for the valuable discussions and recommendations throughout the process of writing. These moments always gave me new inspiration to go on with my work. I also would like to thank Jessica de Koning and Charlotte Benneker for their help at the start of my field research and useful tips for my stay in Bolivia.

Many thanks go to my field supervisor and friend Walter Cano, who has supported me in so many ways. You were of big help in the Riberalteño way of life, with its unpredictability, its extreme humid and hot climate, its numerous insects and its turbulent political situation. And of course as my chauffeur on our trips in the field by motorbike! Our numerous discussions have been very valuable for writing this thesis. Admiro tu dedicación a apoyar las comunidades y tu energía inagotable, gracias por todo.

Furthermore I would like to thank the other people within Promab, Rene Boot and Pieter Zuidema for their support to carry out my thesis within Promab and the other people in the office in Riberalta for helping me during my stay. Also many people from Iphae have been of great help during my research. Thank you all.

Quisiera dar gracias a todas las comunidades por su hospitalidad y su tiempo para las entrevistas. Sin ustedes esta tesis no habría ido posible. También quiero dar gracias a las chicas de mi casa en Riberalta, Katrin, Carmen y Theresa, me han encantado los momentos inolvidables con ustedes durante los almuerzos, las películas y las fiestas. Gracias por su apoyo cuando estaba enferma, por la paciencia con mi español y por los momentos graciosos con las tarántulas de la casa.

Joebel, thanks for reviving my music spirit during thesis writing, helping me out when stuck in the same and for the other numerous great moments together. Hopefully we will once become the famous duo we have dreamt of, where ever!

I would like to thank all people and other creatures from the boerderie for always making me feel at home, you are amazing! Special thanks to my friend Jeancarlo for his unconditional support, his help in teaching me better Spanish and reading my thesis and his company during my time in Colombia. Muchas gracias, te quiero mucho.

Finally, I would like to thank my parents, Trees and Diederik, and my brother Rogier for always supporting and loving me.

Summary

Migration processes have always had an important role in the Bolivian Amazon. The first migration processes started with the establishment of barracas (rubber estates) in the Bolivian rainforest. Migrants from other areas were attracted to work in the barracas and thus the first rural settlements were established. After different boom and bust cycles in the rubber industry, during which the first independent communities developed, the industry collapsed. During this time, communities changed their livelihoods to a combination of swidden agriculture and the collection of Brazil nut. After the total collapse of the rubber industry, many people migrated from the barracas either to communities or towards urban areas. Barracas turned into communities and new communities were established. The Brazil nut became the most important forest product for these new communities.

Migration processes that happened in the past as a result of the history of rubber production, the Brazil nut collection and national policy reforms, are likely to continue due to regional developments, as well as economic and political factors. The effects of these migration processes on the use of resources at community level have not been studied thoroughly, although the role of migration in relation to the environment is getting more attention among scholars. The role of local communities in natural resource management has now been widely acknowledged. This report will study the effects of migration on the use of resources in these communities.

The study deals with three important concepts, migration, institutions and power arrangements. The theory of institutional bricolage is used to explain the co-existence of bureaucratic institutions and socially-embedded institutions and the importance of both for outcomes in natural resource management. To study migration, push and pull factors are identified, different categories of migrants and the influence of new policies on their prevalence. The regulative, cognitive, social and economic institutions within the communities are studied, in which emphasis will be on the identified migrant categories. Finally, the role of power relations influencing the decisions made on natural resources management is shown. The combination of institutional arrangements and power

relationships provide insight in the practice of resource use among migrant categories and longer established villagers within the communities.

The methodology was based on an exploratory case-study of communities Cachuela Mamoré and Campo Central in the Vaca Diez department in the Bolivian Amazon. Secondary data as well as semi-structured interviews, video-material, observation and focus group discussion have been used as qualitative data collection tools. A total of 17 interviews plus 2 focus groups discussions have been held. Both migrants as well as longer established community members have been interviewed through means of snowball sampling

The studied communities are mainly inhabited by Camba's, descendants from mixed marriages of the indigenous population and the extra-regional migrants in the past. The people in communities are referred to as 'campesinos'. Community Cachuela Mamoré is mainly an agrarian community, with an agro-forestry project. There is only little Brazil nut and wood. Campo Central is an extractive community: Brazil nut collection and wood are the most important sources of livelihood.

Two migration processes have been identified in the communities. One is the presence of new settlers, the other is the presence of a number of community members that do not live permanently in the communities, but have a second house in an urban area.

In Cachuela Mamoré, both migrant categories are present. Among the new settlers, push factors are uncertainty of work in the urban areas and, the lack of suitable land in another community, search for 'tranquilidad' and social/family networks. The pull factor mentioned by almost all migrants is the access to land to practice agriculture. A large part of community members does not live permanently in the community, but benefits from the access to land plus the services and work in nearby Guayaramerin. In Campo Central, only few new settlers are present. Access to agricultural land is the main pull factor. In Campo Central there is also a group of families with double residence. They are only present during the season of Brazil nut collection in the community.

New introduced national policies during a decentralization process in the 90's have been important for the communities. They were recognized as a grass-root organization and gained considerable access to land. Moreover, communities became the exclusive users of the resources on their land. Although the communities in the research have experienced immigration after the implementation of new laws, there is no direct reason to assume that it has been a very important factor. Most immigration took place already years before, after the definitive end of the rubber production. Migrants mentioned access to agricultural land as the main pull-factor but did not indicate clear relations with the new law.

Both communities show the presence of formal institutions as well as informal institutions but the importance of formal rules, in the form of statutes, is still quite low, as some rules are not respected. Also sanctions within these statutes in case of violating the rules are not applied appropriately. Some important institutions with respect to resources, such as access to land, are agreed upon in an informal way. Non-compliance to the rules is more common among temporal migrants. Absence in community meeting and communal work and a lack of participation in the community are most often mentioned as effects of temporal migration. In Cachuela Mamoré, their participation in agro-forestry projects is low, in Campo Central their involvement in illegal activities is higher.

In both Cachuela Mamoré as well as Campo Central, we can see that power relationships are mostly defined by longer established community members and temporal migrants. In Cachuela Mamoré, the power relationships have changed over the years. Whereas the longer established families used to have relatively more land and more influence in the decisions in the community, nowadays the generation of new settlers in the community is more important in the decision making. Their power exists because of a lack of enforcement of rules (lack of legitimacy) and punishment, thereby maintaining their behavior. An individual migrant in the community used 'expert' and 'reward' power to attain his goals. In Campo Central, a few longer established families have been able to maintain their influence. Their position and in particular the position of the community president is based on reward and punishment.

Migration can effect on the access to and use of resources by diverging institutions among community members. Diverging institutions have an effect on the ability of communities to make decisions on the use of resources, as we have seen in both Cachuela Mamoré and Campo Central. This has led to unsustainable use of their forest activities, in the form of big forest clearings and a higher participation in the illegal sale of wood.

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List of Abbreviations

NGO	Non Governmental Organization
UTB	Universidad Técnica del Beni
UAB	Universidad Amazónica de Pando
NTFP	Non Timber Forest Products
PROMAB	Programa de manejo sostenible de bosque de la amazonía boliviana
IPHAE	Instituto Para el Hombre, Agricultura y Ecología
SFM	Sustainable Forest Management
CIPCA	Centro de Investigación y Promoción del Campesinado
OTB	Organización territorial de Base
INRA	Institute for National Agrarian Reform

1. Introduction

1.1 Background

The Northern Bolivian Amazon is a region with a vivid history, due to the dynamics in exploitation of natural resources throughout the centuries. This history started with the establishment of rubber estates in a vast area covered with rainforests in the late 19th century. Rubber estates were owned by large landowners, on which laborers tapped rubber in exchange for their basic necessities. This type of settlement, a forest area with a central collection point for the rubber collected by the rubber tappers, was called 'barraca'. Thus, the first migration processes in the area started with the establishments of rubber estates and the laborers attracted from other areas in Bolivia to work on these. The barraca's were the first rural settlements in the Northern Bolivian Amazon apart from a few indigenous settlements, which were not incorporated in the rubber industry (Ormachea and Fernandez in Stoian and Henkemans, 2000).

During the years rubber industry existed in the area, the immigration processes coincided with the different boom to bust cycles the rubber production went through (Llanque, 2004). In an attempt to highlight the different settlement types that emerged throughout history, Stoian and Henkemans (2000) give an overview of the changes that the barraca system underwent and the related emergence of independent communities. A first crisis happened during a rubber crisis after the First World War, when some estate owners had to leave their lands and former rubber tappers took over, thereby establishing the first independent communities, also called 'free communities', referring to the absence of a patron. The first establishments of communities also led to a change in the livelihood system, as rubber production alone could not sustain a family. Families started to combine it with swidden agriculture and Brazil nut extraction, a system called 'agro-extractive cycle' (Assies, 1997). A second rubber crisis after the Second World War, followed by the Agrarian Reform in 1953 was a reason for further differentiation and some independent rubber tappers were able to access large areas of ex-barracas, although without legal land rights.

After the total collapse of the rubber industry, many people migrated from the barracas either to communities or towards urban areas (Llanque, 2004). Most of the ex-forest dwellers that migrated to town found labor in the urban-based Brazil nut industry (Stoian, 2005). Many poor or non-educated peri-urban people rely on Non-Timber-Forest-Product (NTFP)-based employment, for example by joining the zafra, the collection of Brazil nuts during 3 months of the year (Stoian, 2005).

The complex migration patterns and the end of rubber production was a reason for further differentiation of rural settlements. Nowadays, NTFP's, such as Brazil nut, as well as wood extraction, are most important for the local economy. Brazil nut has become more and more important as prices have increased steadily throughout the last years.

1.2 Problem Statement

The history of rubber production, the increase of Brazil nut collection and the implementation of national policy reforms have led to different migration patterns in the Bolivian Amazon, such as rural-urban migration and intra-regional migration.

Research suggest that migration processes are getting more important in the future, due to different processes in the region, such as an important road in the neighbouring countries of Peru and Brazil, the expansion of Cobija as the political and economical centre in the area and the changes in land property due to the new Agrarian Law (Llanque, 2004). Other important influences may be found on political and economical level, such as new government policies or changes on the international market, such as the price for Brazil nut. The last factor is particularly important since the recent high price of Brazil nut attracts people to migrate from town back into the forest (Cano, personal comment).

Some research addresses the causes and effects of rural-urban migration (Stoian 2005; Llanque 2004). This type of migration is from barraca's or communities towards urban areas, such as Riberalta, Cobija and Guayaramerin. However, the effects of rural-rural migration and the process of urban-rural migration have not been investigated deeply. Only a few studies mention the effects of migration in the Bolivian Amazon but these are generally focused more on facts and figures than on the on the actual effects for communities and resources (Stoian,

2005; Llanque 2004). This research aims to enlighten the dynamic processes of rural-rural and urban-rural migration and its effects on the use of natural resources in communities. Insight in migration processes might help to predict effects on natural resources in the case of external influences, like price fluctuations, demand, changes in policies etc.

The role of migration processes in relation to the natural environment is getting more attention in research but seems to be relatively understudied (Barbieri and Carr in Barbieri et al, 2008; Carr 2009). However, an understanding of migration processes as part of larger population-environment and its effects can be useful to make environmental conservation policies and development planning more effective (Barbieri, 2008). In areas of out-migration, long established institutions and extraction systems may deteriorate which leaves behind both inefficient and uncontrolled forest use (Henkemans, 2001). However, in areas of immigration, communities will change as an effect of different factors, such as an increased population, changes in community structures and effects on the natural resource base (Adger et al, 2002). The role of local communities in natural resources management has now received considerable attention among researchers and policy makers since decades of intrusive management and planned development led to poor conservation outcomes (Baland and Plateau 1996; Agrawal and Gibson, 1999; Wiersum, 1999). Most countries in the Amazon basin have reformed their national policies to stimulate more sustainable forest management and promote the participation of local smallholders and communities, including Bolivia (Perz, 2002; Perz 2005; Navarro et al., 2006). Hence, it is important to study the capacities of local communities to manage their resources sustainably. Migration towards these local communities may have important effects on these capacities, considering prior research (Cinner, 2009). So apart from national policy reforms, local institutional arrangements play an important role in the way resources are managed. By studying these local institutional arrangements in communities, the effects of migration on local level are best studied.

1.3 Thesis outline

This thesis is divided into 10 chapters. In chapter 2, the main concepts and the theoretical framework will be discussed after which I will give the research objective and research

questions. Chapter 3 describes the research methodology. Chapter 4 gives an insight in the socio-economic context of the studied communities. Chapter 5 discusses the different categories of migrants per community. Chapter 6 gives an insight in the institutional reforms of the 90's in Bolivia and the effects on migration. Chapter 7 discusses the different institutions present within the communities, with attention for the migrant categories. Chapter 8 deals with the negotiation of rules through power arrangements between migrants and community members. Chapter 9 will conclude the former chapters. Finally, chapter 10 presents a discussion on the empirical relevance, a reflection on the theoretical approach as well as on the research methodology.

2. Theoretical framework

In order to understand the impact of migration on the use of natural resources, I will look at the way institutions within the community are influenced by migration. To this aim, migration, institutions and power relations will be studied. Together, these concepts provide a basis to systematically approach the research aims, which are further discussed in this chapter. Migration and the particular processes that will be studied in the thesis are described first. Then the concept of 'institutions' will be discussed. Finally, power and power relationships will be elaborated upon. After discussion of the main concepts, the conceptual framework for this study will be provided. I will then elaborate on research objective and give the research questions.

2.1 Migration

Migration is understood as a spatial separation of one or more family members from the location of their residence for different reasons, over varying periods of time, and in so doing are able to make new and different contributions to their wellbeing (Ellis, 1998). We can distinguish between different forms of migration, rural-rural, rural-urban, urban-rural and urban-urban. In the research, the focus will be only on urban-rural and rural-rural migration, as these forms have most effect on the use of natural resources in the communities in the forest.

Factors that influence migration can be divided in two groups; factors that attract people to a certain place and factors that cause people to move away, so-called push and pull factors (Llanque, 2005). Rural-rural and urban-rural migration in the Bolivian Amazon can also be explained by these factors. In the past, the lack of livelihood opportunities in the barracas after the rubber crisis pushed brazil nut collectors to move out of the barracas, either to independent communities or urban areas. Important pull factors were health services and education in communities and urban areas, which were poorly developed in the barracas (Henkemans, 2001; Llanque, 2005). The direct push and pull factors for migration can be explained by more fundamental causes. Llanque (2005) uses an investigation done in

Indonesia by Sunderlin and Resosudarno (1999) to show that changes in migration processes can be explained by macroeconomic policies and more specific policies. The fluctuating and finally busting rubber market was one important factor for the old barraca system to deteriorate and for a range of different settlement types to develop as a result of intra-regional migration. It is possible that the entitlement of land rights for communities was an important factor for people to move, as access to land and resources was secured in this way. However this has not been researched deeply.

Apart from more definitive migration patterns, there is an important factor of temporary migration. Due to the high price of Brazil Nut, many people from urban areas make use of the possibility to take part in the harvest of Brazil Nut (*zafra*), during 3 months of the year. Many *Zafreiros* leave in this time to communities or barracas where they harvest Brazil nut, to be sold to the family that contracted the *zafreiro*.

Migration can have diverse social, economic and demographic consequences and effects on communities, for example by changing community structures and relations, use of and access to the natural resource base, knowledge base and labor supply (Adger et al, 2002). These effects can be seen in both the case of in-migration but also out-migration. After discussing the aspect of institutions in this study, we will consider which aspects of migration in the Bolivian Amazon are important to consider.

The definition of when someone is called a migrant is important. In fact, all people that are not indigenous in this region are descendants of earlier migrants, as they have arrived as migrants since the start of the rubber-era. Therefore, the concept of who can be called a migrant needs some attention; how many years does somebody need to live in a community, to be called a migrant? In this research community members are called migrants when they have lived in the community for 5 years or less.

In studying migration processes, a distinction can be made in migrants from outside the region, 'colonos' and migrants from the same area. The differences in background are important to consider, as migrants from outside the region may face difficulties in adapting to the local institutions and land use, whereas migrants from the region may adapt easier. However, it has been noted that the number of 'colonos' migrating to the rural areas is very low (Quispe et al, 2006). Therefore the focus will be on intra-regional migrants.

In literature (Ostrom, 1990; Wade 1988; Baland and Platteau, 1996) on factors for the success of management of collectively owned land, many conditions and conclusions have been considered critical. Agrawal (2001) attempts to synthesize these different conditions and conclusions. However, within the exhaustive list of identified factors, which will not be dealt with in detail here, Agrawal (2001) also sees shortcomings. At first, the revised literature is relatively deficient in the consideration of resource characteristics. Moreover, the external social institutional and physical environment is only given limited attention. Notably, demographic changes and market pressures can be very important in the process of creating rules to manage resources. At last, Agrawal (2001) thinks the role of the state and overarching governance structures should have a more central role.

The criticisms of Agrawal (2001) regarding impact of socio-economic change are important to consider with respect to the situation in the Bolivian Amazon. Historically, demographic changes, as well as a strong market influence, have influenced much of the socio-economic situation in the Bolivian Amazon. Moreover, only since the implementation of the Agrarian Reform (the law of Agrarian Reform in 1954 did not have considerable impact in the Bolivian Amazon), communities have been able to obtain legal rights on their lands. In this way, an institutional environment has been established. As mentioned before, it is important to consider the resources on which most of the cash income in the communities depend; the Brazil nut. Although the land is owned communally, communities have designed rules that define which area they can use for the collection of Brazil nut per family. For logging, a management plan is required, but few communities make use of this option. Rather, contracts with logging companies are arranged, as these companies have the means to finance the management plan required (Cano, personal comment).

The situation as described above has proved to be highly dynamic in history. Therefore it can be questioned if it is possible to define a set of conditions and conclusions for the use of forest in the Bolivian Amazon. Instead, it is important to look at the way institutions are shaped within a specific but social and natural dynamic environment and why and how they are transformed within time.

2.2 Institutions

Institutions have been defined differently by scientists throughout time and within different scientific paradigms. Mainstream institutional theory tends to see institutions in a functionalist way; as rules, regulations and conventions. Other approaches are more pluralistic; a dynamic interaction of both formal and informal codes of conduct. Recent literature on institutions within the field of natural resource management emphasize that, besides the more formal structures of behavior, the more 'invisible' culturally and socially based codes of behavior are important to consider as well (Agrawal and Gibson, 1999; Cleaver, 2002; Leach, 1999; Wiersum, 2008).

Broadly speaking, institutions help to structure the interactions between individuals and groups, constraining some activities while facilitating others (Metha 1999). Natural resource use is mediated by a set of interacting and overlapping institutions that operate and shape the patterns of resource management (Nygren 2005). So, regulation and distribution of local resources are determined by these institutions. Throughout the research, institutions are understood as “sets of formal and informal rules and norms that shape interactions of humans with others and nature” (Agrawal and Gibson, 1999).

The concept of 'institutional bricolage' as used by Cleaver (2002), recognizes the often blurry boundaries and interaction between what in literature is often called 'formal' and 'informal' institutions. Cleaver (2002) uses the terms 'bureaucratic' and 'socially embedded', to give an understanding of the terms throughout his research but argues that the distinction made between the institutions is often not that clear, as interactions between the two may create a system of what he calls 'institutional bricolage'. Bureaucratic institutions are seen as the more formalized arrangements in the field, such as legal rights, organizational structures and contracts, whereas socially embedded institutions are based on culture, norms and values, social organization and beliefs and daily practices. Cleaver argues that processes of institutional evolution are often more ad-hoc, approximate and shaped by social life and culture than some institutionalists would like to believe. Institutions of co-operation are embedded in everyday relations, networks of reciprocity and the negotiation of cultural

norms. By processes of bricolage, these may be combined with or replace contracts, legal rights and formal sanctions.

Within this research it is important to look beyond visible formal structures and to envision social relations as more central, particularly since communities have designed their own institutions for the use of resources within the forest and are thus influenced by culture, social life, power relations, trust and the like. However it is also important to consider legal frameworks, such as the legal access to land, which has only been established recently in the Bolivian Amazon and the influence of external actors, such as NGO's.

In order to analyze the different aspects that can be considered within the local institutional framework more in detail, a subdivision as used by Wiersum (2008) for smallholder forest management will be followed. In this scheme, smallholders are considered as local people that both engage in small scale farm activities as well as in a broad range of forest use and management activities (such as agro forestry plantations, forest farms and natural forest extraction). The framework is divided into 4 different dimensions of institutions, namely regulatory institutions, cognitive, social and economic institutions. The institutions consist of different codes of conduct (sets of norms and regulations) that guide the management of natural resources. The framework will be used as a guideline for the institutions to be researched.

The local institutional framework

<p>Regulatory institutions</p> <ul style="list-style-type: none"> a) locally embedded regulatory codes concerning access to forest resources and forest utilization by different categories of local people. b) Local codes of conduct for adhering to legal frameworks 	<p>Cognitive institutions</p> <ul style="list-style-type: none"> a) Norms for using forest products and services within framework of livelihoods b) Knowledge on locally-evolved management practices
<p>Social institutions</p> <ul style="list-style-type: none"> a) Cultural identity b) Norms for social collaboration and labour relations c) Trust in local leadership and external advisors d) Norms on adhering to traditional indigenous practices or to modern practices 	<p>Economic institutions</p> <ul style="list-style-type: none"> a) Norms on balance between subsistence and commercial activities b) Norms on capital accumulation for investment in forest management

Not only the local institutional setting is important, also the external regulative framework will be taken into account. The external regulative framework is used to explain the formal arrangements in Bolivia and the particular rules for the agro-extractivist communities in the Northern Bolivian Amazon, which are to a large extent based on governmental laws. The local institutional framework deals with the local arrangements within communities, which also include informal codes of conduct on cultural, social and economical aspects. Here the concept of bricolage is entering, as this local institutional framework may be a blend of both formal and informal rules. So, written rules in community statutes, for example, are supposed to guide behavior while power relations may undermine some of these rules.

The regulations on the access and use of these resources differ per community. In this respect it is important to consider the different characteristics of the communities to be studied. A few general characteristics can be distinguished within communities in the Bolivian Amazon, which will be considered in the research.

One important aspect to consider is the age of the settlement. As explained before, independent communities were already present long before any legal right to the community

was awarded (Stoian and Henkemans, 2000). There are cases of communities that already established a form of communal management before the Agrarian Reform was implemented (Stoian and Henkemans, 2000). However there are also communities that have adopted a communal system in order to gain legal rights for their land, as demanded by the law of Popular Participation. It is likely that the type of institutions within the different communities is partially determined by the history of the community in terms of the capacity to organize, the ability to cope with conflicts, the stability and durability of established institutions etc.

Another important aspect to consider is that within the different communities, different hierarchies of power relationships exist. For example, in some communities, groups of old (long-established) families and family clans are influential in decisions of natural resources use (Cano, personal comment). This means that there are cases in which the distribution of land within the communities is based on the influence of certain families and that inequalities exist in the way families distribute the land. For example, some families may have a disadvantage in the collection of nuts, for example with the amount of trees on their land or the distance from their house. These social relationships may be important in decisions on resource use, assuming that those are not necessarily equal. So even though the peasant communities may look quite homogenous in terms of origin, language and dependence on the same resource base, other internal differences should not be forgotten.

It is possible that communities closer to town are affected more by migration, as migrants might prefer to live close to the main urban areas. This may have a variety of reasons, such as better market access, shorter travel distance to urban areas etc.

In this research, we will mainly focus on the natural resources of economic importance, e.g. Brazil nut, wood and agro-forestry systems, as most other products are abundant and non-commercial and therefore of less interest for families to regulate. So it is assumed that the use of these resources may have influence on the use of the forest in general, but this is beyond the scope of this research.

Moreover, it is possible that forest management is not of major concern for some communities, as long as the collection of Brazil nut, the most important source of cash income, is guaranteed. For example, some families in communities closer to town, may leave

their house for a few months of the year, while they reside in Riberalta. These characteristics and hypotheses will be considered while looking at the institutions that shape the use, management and access of natural resources within the community.

All the factors that have led to a certain distribution of resources within the communities are important to consider. In this way we recognize the internal differences and processes within a community, but also their relations with external actors, and the institutions that affect both (Agrawal and Gibson, 1999). By focusing on the effects of migration for institutions for the use of natural resources in the Bolivian Amazon, it is important to consider the following.

At first, the amount of people in the communities increases as a result of migration, although a certain amount of hectares have been awarded to the community members due to the law of Agrarian Reform. An increase in population may imply a redistribution of land to extract resources. This research will try to reveal how this process is being dealt with within the communities and if it affects the internal institutions of the community and subsequently the use of and access to natural resources.

The organization within the community will therefore partly determine how newcomers are treated and is important to understand the use of and access to resources. Most communities established rules on the arrival of migrants in the communities. For example, migrants coming to communities need to be members of the community first. To become a community member, migrants need to undergo a trial of about 2-5 years to be able to access the land for collecting Brazil nut. In this time, they have only access to agricultural land. Therefore it is interesting to know for what reasons migrants go back to the communities and have only the possibility of working as a *zafretero* for the time they don't have access to land to collect Brazil nuts.

An effect of migration can be more heterogeneity in communities. Migration is likely to increase heterogeneity in terms of wealth, knowledge, social status etc. The role of heterogeneity in the success of common pool resources is contested however, as shown by Veruguese and Ostrom (2001). Successful communities may be able to design innovative institutions for their specific local circumstances and overcome externalities caused by

heterogeneity (Verugheese and Ostrom, 2001). So, heterogeneity is not necessarily an impediment for the success of collective action.

2.3 Power

Power relationships can be important in internally differentiated and dynamic communities, where social actors have different environment priorities and natural resource claims (Leach et al., 1999). Within communities, formal rules may be complemented or even contradicted by power relations. Sometimes power relations are unconsciously maintained by building on already existing local rules (Cleaver, 2002). Power and power relationships are often considered central in literature on natural resource management but clear definitions and concepts are often lacking. Also little attention has been paid to the empirical and theoretical workings of power in the field (Raik et al., 2008).

Most definitions and concepts have been defined in other disciplines, such as behavioral science and sociology. Several researchers express the difficulty of defining power, although understanding of the concept seems to be quite consistent throughout the literature (Gaski, 1984). Although all phrased differently by different researchers, a common definition is “ability of an individual or group to prompt another unit to do what it would not have otherwise done” (Dahl, 1964).

Willer et al. (1997) note that it is important to consider both power and influence because these two concepts are closely intertwined. Some theorists demarcate a difference in meaning between the two, whereas others use the concepts without a sharp distinction. The main difference agreed upon is the use of persuasion, information and advice in the case of influence, whereas power is related with the use of force, coercion or sanctions (Willer et al, 1997). In the context of communities, it is likely to not only encounter power as such, but also influence. An example is elderly people with a certain form of status, as well as knowledge, changing behavior, where no form of coercion is used. The definition of power as stated earlier will be specified a bit more for the research: “the ability of an individual or a group to influence certain decisions on community matters or resource use.”

Several authors have emphasized that power should not be conceptualized as a possession or attribute but as a relationship between persons. It can be seen as a strategy or

force, which can be on both sides of a relationship, depending on the circumstances. So, power relationships express the mutual dependence of the actors involved, it resides implicitly in the other's dependence (Emerson, 1962). Moreover, Gaski (1984) states that a power relationship can be described as a function of the perception of the power bases by the person over whom the power is held. So in a situation of person A and B, as described by Thibaut and Kelly (1959) in Gaski (1984): person A's promise of reward to B will be effective in changing B's behavior only if he perceives that A can truly deliver the promised outcomes. In order to make a classification in forms of power, French and Raven in El-Ansary and Stern (1972) distinguish 5 forms of power, where the perception takes a central stand.

- Reward: B's perception that A has the ability to mediate rewards for B
- Coercive: B's perception that A has the ability to mediate punishments for B
- Legitimate: B's perception that A has a legitimate right to prescribe behavior B
- Referent: B's identification with A.
- Expert: B's perception that A has some special knowledge or expertness.

These 5 forms of power will be considered and provide for an analysis in the research.

2.4 Conceptual framework

The concept of institutional bricolage considers that local community institutions are often dynamic and continuously shaped and reshaped over time. Communities have both formal and informal rules, such as written statutes and oral arrangements. Power is an important factor that has an influence on the way rules are dealt with. Thus, rules are not necessarily followed and what rules are present may actually raise questions as: who makes the rules? On which grounds are these rules made?

In this study, a model will be used in which this process of negotiation of the rules is schematized. The influence of the external institutional framework (the new Forest Law and the new law of Agrarian Reform) on migration will be determined first. Migrants will be divided in two categories; temporary migrants and permanent settlers. It is important to make

a division into these two groups, as both processes have a different background and hence, different effects. It should be noted however, that both groups are not strictly separated, as

Forest-related practices of the migrants are in interaction with the activities of longer settled villagers. Rules are established in the communities but are also continuously challenged and adopted by interaction between the groups as a result of power relations. This is depicted in the model as a power relationship. The result of this process shapes the actual access and use of resources in the communities. The size of the errors depicts the relative importance in this study.

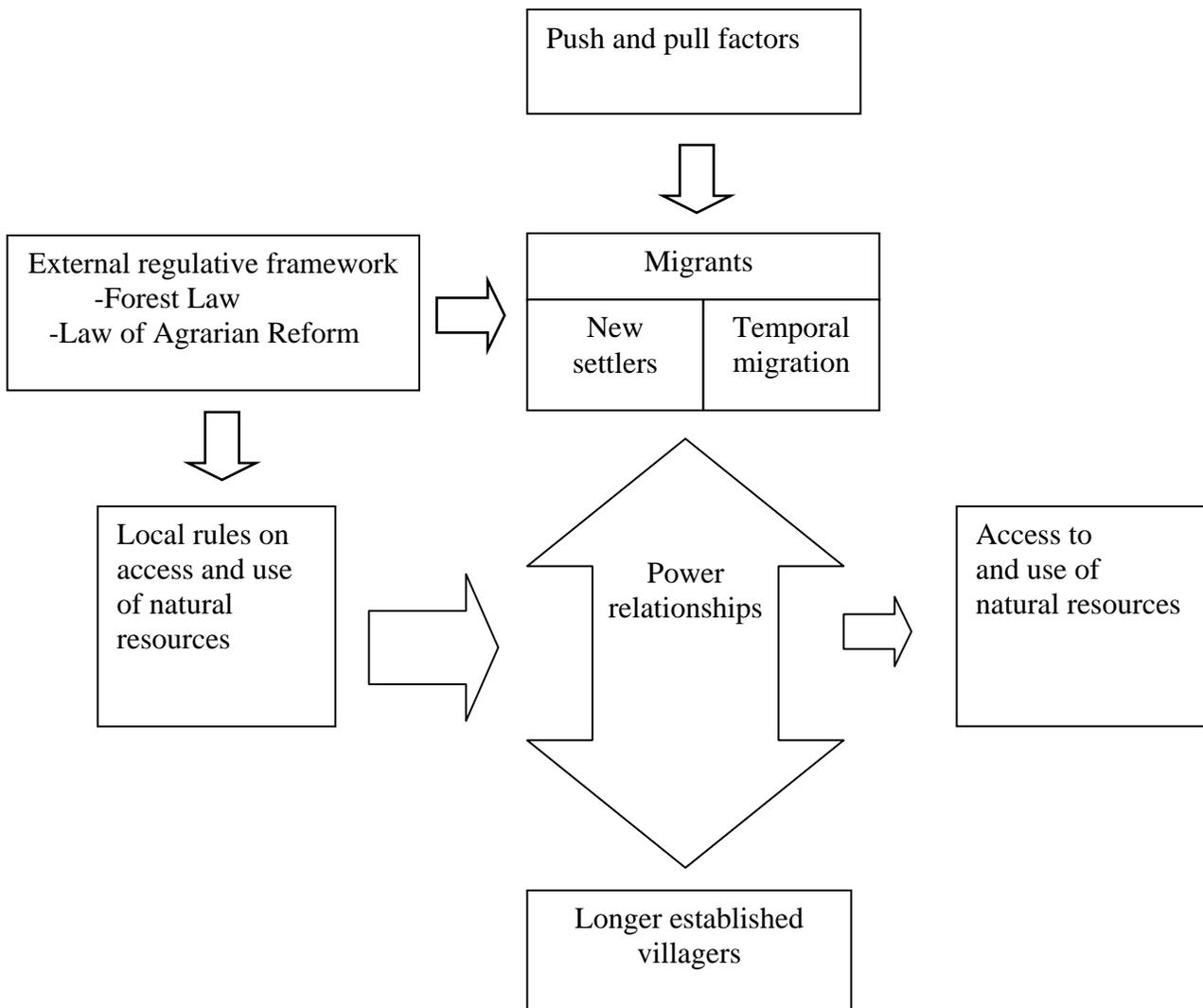


Figure 1. Conceptual framework

2.5 Research objective and research questions

As stated in the problem statement, changes in resource extraction in the Bolivian Amazon coincided with diverse migration patterns (Llanque, 2004; Stoian, 2000). Looking more closely at the influence of migration within peasant communities in the Bolivian Amazon is expected to contribute to a further understanding of a long history of migration processes in the region and their effects on access and use of resources.

The research objective is to understand the effects of migrants on local institutions and power relationships, assuming that these will have a direct effect on the access to and use of resources of communities. To meet this goal, motivations and perceptions of migrants as well as the perceptions of longer established settlers will be studied as to identify push and pull factors for migration. The influence of new national policies will also be taken into account. Community institutions with regard to natural resource will be identified, in which a comparison will be made between different migrant categories and the longer established community members. Finally, power relations will be shown, as they may be an important factor in the resource claims of differentiated communities (Leach et al., 1999). The combination of institutional arrangements and power relationships provide insight in the practice of resource use among migrant categories and longer established villagers within the communities.

This leads us to the following main research question: How are interactions between migrants and original villagers over access and use of natural resources shaped by local institutional arrangements and power and how does this influences the actual use and access of natural resources?

The research objective will be fulfilled by answering the following research questions:

- 1) What is the historical context of the studied communities in socio-cultural, political and economic terms?
- 2) Which categories of migrants are present in the studied communities?

- 3) What type of institutional reforms impact on migration?
- 4) What local rules on access and use of natural resources are present among community members?
- 5) How are these rules negotiated by power arrangements between migrants and original villagers?
- 6) What can be concluded from this information on how migration process affect the access to and use of natural resources?

3. Methodology

3.1 Research context

This research is carried out within a Phd study of Walter Cano Cardona within association PROMAB, located in Riberalta in the Bolivian Amazon. PROMAB is an association consisting of NGO IPHAE (Instituto Para el Hombre, Agricultura y Ecologia), NGO Herencia, la Universidad Tecnica del Beni (UTB) and la Universidad Amazonica de Pando (UAP). PROMAB supports sustainable development of forest resources in the northern Bolivian Amazon region through strengthening farmer and indigenous communities' capacities in communal forest management. The goal is to develop the economic and social situation of these groups on the local and regional level.

3.2 Research design

Since relatively little was known about the specific situation of the communities related to the topic of urban-rural migration and its effects, this research has an exploratory character. It is in the first place the objective to understand more of recent migration processes and its effects on local institutions as known thus far. Moreover, as the research deals with a social process as migration and dynamics in institutions as shaped by humans, both bureaucratic and more socially embedded, the research method will be qualitative.

The goal of this research is to understand how migration processes affect on the community level and how institutions are constructed in the particular context of that community. Different research strategies are available to deal with different types of research. Yin (2003) argues that each of these strategies has their own advantages and disadvantages, depending on 1) the type of research question, 2) the control an investigator has over actual behavioral events and (c) the focus on contemporary as opposed to historical phenomena.

The research questions in this research are mainly formulated with what, how and why. Moreover, the researcher does not have control over the event and the event is contemporary. Therefore, the case study has been chosen as method.

Considering the relatively new topic, a multiple-case design has been chosen. Collecting and analyzing data from two communities is likely to give more external validity to the case. Moreover, it was expected that the analysis of the variables influencing on a particular situation would be easier to identify when dealing with three case studies. These variables are for example: the type of formal institutions found in relation to the use of natural resources of economic importance, the type of social relationships (how do new people and old families relate), the character of conflicts in the community and regulations for migrants (in relation to the use of resources).

Although the contexts of the different cases may be somewhat different, common conclusions may increase the generalizability of the findings (Yin, 2003). It must be said however that the case study method does not aim to be representative for a whole population; rather it reveals the complex network of relations, events and processes in a particular community.

3.3 Selection of research area

As the aim of this research is to understand what effects migration processes have on institutions within a community and subsequently on the use of and access to natural resources, a first criterion was the presence of this phenomenon. Since the research is part of a Phd study, communities have been selected from a pre-selection of communities within this Phd study. The research aims to describe and explain a process which has not been investigated deeply before. Therefore, several communities have been visited to get more information about the number of new people and the existence of temporal migration. The final selection of communities to be investigated, took place on basis of this information.

The existence of natural resources has been a second criterion. In this case, natural resources refer to wood, Brazil nut and agro forestry systems. Considering the political situation during the research period, the final sample has been chosen for reasons of safety and time constraints.

This research focuses on two communities in provinces Beni and Pando in the Bolivian Amazon; Cachuella Mamore and Campo Central. The communities are located in the department Vaca Diez. In the Beni-region, both indigenous communities and peasant-

extractivist communities are present. In this research, only the peasant-extractivist communities have been included. This was decided because the occurrence of migration processes in a visited indigenous community turned out to be non-existent and the distances large.

Cachuela Mamoré and Campo Central are both located relatively close to the main towns Riberalta and Guayaramerin. Both of them are easily accessible by the main road connecting Guayaramerin and Riberalta or the road from Guayaramerin. Association PROMAB is active in both selected communities.

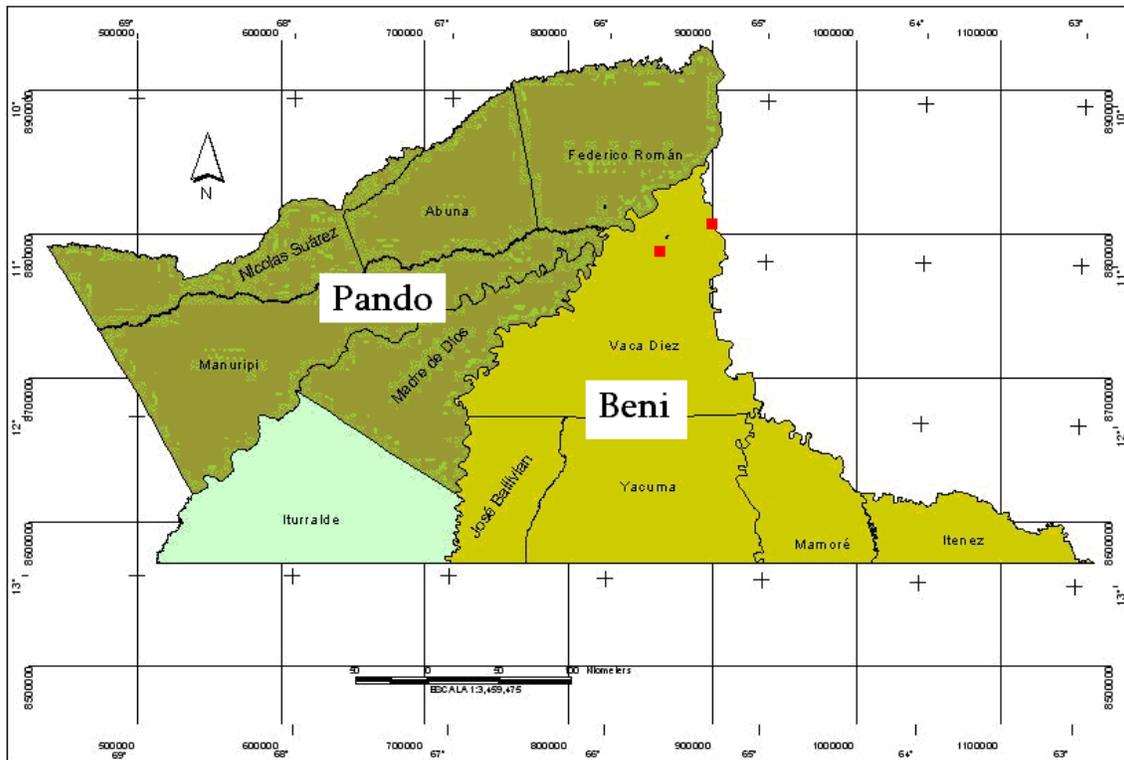


Fig. 2 Communities Cachuela Mamoré and Campo Central in Beni

3.4 Methods of data collection

Since the research is dealing with two processes, namely migration and institutional change, the unit of analysis is also two-fold. In the first place it is important to know how migrants have arrived in the community, with what motivations, which social relationships, etc. Therefore this is one unit of analysis. Besides it is important to look at the institutions that have been shaped by the communities for the management of their natural resources. For this key-informants and older community members are the unit of analysis.

Any other actors that are affiliated with the community -such as NGO's- are also taken into account, if applicable for the specific community. In interviews with key-informants of these organizations, social relationships and norms/values as well as institutional rules will be identified.

There are two major approaches to gather information about a situation, person, problem or phenomenon; through secondary or primary data (Kumar, 2005). In this research, both approaches are used to complement data. As for the secondary data, mainly NGO-documents have been used, as well as some community documents (such as statutes and 'books of acts') and Bolivian laws. Primary data consisted of semi-structured interviews, focus group discussion, observation and video material of a community meeting. Semi-structured interviews are a suitable method to gather information from key-informants and community-members as they provide the researcher to structure the interview beforehand but also allow some freedom when doing the actual interview. This is important, as some people may not understand the question or may not respond the question as expected. Migrants and non-migrants as well as key-informants have been interviewed, to reveal opinions, norms and values as well as their relation with each other. Since the history may be important to understand the institutional situation within the community, interviews with older people have been carried out, since they can provide information over a longer period of time. Snowball sampling was used to find possible respondents for the interviews. During community visits, key-informants (mostly the community president) were located first. The

researcher would ask the key-informants to mention names of other possible respondents after the interview. A total of 17 interviews have been held.

Apart from the interviews, also informal conversations with community members took place, which sometimes provided useful information. Observation has been used as a method, although not systematically, but merely to interrogate or to complement respondents' answers. Also video-material has been used to see people talk in a group and express their opinion about a particular problem within the community, with the aim to observe norms, values and opinions of the study population. 2 focus group discussions have been used to triangulate information given by the respondents of the interviews.

3.5 Methods for data analysis

All interviews have been transformed into a digital file after the field visits. The main method of data analysis was a detailed analysis of the interviews by means of qualitative content analysis. The main emphasis was on understanding general trends and processes rather than individual variation. Therefore, data has been analyzed by means of coding on the presence of similar perceptions among respondents. These data, together with an analysis of the secondary data collected, formed the basis for the presentation of answers on the research questions.

4. Description of research location

4.1 Introduction

Institutional arrangements, social situations and resource use have to be considered not only on basis of their current situation, but also on basis of developments that led to that situation. This chapter will first provide an insight in the socio-cultural situation, followed by the related political situation, which was turbulent during the fieldwork. Then, all communities will be introduced with a short overview of socio-cultural and economic aspects. This will serve as an introduction to a further elaboration of migration and the studied effects on community organization and resource use.

4.2 History of Cambas and Kollas

The provinces of Pando and Beni in the northern Bolivian Amazon have a population of around 415046 inhabitants¹, of which the majority is regarded as ‘mestizos’, or the more common used word: Camba’s. Camba’s are the descendants from mixed marriages of the indigenous population and the extra-regional migrants that came to the area as rubber tappers in the second half of the 19th century due to a lack of labor force in the region itself (Henkemans, 2001). As opposed to the multi-ethnic Camba’s, the indigenous Bolivian highland people such as Quechua’s and Aymara’s are referred to as Kollas.

The continuous political turmoil in Bolivia reflects a conflict going on for many years already. The conflict is based on a division between two regions in Bolivia, the *media luna*, which consists of the departments of Santa Cruz, Pando, Beni and Tarija, and the western highland provinces of La Paz, Cochabamba, Oruro and Potosi. The prefectures of the departments in the *media luna* oppose the government based in La Paz, with Evo Morales as the indigenous president of the country. The departments of the *media luna* consist of a majority of blank and mestizo people, whereas the western provinces are inhabited mainly by indigenous highland people. This division is of course approximate. The lowland areas

¹ Census 2001, Instituto Nacional de Estadística

contain many indigenous people, whereas the highland consists of many mestizos. In most cities, the population is even equally mixed.

The conflict between the two regions in Bolivia is based on different views on race and class but above all, economy. Most economically important resources, such as gas and fertile land, are located in the *media luna*. The reforms of Evo Morales, especially the nationalization of key industries and the redistribution of land, are aimed at a more fair distribution among the population. The departments of the *media luna* oppose this, obviously for reasons of economic losses. Moreover, prefectures in the departments of the *media luna* want regional autonomy, to control their own resources. In the beginning of 2009, a new constitution was approved. This constitution grants more rights to the indigenous people of the country, which is a mile-stone in history. Despite or maybe just because of this, a stable political situation is still far away.

During the field study, the political situation came to a violent encounter in Cobija in Pando, where 16 farmers were killed by the opposition. NGO's in the region, working with farmers, have been threatened by the opposition. They are considered to sympathize with the government by assisting the rural population, while being located in a *media luna* department. Some communities reported problems with armed people entering their territory. They expressed fear for more victims in the conflict and retribution.

The Camba people who live in rural communities are referred to as campesinos. The history of patronization in the former rubber production and later Brazil nut collection has left its marks in the rural communities today. Continuous migration prevented people from attachment to a certain patch of land and to live as a community. Only recently, a shared identity as 'campesinos' developed. Local NGO's play an important role in community development: to improve livelihood possibilities and to help communities organize and empower themselves. Land titling on a communal basis of these communities will be discussed further in the next chapter.

Apart from rural communities, also granjeros and barraca-owners are present in the area. Granjeros are mainly found along the main roads in the area, where they raise cattle or have a plantation. If still present, also forest products are extracted. The Granjeros hardly reside on

their own property, because of other activities in town. Usually, a caretaker is hired to take care of their land.

The slash and burn agriculture is very important in this region. Preparing the land for agriculture is important, as the soil is poor in nutrients. Practicing this form of agriculture is referred to as making *chacos*. The vegetation is cut first, after which it is burned, as to provide more nutrients to the soil. After using the land one or two years, another forest plot is used to prepare the *chaco*. The old plot is left fallow and will turn into secondary forest, referred to as *barbecho*.

4.3 Socio-economic context of the communities

4.3.1 Cachuela Mamoré

The community Cachuela Mamoré is located in the province of Vaca Diez, within the municipality of Guayaramerin. It is bordered by communities 18 de Junio, 26 de Marzo and 8 de Octubre, as well as by the river 'Mamoré', which is the natural border between Bolivia and Brazil. Because of flooding of the river, the lands located next to the river are relatively fertile. The main economical activity is slash and burn agriculture and agro forestry. Most valuable timber has been cut already and only very little Brazil nut is present in the community. Most important agricultural products are yuca, plantain, rice, pine apple and corn. Besides, people have agro forestry systems with valuable timber species and with different non-timber forest products, for example cupuazú, acaï, and cacao. Community members produce agricultural products in first instance for their own family needs, but also sell them on markets in Guayaramerin and Brazil, which are respectively 10-15 minutes by motorcycle and on the other side of river Mamoré. There are community members that also work in Guayaramerin as for example taxi-driver or mechanics.

Cachuela Mamoré has been founded in 1972. It was entitled with land rights in 1994. The total surface of the community is about 4300 ha, distributed by 53 families, with a total of 113 persons. Of these families, around 15 already reside there for more than 15 years, whereas around 29 families have arrived since 2000, spreaded over the years. The last 5 years, 9 new families have arrived. There are 3 NGO's active in the community. IPHAE and CIPCA-norte

(Centro de Investigacion y Promocion del Campesinado) promote agro-forestry systems while Cáritas promotes health by milk production from cows. The directive board consists of 10 positions, which changes every 2 years. New people are proposed and voted by acclamation.

4.3.2 Campo Central

The community Campo Central is located at the end of a local road from the main road between Riberalta and Guayaramerin. It is bordered by community 12 de Octubre, community San Carlos and a estate 'El Carmen'. The total surface of the community is 16.751 ha. Of this area, about 25 % is used for agriculture and living area.

Campo Central has been founded in 1979. Although the community is recognized as a community by the law of popular participation, the process of land titling has still not been finished. 26 families are part of the community, making a total of 120 inhabitants, of which 72 are members of the general assembly. According to the statutes, the directive board of this community also consists of 10 positions, which are elected every 2 years. Most important livelihoods in the community consist of slash and burn agriculture, keeping small livestock, Brazil nut collection and the sale of wood. Agricultural products are only for own household consumption. Some families participate in agro forestry systems with help of IPHAE and sell their products. IPHAE has also developed management plans for the extraction of Brazil nut within the community. One private wood company (INDUSMAR) has developed a management plan for the extraction of wood in the community, but wood is also extracted illegally.

5. Migration processes: permanent settlers and temporal migration

5.1 Introduction

In the research area, two migration processes turned out to be important. Therefore we will deal with a) the process of permanent settlement of migrants in a community and b) community members that migrate between the community and an urban area.

Because push and pull factors for these processes are different, they will be described per category of migrant. Moreover, the push and pull factors are determined per community, as these factors are determined by community characteristics as well. The distinction between the two groups as described above is not fixed. Thus migrants that decide to live in a community can decide to migrate temporally as well. Community members that migrate out of their communities to participate in the harvest of Brazil nut (*zafra*) are not included in the research.

As has been discussed before, it is hard to delineate when a community member is considered a migrant. In fact, most people have arrived in the communities once, but some earlier than others. In one community, most people have arrived in the past few years, in others this amount is limited. In the interviews, I have focused on the group of people that has arrived the last 5 years. They are often referred to as 'los nuevos'. There is also a group of families that live in the community over 10 years. They are referred to as 'antiguos'. The family members of longer established families are often spread among different households and so different family clans are part of the community. 'Nuevos' (newcomers) and 'antiguos' (longer settled) have been the terms used to refer to new settlers and longer settled community members in the interviews, as community members identified easily with these terms.

In this chapter I will discuss the following aspects per community; the social composition of the community, the push and pull factors for the new settlers and finally the presence of temporal migration. Also the effects of the two categories will be discussed.

5.2 Cachuela Mamoré

Cachuela Mamoré is a community where newer settlers are the majority. A group of 29 families lives in the community between 5 and 10 years, a group of 15 families can be considered as the 'antiguos', living in the community for 15 years or more. There is a group of 9 families that arrived only the last 5 years, of which four families have been interviewed. At present, persons applying land in the community are refused, because land is no longer available and reserved for the future generation.

Within the group of new settlers, a variety of push factors can be identified. One community member mentions the lack of fertile land in his former community. The lack of land for agriculture, or better said the presence of degraded land is a common problem in the communities. Soil depletion, after excessive burning or excessive cultivation, leads to a useless vegetation of *sujo*, a grass species. The land often turns into idle grassland or wasteland (*sujañ*) and the growth of other vegetation is hindered. The land in Cachuela Mamoré is relatively more fertile because of the presence of the river, which floods part of the land. However, new settlers claim that the most favorable pieces of land are already in the possession of longer established people. Moreover, they have been assigned lands at further distance from the real 'village', which are not easy accessible because good roads are lacking and distance by boat, if ever in the possession of one, is big.

Another mentioned push factor is the uncertainty of work in the city. Many people don't have a fixed job and work on short contracts, for example in construction. This type of work always comes down to uncertainty and unrest, as a job is not enduring. Other migrants simply did not want to live in far-flung barraca anymore, for reasons of distance to town and a lack of services such as healthcare and education.

As opposed to push factors, pull factors are equally important. Certain characteristics of the community Cachuela Mamoré have attracted people to move in. The relatively fertile land because of the presence of a river is one of them. The close distance to town is also important. One migrant tells he can have a calm life ('tranquilidad') in the community but still make use of the proximity of Guayaramerin for facilities or services or an extra job.

Social or relational factors are also mentioned. In one case, a daughter followed her father, who arrived 2 years earlier in the community. In another case, a family lived as a caretaker in a private property, which was granted to the community, after which they affiliated in the community.

New settlers are subject to a test period, which is two years. New settlers are expected to live permanently in the community, to help in communal works and to have their children in the school. Interviews with other mostly longer established community members, suggest that in practice these conditions are not met. Most of the new settlers do not have their children in the community school and most do not live permanently in the community. This last point will be discussed below.

Many people in this community also migrate between community and city. Within a group discussion, community members estimated that around 60 percent of the families migrates between community and city. These are mostly the newer settlers (less than 5 years, or between 5 and 10 years). Estimations are made that around 70 % of them is between 25-30 years old. There are community members with a second residence in the community, either of their own or of their extended family. Some male community members work in the city, while their wife and children reside in the community and sometimes the whole family is absent. There are people that just come to the community during the day to work, while returning to their house in the city in the evening. Sometimes they are there only one week per month. The short distance of Cachuela Mamoré to Guayaramerin is an important factor for the presence of a big number of temporal migrants. Even the community president has a piece of land in the community, but only recently promised to stay permanently in the community. The president is the only person in the community cultivating agricultural crops for sale on the market, such as tomatoes and paprika, mostly in Brazil. She owns land in the Cachuela Mamoré and in Brazil, just a short boat ride away. This is remarkable, as other community members don't have the means (either money or knowledge) to invest in the production of crops for sale.

The absence of permanent community-members is a problem. Some of them are not present at meetings or do not assist at communal work. There is a lack of interest to support the community with their work. These effects will be discussed in further detail in chapter 7.

5.3 Campo Central

In Campo Central, there are 26 families, of which 8 live longer than 10 years in the community and 15 between 5 and 10 years. There are 3 families that have settled in the last 5 years. It is still possible to settle in the community. New settlers are subject to a two-year 'test period', in which they can make *chacos*, but do not have the right yet to a forest plot where they can harvest Brazil nut or the right to extract wood to sell. To generate income these years, due to the absence of a forest plot to harvest Brazil nut, they usually work with other community members during the *zafra*. This 'test period' is in fact a period in which new settlers are observed for being a potential good community member; if they work and if they do not have a tendency to generate conflicts with other community members.

Push factors for new settlers in Campo Central are restricted to the access to land for agricultural use. They do not have specific reasons for coming to community Campo Central for this. It is probable that the presence of Brazil nut is also a reason, but interviewees did not indicate this. The new settlers have come from Riberalta, of which one family had a small store with food products and others worked as contract workers. No clear pull-factors could be identified, the access to agricultural land was the most important reason to move.

Although the arrival of new settlers is somewhat limited, there are temporal migrants, affiliated at the community assembly, but very often not in the community. Temporal migrants here are part of two longer established an bigger families in the community. The young men often have other jobs in Riberalta. Sometimes, the women and children and the older family members are still present in the community. For the *zafra*, most men return to harvest the Brazil nut in their *centros casteñeros* (Brazil nut centers). This is the time that most community members are actually present within the community.

The community president is an example of an affiliated community member that does not live permanently in the community. He has work and a house in Riberalta and is only present in the community during the general assemblies which are held every two weeks. Also his wife is working in the Brazil nut industry in Riberalta. The absence of the president has implications for the community, which will be discussed in chapter 7.

5.4 Conclusion

When looking at the migration process in the communities, it turns out that there is often a majority of people that have arrived in the last 10 years. In both communities, there is a group of families that have lived for more than 10 years in the community already, some of them even since the conformation of the community (>30 years). Finally, there is a small group of new settlers in the last 5 years in Campo Central and a somewhat bigger group in Cachuela Mamore. Besides the migration process in the past, there is a group of community members migrating temporally, thereby moving between urban areas and the community. In Cachuela Mamoré these are mainly the settlers of the past 10 years. Push factors identified within the group of migrants are the uncertainty of work in the urban areas and, the lack of suitable land in another community, the search for 'tranquilidad' and social/family relations. The pull factor mentioned by almost all migrants is the access to land to practice agriculture. In Campo Central, the new settlers did not indicate specific push factors, their reason to move was the access to agricultural land.

In Cachuela Mamore, most temporal migrants are also part of the newer settlers (< 5 years and between 5 and 10 years). This is not the case in Campo Central, where there are certain families that migrate temporally, but not particularly the new ones. In both communities, it is mostly the younger generation that uses migration as an opportunity to expand their livelihood. In chapter 7, the implications for the presence of new settlers and temporal migrants will be discussed in more detail.

6. Institutional reforms

6.1 Introduction

In this chapter, major changes in the national legal framework (national laws) with regard to the access to and use of natural resources will be discussed. This will provide the legal context in which the practice in the communities has to be seen. Moreover, we will look if national regulations have been of influence on the processes of migration as discussed in the last chapter.

6.2 A process of decentralization

Governments of developing countries all over the world have decentralized forest management during the last decades (Ribot, 2006). Also countries in the Amazon region and Bolivia in particular underwent a process of decentralization. The Bolivian government implemented an important reform program, starting from the first half of the 80's and continuing in the 1990's. The main goal of the first reforms was to reach financial stabilization, to liberalize the market and to reduce state expenditure, whereas the second reform package aimed at reducing the state apparatus and promoting private investments. To attain these goals, state-owned companies were privatized and competitive economic sectors were reinforced (Pacheco, 2002b). In 1994, the Popular Participation Law (Ley de Participación Popular) was implemented. This law transferred responsibilities to the municipal level and enhanced social participation in public investment planning and expenditures monitoring. Moreover, the law recognized indigenous groups, local farmers' organizations and neighbourhood committees as 'territorially based grass roots organizations' (OTB's)² (Pacheco, 2002). The attained legal status comprises rights to influence decision-making, for example in a participatory planning process. However, research shows that the system had deficiencies in its functioning in practice (Pacheco, 2002). In 1996, also a new agrarian Land Reform Law³ and a new Forest Law⁴ were implemented. The three mentioned

² Organización Territorial de Base

³ Ley INRA (instituto Nacional de Reforma Agraria)

laws are considered to have affected most the use of and access to forest resources and are therefore considered in this chapter.

6.3 Land Reform Law

The 1996 Agrarian Land Reform Law followed up the 1953 Agrarian Land Reform Law. The Institute for National Agrarian Reform⁵ (INRA) was created to deal with the implementation of the main objectives of the new law: give landless people and people without sufficient land access to land, guarantee property rights over land, guarantee the sustainable use of the land, legalize the land market and develop a way of assessing whether land use complies with its socio-economic function (Benneker, 2008). The reforms in the mid 1990's followed after the historic March for Territory and Dignity held in Beni in 1990, in which indigenous lowland people and farmers marched towards La Paz, to be joined there by their high-land companions, to ask for recognition for their rights.

For the peasant-extractivist communities in the Bolivian Amazon, the access to land changed significantly with the new law. The 1953 Agrarian Reform Law gave right to live and produce for subsistence on 50 hectares maximum. The 1996 Agrarian Land Reform Law initially granted access to a 50 ha forest plot per family. After protests, a decree (decree 25848, art. 1) in 2000 was made which increased this amount to 500 ha per family (Ruiz, 2004). In practice, most families own a piece of land from 40-70 hectares. However, from June 2004 it has been possible to apply for lands of compensation in state areas, to add up to the 500 hectares (Ruiz, 2005). These lands of compensation also create problems as they are often located far from the communal areas, requiring long trips.

As the land titling procedure was cheaper collectively than privately, many communities requested collective land ownership (Benneker, 2008). Although the process of land titling was a step towards the aim of a more just division for several groups (without rights before), it proved to be slow and cumbersome, due to complicated procedures, opposition of powerful political and economic stakeholders and corruption among all stakeholders (Stocks, 2005).

⁴ Ley Forestal, no 1700

⁵ Instituto Nacional de Reforma Agraria

6.4 Forest Law

The 1996 Forest Law replaced the former 1974 Forest Law. This law presents “a set of norms that regulate the sustainable use and protection of forests and forestland, and the legal system that defines the rights of private individuals, clearly stipulating the defined rights and obligations” (forestry law, article 3e). The new law entails a set of organizations that deal with the different aspects of the law: the ministry of sustainable development and planning defining the law, the Forestry Superintendence⁶ as the regulatory entity and the Forest Development Fund as the financial entity.

An important change in the new law was the association of land rights with forest user rights, which were separated before. This meant that all private and collective land owners have been granted exclusive user rights over all renewable natural resources on their properties. Whereas before only subsistence use was allowed, now forest resources could also be exploited commercially (Benneker, 2008). In practice this meant that third parties could not benefit from forest resources on land owned by peasant and indigenous communities, which was allowed under the former law. The forest law (art. 2) distinguishes three forms of using the forest in peasant communities and indigenous communities (Martínez, 2008):

- 1) Traditional domestic use: to satisfy the basic necessities of family consumption and for interchange between community members. This type of use does not require any authorization by the law, it is determined by the internal rules of the specific community.
- 2) Small non-intensive commercial use: focused on an interchange of forest products in the market for the satisfaction of basic necessities. Compliance with the law is required.
- 3) Commercial use: when a community carries out forest operations on a bigger intensive commercial scale. Compliance with the law is required.

⁶ Superintendencia Forestal

The second and third category requires compliance with the law. In practice this means that forest management plans need to be developed in order to be able to harvest timber from the land. In the Beni region, communities received assistance from local NGO's to develop forest management plans. Relatively few management plans have been developed up till now in the Beni region. This is partly due to the fact that many communities in this region are involved in the collection of Brazil nuts. Some NGO's considered the extraction of timber to be a threat for the Brazil nut collection and the forest ecosystem. However, in stead of forest management plans to extract timber, NGO's have dealt with the development of management plans for the collection of Brazil nut. Legally, communities need to present such a plan to the Forestry Superintendence. However, due to high transactional costs for the communities, this rule is not enforced (Cano, personal comment). Apart from the harvest of Brazil nut, NGO's also give importance to agro-forestry systems. All communities (mostly a part of the community members) in the research are involved in such systems.

6.5 The impact of legislation on migration

According to Assies (2002), the 2001 census⁷ indicates that the rural population registered between 1976 and 1992 declined in absolute numbers. However, in the period 1992–2001 urbanization continued rapidly, while the rural population of the region grew by 1.8 percent annually. 1992 was the last year of significant rubber production in the areas (Stoain, 2000). Stoian and Henkemans (2000) indicate the importance of rural-rural migration and indicate that the rural population has grown with 10, 7 % from 1992-1997. The research also indicates that in-migration was most important in settlements closer to town, where people can combine involvement in agricultural or agro-forestry activities with the benefits of urban services, such as education. Especially in the department of Vaca Diez, rural population has grown (Assies, 2002). Data of settlers in the two studied communities confirm this trend, where most settlers arrived during the last 10 years, whereas the settlement of new settlers is relatively low. As migration data from the years after 1997 is not available, no clear

⁷ Instituto Nacional de Estadística

statements can be made about the trends of migration during these years, apart from the data obtained in the studied communities.

However, the strong immigration process in rural communities and the arrival of most new settlers in approximately the last 10 years, does not indicate a strong relation with the new laws. It is more likely that the migration processes coincided with the definitive end of the rubber production in the area. From the push and pull factors among new settlers as mentioned in chapter 5, the access to agricultural land is most often mentioned. Interviewees did not directly refer to new legislation, although the implementation dates back from more than 10 years already.

The arrival of many migrants in the past decade had led to scarcity of land in communities. (Assies, 2002). Especially in Cachuela Mamoré, parcel size is small and unequally distributed among families. Assies (2002) mentions the efforts of peasant organizations to raise the question of a redistribution of land, but no changes have taken place until now.

6.6 Conclusion

The new law of Agrarian Reform implied important changes for the amount of land for community-members. Moreover, access to land was now backed up by legislation, in the first place by a legal recognition of the community through the law of Popular Participation and second by the access to land and resources from the land by the new law of Agrarian Reform and the new Forest Law. However, the new law did not seem to be the most important reason for immigration in local communities, regarding a very strong trend of immigration in communities, already before the implementation of the new laws. So, although no statistical data is known about the period after 1997, there is no reason to assume that migration has increased much after the implementation of new laws.

Interviews with community members did not indicate a clear effect of the new laws, as they did not mention them as a reason for their arrival, but rather the access of agricultural land.

7. Local rules on access to and use of natural resources

In chapter 6, we have discussed the reforms in the national laws of the 90's and what these changes meant for the access to and use of the forest for smallholders in the Bolivian Amazon. Although the law grants communal land rights to communities and requires certain requirements for the use of natural resources, it is the community itself who determines how resources are used within their territory. This is determined by rules, norms and values among the community members.

The community statutes are a formal guideline for rules within the community on amongst others; community organization, access to land for agriculture and extraction of natural resources, as well as rights and duties of community members. Consequences regarding violation of the rules are also included in these statutes. The community statute is often not made up by the community itself, but with help of NGO's or the federation of campesinos who aim to capacitate and organize communities better. Also verbal agreements occur, although the most important rules have been written.

The most important organizational body within the communities is the community syndicate. All community members above 18 are affiliated at the community syndicate, which exists of community affiliates and the community council. The council consists of different functions, which usually differ somewhat per community, but usually consist of the president, secretary of acts, secretary of relations, secretary of finances, secretary of conflicts, secretary of territory and natural resources, secretary of infrastructure, secretary of health, secretary of sports and two vocals. All functions have their own responsibilities, explained in the community statutes. In principle, a general assembly takes place every month, in which the community council and the affiliates come together to discuss and make decisions on current issues. Decisions taken in these assemblies are written down in a book of acts.

So, in theory, most rules have been written down in the community statutes or registered in the book of acts. In practice, however, following the rules as established in the community statutes or as decided upon in the assemblies, turns out to be an important topic

of discussion in both communities. Institutions have been defined earlier as ‘sets of formal and informal rules and norms that shape interactions of humans with others and nature.’ In this chapter, local community institutions will be presented according to the scheme as discussed in chapter two, with a division in regulatory, cognitive, social and economic institutions.

The local institutional framework

<p>Regulatory institutions</p> <p>a) locally embedded regulatory codes concerning access to forest resources and forest utilization by different categories of local people.</p> <p>b) Local codes of conduct for adhering to legal frameworks</p>	<p>Cognitive institutions</p> <p>a) Norms for using forest products and services within framework of livelihoods</p> <p>b) Knowledge on locally-evolved management practices</p>
<p>Social institutions</p> <p>a) Cultural identity</p> <p>b) Norms for social collaboration and labour relations</p> <p>c) Trust in local leadership and external advisors</p> <p>d) Norms on adhering to traditional indigenous practices or to modern practices</p>	<p>Economic institutions</p> <p>a) Norms on balance between subsistence and commercial activities</p> <p>b) Norms on capital accumulation for investment in forest management</p>

7.1 Regulatory institutions

As explained in the introduction, most rules are registered in the community statutes. That does not mean that rules are actually complied with, So, what is expected from community members and what they actually do is the major subject of this paragraph. The division in rules as made by Wiersum (2008) refers to regulatory institutions as the rules concerning access to forest resources and forest utilization by different categories of local people. It also refers to codes of conduct on how to adhere to legal frameworks. This paragraph will deal with these rules in both communities and the extent to which they are complied with.

7.1.1 Cachuela Mamoré

According to the Agrarian Reform Law, land is owned communally. This is also registered in the community statutes. However, in practice, available land is distributed among all families in the community. In Cachuela Mamoré, land is not distributed equally. A few longer established families own more hectares than the newer settlers. Most longer established families also own land closer to their houses and the river. Some of the new families have land far away in the community, to be reached by boat. So, although statutes declare agricultural land as communal land, there are verbal agreements on the distribution among families and in practice every family practices agriculture in the area assigned to them. Although there are differences in the land per family, most community members seem to accept the current division with the reason of longer established community members that have struggled for gaining land rights in the past. This does not mean that they are not affected; as mentioned in paragraph 5.2, some longer established settlers have more land and usually in the more fertile parts within the community.

There are more verbal agreements, such as the existence of a 500 hectare area, used as a forest reserve with valuable species for the future generation, Most wood with a commercial value has already been extracted in the past, but the reserve is a form of giving the younger generation the chance of using these resources in the future. Forest management plans are normally on account of all community members. But this has been neglected in the past, when two community members negotiated with a forest enterprise on their own account. Other community members only found out after the wood enterprise cut the wood and the involved community members got their money. Wood for household consumption (firewood, construction of houses and boats) can be extracted anywhere and does not form a problem for the community.

The access to land is a sensitive issue in this community. Three years ago, a migrant applied for land in the community, after buying 10 ha of land from an individual outside the community. The community agreed, but besides the accessed 50 ha, the man invaded land of another community member, without knowledge of the other community members. His

plans turned out to put livestock although he gave the community the idea that he was preparing the land for agriculture. The man advanced his land further, now with knowledge of the community. Norms however, were somewhat troubled because of the new man offering work (money) to those who help him to tumble down forest. He also promised to provide the community with drinking water and even electricity, as his intentions were to reach the end of a small stream in the community. These arguments were used to convince others of his good intentions and his support for the community. A conflict emerged within the community, with both advocates and opponents. Some knew that what this migrant did was not right in principle, but chose for the financial benefit instead. The conflict led to a divided community and an ongoing discussion on the problem. During an arranged meeting about the problems with the migrant, he was not present. All interviewed community members confirmed that the man was in fact hardly present in the community and had his own business in Guayaramerin, like many others. Although different solutions are proposed, from informing the Forestry Superintendence to forming a committee to deal with the issue, none have been brought in practice (yet). One of the problems in the dispute is that some rules are ambiguous and subject to multiple interpretations. One example is the fact that (individual) cattle farming is not specified as a form of land use in the community and could thus lead to misuse. Other rules, such as staying permanently in the community and attending assemblies and communal work are also not followed. The community statute points out that a community members is expected to put their children in the community school, but some ignore this and let their children attend school in Guayaramin. As a result, there is a lack of pupils, which has effect on the assignment of a teacher for the school by the municipality, leaving the school without a teacher. Apparent formal rules are easily ignored if personal interests are at stake.

7.1.2 Campo Central

It has been only since two years that Campo Central counts with community statutes, developed with 'models' of the campesino federation and IPHAE. As Campo Central is a community with both Brazil Nut and Wood, the statutes are also specifying on those resources. The area with Brazil nut is divided into centers of collection for each family,

although there are also some families collecting together in one center. The use of wood is only allowed in the communal area of the community, which is also meant for agriculture, fishing and hunting. Rules on the access to and use of these resources are however rather limited. The only rule with respect to the collection of Brazil nut is that families respect centers of others and that they collect in the area assigned to them. The borders of the centers are not formally specified, but by verbal agreement. These rules are not always respected though, as some community members state that people enter each others area. The division of land is, like in Cachuela Mamoré, unequal. Some longer established and bigger families own more land than newer settlers.

The way rules are dealt with by different groups in the community can be exemplified by a conflict on the use of wood within the community. Some community members use the wood in their parcels according to a 'deforestation plan' (plan de desmonte), a provision in the Forest Law, allowing community members to cut small quantities of wood. According to this instrument, every community member is allowed to use 5-10 trees from their own parcel per year. The Superintendence gives each family a permission to cut after checking the area and trees to be cut. A conflict started when some community members cut down wood illegally, without this cutting plan, and sold this to any interested person or enterprise. In the past, community members reported to the Forestry Superintendence that wood is cut illegally, with help of PROMAB. The Super Intendence acted to the accusation by visiting the community, but because no cut trees were to be found, there were no measures taken. It turned out that the community president offered money to all community members and was thus able to revoke their accusations. Only a few families maintained their accusations, but the Forestry Superintendence rejected to do a second inspection. In the end, the families that negotiated with the wood enterprise threatened to take measures to the opponents that were still left. The community member responsible for the negotiations took over the function of community president, after the former president gave up, under the pretext of not able to comply with the function. Finally, all accusations were withdrawn, including some people even left the community. All interviewed families stated that the illegal sale of wood is occurring more among the families that do not stay permanently in the

community, including the community president. However, also permanent residents extract wood illegally, with knowledge of the community council.

Apart from this example of non-compliance with formal regulations, other rules are not respected either, equal to those mentioned in paragraph 7.1.1. This is partly due to the little knowledge people have of the rules, a lack of applying the agreed sanctions and ignoring applied sanctions. Also in this case, personal norms do not match the written rules in the statutes.

7.2 Cognitive institutions

Cognitive institutions refer to the norms for using forest products and services within the framework of livelihoods and knowledge on locally-evolved management practices.

Cognitive institutions can for example indicate what meaning people give to forest resources or land use and what comprises their local knowledge on these resources.

7.2.1 Cachuela Mamoré

Slash and burn agriculture is the main livelihood in the community. There is no commercial timber production and only few Brazil Nut trees, not of importance for the community. Community members also state that these activities have not been of major importance to their livelihoods. However, the community reserved a forest area of 500 ha for the future generation, to guarantee that their children will still know valuable tree species in the future. Some interviews however, revealed that some community members find it important that their (older) children attend education in Guayaramerin. They don't expect their children to stay in the community when they are older, but prefer them to have a 'better' job in the city. They are not thinking yet about the future, they mostly mention 'that only god knows' what will happen with their land in the future. There are families participating in agro-forestry systems, introduced by NGO IPHAE and CIPCA. These systems vary from the enrichment of their land with valuable timber species to easily grown crops. The participation in the projects is rather limited, due to disinterest in developing other economic activities and the belief that other work, either inside or outside the community, has their preference. Another

more cultural reason is the background of the 'habilito' system. Most farmers are not used to work for their own development, but to be in a system with a patron.

Three years ago, a group of engineers from Brazil organized a small project for 6 community members about agro-ecology, nutrition and biodiversity. For this course, the group followed a program with education on the importance of the environment and practical's on the development of crops and the management of their plantations. Education was mainly meant to introduce a concept as biodiversity, to explain about the different functions of the soil and the forest. The information obtained during the course has been shared with the rest of the community during community meetings. Two interviewed community members that joined the course, give value to what they have learned, but say it is hard for them to bring things in practice, because of unfavorable natural circumstances (such as flooding) and a lack of resources and knowledge. The lack of follow-up seems to be the problem in this. The community president that joined the course mentions that she still stresses the knowledge they gained from this course during community meetings.

During the discussions on the problems that arose from the arrival of the new migrant, it seems that the importance of their land and resources has risen, or at least the topic of land and resources is a more important element in the discussion. Still, the values given to the conservation of resources in the communities are somewhat different among the different community members, which is probably also a reason for the current conflict. The use of medicinal plants is very limited. There is a small pharmacy in the community, with common conventional medicines such as aspirin. The use of plants in the environment to treat diseases is very limited, especially among the younger families. Some older family-members indicate that they use parts of trees and plants for medicinal use or for preparing drinks. It is possible to fish in river Mamoré, but some families stated that they rather buy it in the market in guayaramerin, because it will save them time. The same counts for wildlife, which is not easily available. Forest resources are used for purposes of construction and fuelwood.

The background of many community members, mainly migrants from an urban area or barracas, combined with an agricultural background, may form the reason why most

people do not have strong ties with their natural surrounding or the will to invest in long-term activities.

7.2.2 Campo Central

The importance of natural resources in the lives of the people of Campo Central is rather different. Here, Brazil nut and wood are of main importance in terms of income, whereas agriculture is only for subsistence use. The meaning of the forest seems to be restricted to the products that people are able to extract from it; Brazil Nut, wood and game. There are different visions on sustainable use of the available resources, most visible in the conflict within the community. Part of the community is more concerned about their own interest than the interest of the community, as we can see in the conflict on the negotiations with wood enterprises on the illegal sale of wood.

Slash- and burn agriculture is still an important form of subsistence livelihood in the community. After all, the main reason of migrating to the community mentioned by the new settlers has been the access to land for agriculture.

The interest in a position in the community council is very low. It is always hard to find candidates as most people feel they don't gain anything from it. Interviews with a current council member however, show that a position in the council is an opportunity to learn by participating in workshops, keeping up social relations etc.

7.3 Social institutions.

Social institutions are related to the cultural identity of the community members and are comprised of norms defining social relations and collaboration as well as labour relations. Also trust in local leadership and external advisors as well as norms on adhering to traditional practices or modern practices are part of these. Social institutions are very important for daily interaction but also for long term developments in the community. As the process of migration involves social change, these institutions are considered as very important.

7.3.1 Cachuela Mamoré

The main shared identity of community members is that of 'campesinos'. Most community members are Camba's from the region, either from the city, from former barracas or other communities. There are 7 community members with a 'Kolla' background. The community president, for example, is daughter of two Peruvians and lived for a long time in Brazil. Also the migrant that caused a conflict in the community is a Kolla. Persons of Kollas descent may experience problems when trying to integrate in a Camba community due to their descent (Quispe et al., 2006). However, in Cachuela Mamore, it seems that people are not experiencing serious problems, as both groups are represented in the directive and no serious conflicts are experienced by community members. Being a good community member, by working the land and giving support to the communal meetings and community work, is regarded more important. However, compliance with the expected support to the community is experienced as a difficulty. People are expected to help in communal work, to assist in general assemblies and have their children attend the community school. These norms are also imposed on people that want to affiliate at the community syndicate, although no new community members are allowed. The incomppliance of community members is a problem for the social organization. A group discussion suggest that approximately 30 % of the community members place their children in the local school and does not attend communal work. They also emphasize that among the new community members, this amount is around 10 %. A migrant that arrived 4 year ago blames the longer established families for not working on their land and a lack of support in communal activities: "They have to work but they don't have their crops, neither chicken, they clean their land but don't sow it. Everyone should work his land", Thus, the opinions on the behavior on new and longer established community members is somewhat disputable. However, all community members indicate (both new and longer established ones) that community members that do not live permanently in the community pose a problem for the social organization. Some community members think that it is unfair that community members with a double residence benefit the same advantages as those who live in the community permanently. As a community member expresses: "Those who have their houses in Guayaramerin are nowhere to be found when something for the community needs to be done, but if the community has to offer them something, they suddenly are there to keep their hands up." "The community president takes

the view that the double residence needs to be understood by a lack of income alternatives, education, plus other limitations. In Cachuela Mamoré, the lack of land in terms of parcel size is a plausible explanation for the existence of temporal migration among the newcomers, as their access to land is insufficient to sustain themselves.

7.3.2 Campo Central

In Campo Central, all community members are from regional descent (Camba). Social relationships are mostly defined by family relations, with a tendency to protect or support members of the same family. Community organization appears to be a problem in the community. It turns out that general assemblies are not always taking place and that the families residing in Riberalta hardly ever join the reunions or communal work. Community members explain that the absence of this community members is often discussed in these assemblies, but that no sanctions are taken. This also counts for other rules, non-compliance with rules is more rule than exception. The community president is only in the community for the assemblies and other communal meetings, but even this is not guaranteed. As explained in the former chapter, the absence of the president is a problem, for example when organizations visit the community and he is not there to discuss with or affirm things. A community member also indicates that the lack of organization is also a reason why projects do not easily reach the community. Also the absence of other community members affects in the communal works, such as the presence at general assemblies and with communal work. It is a problem to fulfill the positions in the board, because most people lack motivation. There is a division in the community between the community members that want the best for the community, as well as those that migrate between the community and the city.

On the other side, the president has also developed a certain reputation in the community. He is considered generous because he brings in presents, money for families or payments to the syndicate. The conflict that developed in the community on the illegal extraction of wood and the (little) action that has been taken left some families with a diminished trust in an institution as the Forestry Superintendence. Also trust in other community members is low, due to factors as robbery between community member of animals or Brazil nut or small livestock entering *chacos* of others, thereby destroying the

crops. The conflict regarding wood extraction has also lowered the trust among community members and may be an extra impediment to ignore rules.

7.4 Economic institutions

Economic institutions consist of norms on the balance between subsistence and commercial activities and norms on whether and how to invest in forest management activities. Within the theme of this thesis, the balance between urban work and activities in the community is also important to consider. Finally, the distribution of benefits or the socio-technical organization required to carry out forest management activities is included.

7.4.1 Cachuela Mamoré

Subsistence need is of primary concern for most community members, but the distance to nearby markets (in both Brazil as Bolivia) is an important factor to produce for additional income as well. The main additional income for those with a double residency consists of urban-based activities such as working as a taxidriver, in a motor repair shop, or as a mechanic. The choice for subsistence or commercial activities is free, but permanent community members express that the absence of community members due to work outside the community is a problem for the community for reasons as described before. On the other hand there is respect for this choice, as it is hard to satisfy needs only within the community. There is a group of 12 families that participate in the agro-forestry project of CIPCA. The group is rather small, as many people are not that interested in new alternatives of development. CIPCA aims to develop systems in which they can produce both short term and long term plants. The necessary seeds and knowledge are delivered by CIPCA, so people do not need much financial investment. Of course, people need to invest their time in agro-forestry, after which returns can be seen, As described earlier, the patronized past is an impediment for working for their own. Moreover, the possibility of having an urban job which generates direct money is often more attractive. The difference in norms among community members can be seen back in the current conflict, where some value economic gain more, without thinking too much in the communal good, while others stress that the

plans of an individual should be more important than the communal good. As one community members remarked during a discussion on the conflict: “that he (the migrant) is a community member with money does not mean that he can do whatever he wants and if we permit him to go on, we are turning into accomplices”.

7.4.2 Campo Central

The activities of economic importance are the collection of Brazil nut and the extraction of wood. Community members explain that wood provides an extra income for the time that the income from the Brazil nut has come to an end. So mostly in the months before the new Brazil nut season, there is (illegal) sale of wood. This situation seems to be accepted in the community, most families recognize the tight budget in the months before the ‘zafra’ starts. The words of the interviewee were confirmed when a fully loaded truck with wood passed, which did not come from the area under the forest management plan.

The difference in economic resources, due to the unequal distribution of land among the families, seems to be accepted due to respect for the longer establishment of these families in the community. Due to wood and Brazil nut as two important sources of income, crops from agriculture are only for subsistence use. Some of the community members that do not live permanently in the community, do not even prepare their land, but do solely come for the time of the zafra. There are few families participating in a agro-forestry project, but they are able to sell their products to Iphae. One family participating in the project, states that others do not want to join the project, due to laziness. When asking other families that do not join they say they don’t have more time to care for these systems. As one community member expressed: “why would I dedicate myself to something if I would only loose time with it?”

As explained in the paragraph on social relations, the norms on proper forest management are diverse. It is hard to tell what community members really think about it. Some say they understand the value of forest under a forest management plan, but these people may also negotiate to cut down some trees to sell in times of financial need. The sale of Brazil nut is on an individual basis; each community members sells either to vendors that will pay them a good price or if possible, directly to the Brazil nut factories in Riberalta.

Community members are however, not always informed well on actual prices for their products.

7.5 Conclusion

Both 'formal' and 'informal' rules are present in the communities but the importance of formal rules, in the form of statutes, is still quite low, as some rules are not respected. Also sanctions within these statutes in case of violating the rules are not applied appropriately. Some important institutions with respect to resources, such as access to land, are agreed upon in an informal way. One of the reasons for the lack of formal institutions is probably their relative short time of existence. Another reason may be the external origin of the rules; statutes are mostly designed by NGO's or the campesino federation and therefore not from within the community.

Non-compliance to the rules is more common among temporal migrants. They are often absent in the community for longer periods of time and thus do not participate in required activities, such as assemblies and all other communal activities. Their participation in agro-forestry projects is low and their involvement in illegal activities is higher. For temporal migrants, urban work is more important than investing in long term forest management.

Another important observation is the difference between new and longer established families. Some migrants are often worse off in the communities in terms of access to land and resources. However, in some circumstances, migrants are better off just because of their strategies (and skills), of which we have seen examples in both communities.

8. Power arrangements

Rules, norms and values are important to consider in the studied communities, but power relationships are equally important, as they may work beyond these rules, norms and values and at last lead to a rather different situation of the access to resources and their use. In the former chapter we have seen that a division in norms is an important factor for the current social organization of the community. Rules have been established in the community statutes and community members are supposed to adhere to them, but at the same time, actual norms and values, not written in the community statutes may present the actual behavior of these community members. So written rules are actually being negotiated by norms and values of other community members. In this chapter I will look to which extent power relationships are involved in the negotiation of these rules. As discussed earlier, both influence and power are considered. In this chapter we will analyze the situation in the community as described in the former chapters and consider if there are power relationships between (temporal) migrants and permanent settlers and what sources of power are present, as well as who influences whom.

8.1 Cachuela Mamoré

In this community, two processes are important to consider with regard to power relations. In the first place, the arrival of many migrants in the community in the last 10 years, who also have a tendency to stay only temporally in the community and therefore cause several problems for the social organization in the community. In the second place, the arrival of one migrant in particular, that did not adhere to the rules but provided an advantage for a part of the community and thus caused a discussion in the community.

The first situation consists of two actors: the group of temporal migrants (of which most are new) and the group of families that live permanently in the community. Although rules are established in the community statutes, this group does not comply with an important part of

the 'social institutions'; they don't live permanently in the community, their children do not attend the community school and they do not always attend communal work and general assemblies.

Normally, sanctions for these community members would be applied. However, this is not the case and the situation is already going on for a longer period of time. One community member mentions: "The situation now is different than that of ten years ago, now there are many people that do not want to put one's shoulder to the wheel. "

If we look at the 5 forms of power as described by French and Raven in El-Ansary and Stern (1972), we can see that the statutes imply a situation where B perceives the ability of A to mediate punishments for B, where, in this case, B is the disobedient group and A the community council. So, according to the established written rules, the behavior performed by the group of temporal migrants would be penalized. However, the behavior is not penalized but rather accepted. The presumed power relationship is not there, rather the contrary: the group of migrants is in the majority and has been able to avoid the application of sanctions. At the time of the visit, the community council contains 10 members, of which 3 of them are longer established, whereas 7 are newer settlers. The group of settlers with double residency looks for possibilities to bend the rules in their own interest. Moreover, the community president is among the community members that did not live permanently in the community, although she promised to stay permanently recently. She also showed understanding for those not living permanently in the community. In the end, decisions are taken on basis of majority of votes, although they may be in contrast with rules established in the statutes. Community members do not perceive that their behavior will lead to punishment and thus maintain it. If we consider this situation using the categories of power as described by French and Raven, we cannot immediately define a power relationship here. However, I try to explain the situation with the power of legitimate right to prescribe behavior. In an ideal situation, the community council would have a the legitimate right to prescribe behavior for all community members through means of the community statutes. However, this is not what is happening in the community; where many do not comply with those statutes. So, the form of power described is reversed: A (the temporal migrants) does not perceive that B (the community council) has the legitimate right to prescribe behavior. As a result, the presumed power

relationship is reversed. Thus, the temporal migrants can continue their behavior while causing negative effects for others. Apart from legitimate power, the same can be said for coercive power; the temporal migrants perceive that the community council is not able to mediate punishment and so do not have strong incentives to change their behavior.

The other case of division in the community is more complex, as both newer settlers and longer established community members are involved. The situation involves the migrant, one community member that has been harmed by the invasion of the migrant in his land, a few community members that have supported the migrant by helping him cut down forest in exchange for money and finally the whole community through means of general assemblies. In the first place, there is a relationship between the community member whose lands was invaded by the migrants. According to interviews and meetings, the affected community member has accepted in the first place that the migrant made use of his terrain to plant crops, although his wife informed the community council about his misbehavior. The reasons for this initial acceptance are not clear. It is possible that the migrant offered him money by that time, or was able to convince the man of good intentions. After the migrant continued to expand his land (more than the assigned 50 ha), the intentions of putting cattle in the area became clear, as he was sowing grassland. In the meanwhile, he asked people to help him cut down forest in exchange for money. By doing this, the community got divided, as some people compromised themselves to help the migrant and thus could not disapprove his behavior. Moreover, he gained the reputation to be a 'good man', which helps people with work and brings presents and goods sometimes. So, the form of power that we can see here is the perception of community members (B) that the migrant (A) has the ability to mediate rewards for them, in the form of money and presents. By involving more community members, his power is reinforced as he has more advocates, which makes the possibility of sanctions less likely.

Apart from this relationship it is possible that the migrant has also used his educational background (agronomist) as a form of power, as he has been accepted as a community member for reasons of the possible contribution he could deliver to the community with his knowledge. So in this case, we can talk about 'expert' power: the

perception of the community council that the migrant is able to contribute with special knowledge/expertness to the community.

8.2 Campo Central

In community Campo Central, the arrival of new migrants is limited and community members did not mention any problems with the new settlers. However, there are problems with community members that migrate between the urban areas and the community. This situation has turned into a discussion among community members; how to deal with the community members that do not live permanently in the community. Two groups are involved; the group of families that migrate and the other part of the community that stays permanently in the community. In this community, the migrants are part of two big families, distributed among more households. These families are yet longer established and keep their influence within the community through mutual support. The migrating family members are also the ones that keep up connections with wood enterprises, among them the community president. Although it is normal that the president is chosen by the assembly every two years, the current president has taken the position after the former president resigned the position for reasons of inability to comply with the function. It is not clear if this is coincidence but it seems likely that taking the position of president was a strategic way of exercising more power as soon all accusations were revoked.

Although the situation seems similar to the one in Cachuela Mamoré, there is a difference. In this case there is a group that keeps silent about the cutting of wood, but only when the community president donates them part of the negotiation for the sale of illegal wood. When this strategy does not work for all community members, the strategy of 'reward', changes into 'punishment' for those maintaining their accusations. Together with the little help that the remaining opponent families receive, the dispute turns out unsolved in the advantage of the community members negotiating with wood enterprises. Although the conflict started as a community business, it ended as a conflict where each group tried to make their power bigger by involving external actors. Involving external actors has been another strategy for both groups to gain power. The weak performance of the Forestry

Superintendence as the controlling agency is an important reason why the groups involved in illegal activities have maintained their power.

8.3 Conclusion

In both Cachuela Mamoré as well as Campo Central, we can see that power relationships are mostly defined by longer established community members and temporal migrants. In Cachuela Mamoré, the power relationships have changed over the years. Whereas the longer established families used to have relatively more land and more influence in the decisions in the community, nowadays the generation of new settlers in the community is more important in the decision making. A big part of these newer settlers do not live permanently in the community and do not wish to involve themselves too much in community matters. If it comes to decisions in their own interest however, they tend to make sure that their vote counts. The back-up by a community council with a representation of new members is also important for this situation. Power is held by temporal migrants by acting according to different norms and being in the majority. They perceive that the community council does not have the legitimate right to prescribe their behavior and do not perceive that they will be punished for their behavior. Finally, the sources of power of the specific migrant in this community can be identified more clearly and have been labeled as 'expert' and 'reward' power. An important factor in this situation is that the Forestry Superintendence and the Federation of campesinos have not been involved in the community conflict, which gives room for the observed power relationships.

In Campo Central, a few longer established families have been able to maintain their influence. The situation here is rather different; the longer established families are mostly concerned about their own good and do not show much interest in the community. The main initiator of the illegal sale of wood to enterprises however, the community president, tries to preserve a generous image by supporting the community syndicate financially and bringing presents to the community. His position as community president does not offer much space for protest either. Offering money to opponent community members is used as a strategy to make them stop doing accusations. As this strategy did not fully lead to their goal, 'reward' power changed into threat of 'punishment'.

9. Final conclusion

This study has provided insight in the effects of intra-regional migration on community institutions in two communities in the Beni department in the Northern Bolivian Amazon. For this, push and pull factors for migration towards forest communities have been identified first, after which the effects of different migrant categories on the institutions regarding the access to and use of natural resources, have been studied. Finally, the role of power arrangements in this process has been identified.

The arrival of new settlers in the communities as defined before has been relatively small in both communities. However, many people have arrived in the last 10 years. Push factors identified within the group of migrants are the uncertainty of work in the urban areas and, the lack of suitable land in other communities and the search for 'tranquilidad', which they can not find in urban areas. The pull factor mentioned by almost all migrants is the access to land to practice agriculture. Especially the combination of land to practice agriculture and yet relatively easy access to urban services is mentioned. In some cases, social or family networks are also a factor in the movement of people. Apart from this category of migrants, there are also community members combining their residence in the community with an urban residence. In Cachuela Mamore, these people are mainly settlers that arrived in the last 10 years. The close distance of Cachuela Mamoré to Guayaramerin is an important factor in the arrival of migrants and the presence of many 'temporal migrants'. These migrants have seen the opportunity of accessing land after new laws were passed and have tried to diversify their livelihoods by combining access to land with access to urban benefits, such as education and health services and urban employment. In Campo Central, community members make use of the same strategy, but in this case it is used by a group of longer established and bigger families of the community. Most community members are only present in the community in the zafra, after which they return to their residences in Riberalta.

The decentralization process with the implementation of new laws has been important for the local forest users in the Bolivian Amazon. The implementation of the Popular Law of Participation which recognized peasant communities as the land-based grassroots organizations was a first step. Then, with the implementation of the new Agrarian

Reform Law, peasant-extractivists gained considerable access to land. The Forest Law complemented this law by giving exclusive user rights over all renewable natural resources in their properties. It was expected that the implementation of these laws would lead to yet another migration processes in the Bolivian Amazon, as considerable access to land and resources was now backed up with legislation. Although the communities in the research have experienced immigration after the implementation of new laws, there is no direct reason to assume that it has been a very important factor. Most immigration took place already years before, after the definitive end of the rubber production. In-migration in communities has been relatively low in the last 5 years. Migrants mentioned access to agricultural land as the main pull-factor but did not indicate clear relations with the new law. The legal status of communities and legal access to land may have been factors that have led to immigration in communities but this can not be concluded directly from the results of this study.

After studying the migration processes, regulative, cognitive, social and economic institutions on the access to and use of natural resources within the communities have been identified. The focus was on the presence of institutions among new settlers and longer established settlers, as well as among temporal migrants. While looking into regulative institutions, both formal and informal rules play a role in the communities. Access to land is based on social relationships established in the past; longer established community members have access to a bigger forest plot and/or are able to harvest more higher value products (for example better trees or more brazil nuts) from their plots. Formal rules are present in the communities by means of statutes but many people do not know the statutes and do not comply with them or a combination of both. The enforcement of these rules is lacking as well. Reasons for the lack of adherence are various: rules are mostly designed by external actors such as the federal campesino and NGO's, experience with self-organization is still underdeveloped and maybe the most important reason; people face a lack of livelihood alternatives and choose for their own benefits. The study showed that most problems in the communities exist by the difference of norms among community members. In community Cachuela Mamoré, there is a difference of norms between temporal migrants and community members that reside permanently in the community. Temporal residents see migrating as a strategy to benefit from both their land and the opportunities in the urban area, while

permanent residents see the negative effects on the community: a lack of interest in community matters, a low amount of children attending school and a general lack of participation. In Campo Central, there is a difference of norms between a few bigger and longer established families who migrate between community and urban area. The strategy has equal effects: low participation and interest in any community matter but benefitting from the present natural resources. The study showed that the migrating families are engaged more in the illegal extraction of wood than other community members. No clear effects of the settlement of new migrants in Campo Central has been noted. In Cachuela Mamoré, there are different results: some new settlers say they stay permanently in the community, but many also follow their circular migration patterns between the rural and the urban. In both communities, power relationships play a role in decisions taken in the community. In Cachuela Mamoré, power relationships have changed gradually, while more migrants settled in the community with different norms than the longer established villagers. Part of the new settlers is using land in the community as only one of their means of existence while most permanent community members regard their land and the community as the most important means of existence. In the end, decisions are based on the majority of votes; namely from the temporal resident; an apparent democratic decision. However, the presence of 'formal rules' is hereby neglected; decisions based on oral arrangements between community members are becoming more important than the formal rules established. Rules turn out to be part of a complex social structure, in which they are negotiated. These negotiations are sometimes underpinned by power relationships, which are very important in the actual practice in the community.

Power relationships in both communities are defined by a group of temporal migrants and permanent inhabitants. In Cachuela Mamoré, power is held by temporal migrants by collectively acting according to different norms and being in the majority while perceiving that the community council does not have the legitimate right of ability to mediate punishments for them. Expertise and reward power are distinguished in the case of the individual migrant. Reward power can also be distinguished among the group of the group of temporal migrants, where the position of the community president is most important, as he mediates for the rest of the temporal migrants.

So, migration can effect on the access to and use of resources by diverging institutions among community members. Diverging institutions have an effect on the ability of communities to make decisions on the use of resources, as we have seen in both Cachuela Mamoré and Campo Central. In Cachuela Mamoré, this has led to indifference and inertia of community members to act upon unsustainable use of resources, with the clearing of a big area by an individual as a result. Apart from this, the participation and interest in (sustainable) agro-forestry projects is low among temporal migrants due to their urban activities. In Campo Central, the temporal migrants carry out more illegal activities than permanent residents. The double residence and work in the urban area does not make these inhabitants solely dependent on the forest, which gives them more incentive to involve themselves in illegal activities.

So, the research shows that the presence of new settlers and temporal migration of community members may lead to a diversification of norms within the community, thereby undermining the development of capacities to manage their resources in a sustainable way.

As the results have been based on the situation in only two communities in the region, more research is recommended. The effects of migration on a local level can thus be expanded to analyze developments in other parts of the region. In order to obtain more detailed information on the perceptions, motivations and opinions of migrants, more qualitative research is needed. To keep track on current migration processes and say more about migration processes in the last years, quantitative data is needed as well. Such results may give input to external actors, such as NGO's on how to act in communities where migration processes play a role in the management of resources.

10. Discussion

10.1 Empirical relevance

The research has been based on interviews with a relative small group of community members, therefore data cannot be generalized for the total research area. The objective of this study was to understand more of effects of migration on community institutions. More communities need to be studied to obtain a better overview of similar processes in the region and the factors that influence how migration creates conflicts, institutional change and conditions for the use of natural resources. In any case, more examples of conflicts between new settlers and longer established community members are known (Zonta, 2008; Cano, forthcoming), although not as detailed as in this study. It is important to see the obtained results of migration processes in context. Both studied communities are located at short distance from an urban area which has surely fostered the existence of temporal migrants and the attention paid to this type of migration, whereas problems with new settlers may have been more explicit in far-flung areas in the province of Pando.

Multi-sited households are not a new phenomenon in the Amazon. Research has shown that the categorization of households as either urban or rural is difficult as rural and urban places are inextricably linked in numerous ways (Padoch et al., 2008). Demographic flows or environmental effects are not easily expressed in number of people migrating; migration is a complex and extended process and the increase in rural-urban migration does not mean that they are absent in rural areas. Research has shown that urban-rural movements, where dispersed household combine rural production with urban income, are increasingly the norm in poorer countries (Padoch et al., 2008). Research in the Bolivian Amazon confirms the blurry boundary between urban and rural. Stoian (2005) speaks about a “ruralization” of the peri-urban neighbourhoods of Riberalta, an increase of rural features in an urban environment brought about by high numbers of rural-urban migrants. These migrants continue to make an important part of their living from the forest.

In recent research on migration in the Ecuadorian Amazon (Barbieri et al., 2008), results show the importance of population–environment interrelationships on a larger scale for developing well informed policies for the sustainable development of the region, taking into account farm and household lifecycle dynamics, migration, land use change, and infrastructure expansion. Especially the last factor is important to consider in relation to this research, as off-farm employment may become more important if infrastructure to urban and peri-urban settlements increases. Moreover, the growing urban demand for agricultural products and wood is likely to increase pressure on the forest in nearby communities (Stoian and Henkemans, 2001).

Still very little research has been done on the effects of migration on community institutions as far as known by the author. More research is needed to see effects of new settlers and temporal migrants in other communities, thereby taking into account different factors that may be important in this process, such as distance to town, availability of resources, distribution of land among its inhabitants, social networks etc. Important to mention is that results of this study should not be seen in isolation; more factors have led to the specific situation in the community, but discussing them in detail was not within the scope of the report.

Temporal migration may have positive effects on deforestation rates, as indicated in a study by Ellis and Porter-Bolland (2008), where wage-labour in urban areas (in combination with other factors) may decrease pressure on forest resources. In this study however, temporal migration has proven to be of negative effect on community organization and consequently on unsustainable resource use. It suggests that lower dependence on forest-based livelihoods causes a stronger involvement in unsustainable practices.

Most children of migrants are moving out of the community to the cities to follow secondary education, while the elder stay. In community Campo Central it was seen that a big part of the younger generation is only present in the community during time of the zafra. This study has not looked more into detail on the effects of the out-migration of the young generation. It is likely however that the last traditional knowledge of natural resources use will slowly disappear as the older generation is aging.

Migration in the Bolivian Amazon has always been highly dependent on market forces. First, rubber extraction caused important migration processes, replaced by the extraction of Brazil Nut, after which former barracas experienced large numbers of out-migration and a range of different settlements (Stoian, 2005). Although rural-urban migration predominates, the steady increase in price of Brazil nut has eventually led to people returning to the rural areas. However, prices of Brazil Nut are subject to fluctuation of the market and the current economic crisis has contributed to another stream to the urban areas. The stability of communities in terms of organization and livelihood may be undermined by ongoing migration processes based on market forces.

Development and conservation experts and indigenous rights advocates have embraced communal forest management to improve rural livelihoods (de Jong et al., 2005). It allows communities to benefit from forests and its resources, as opposed to outside entrepreneurs or economic and political elites. It is assumed that by acquiring rights over natural resources, and related increase in organizational strength, communities also improve participation in democratic processes, as to decrease the opportunities of non-locals to engage in destructive forest use, resulting in a positive conservation impact of communal forest management. However, the establishment of land titles does not guarantee proper management automatically. Diverse interests in communities, such as shown in this study may not necessarily need to strong organizational capacities of communities and thus lead to unsustainable activities. NGO's in the region, who are the main actors for capacity building in communities in the region need to take into account that migration processes may undermine organizational aspects and the will to invest in sustainable practices.

Henkemans (2001) noted that many community organizations are still too weak to defend the rights of their members or coordinate the development of communities. NGO's have been indispensable for obtaining legal rights and negotiating with the authorities. This study shows that communities still experience organizational problems. Henkemans (2001) study notes as main reasons the former rubber tappers' lack of experience with self-determination and social cooperation, requiring proper planning, administration and communication.

Organizational strength may be undermined by the temporal migration observed in the communities and the tendency of the younger generation to leave the community for the urban areas.

10.2 Reflection on conceptual framework

The concept of “institutional bricolage” has been used rather as a sensitizing concept rather than a definitive/operational concept; suggesting directions along which to look. It has been very useful to provide insight in the plurality of institutional arrangements in communities. The theory has also shown that institutions should be embedded in the social environment from which the norms to base decisions on are drawn. Formal community statutes within the communities are mostly designed by external actors such as NGO’s, mostly with a similar format in many communities. Many rules as specified in the statutes are not enforced or not complied with, because other norms prevail among community members.

The theory raises questions about the effectiveness of ‘bureaucratic’ rules within the communities, specifically in the setting of a relative short organizational history of agro-extractive communities in the Bolivian Amazon. Many institutions are informal and dynamic: as such they are subject to change over time as new social, political or economic changes take place. Introduced formal institutions may miss this flexibility. A good example is the rule that community members are obliged to live permanently in the community. This rule does not reflect the reality of many community members, who are using temporal migration as a strategy of diversification of their livelihood and sustain their family needs. They perceive that urban employment may offer them more security than for example investing in agro-forestry within the community. These are important considerations for NGO’s aiming at the provision of alternative sources of livelihood within the community, such as agro-forestry projects.

The categorization of power by French and Raven has been useful to clarify different relationships of power within the community. However, it does not display the complexity of power relations prevailing within a specific context of a community. Moreover, the role of

perception in French and Ravens approach implies a strong qualitative analysis in order to reveal power relationships. The important role of power within natural resources management has been recognized but has not been used in an operational way. This is supported by recent research (Raik et al., 2008) stating that little rigorous, analytical thought has been presented that explores the meaning of power in efforts to neutralize power asymmetries in decentralization processes and the implication for how natural resources management practice occurs. Explicitly recognizing and understanding power and its role in natural resources management may lead to insights about how natural resource practitioners can be strategic in their actions to democratize and equalize asymmetrical power relations (Raik et al., 2008).

The researcher experienced some problems with the scheme used for the differentiation in institutions. Concepts seemed to be quite clear before collecting data, but after collection field data, it was hard to place data into the distinct categories. Boundaries between different institutions are not always clearly marked. For example, is a cognitive institution, when shared by many others or when brought into practice by groups, not automatically a social institution? Notwithstanding, the scheme has provided a useful frame for arranging data in a clearer way and make sense out of intricate institutional arrangements.

10.3 Discussion on research methodology

The selected communities in this study are relatively close to the city and are not in the Pando district where Brazil Nut has more importance. The presence of temporal migrants is therefore less likely. However, in far flung areas in Pando, people are dealing with newcomers that separate themselves in new localities and also disassociate themselves from the community. Although initial plans were to include these communities in the research, time and logistic concerns did not permit to collect sufficient data.

Research has focused on the effects of migration, either temporal or with new establishers. While visiting the communities, the temporary migrating community members

were often absent. Just because of the absence of community members at the time of the visits during the study, it is hard to get data from them personally. Most results as presented here are based on discussions with other community members, especially in community Campo Central, where most temporal migrants were absent and remaining family members unwilling to do an interview. Therefore the selection of respondent may have been biased somewhat to the side of the permanent or longer established community members. In community Campo Central, some people were also reluctant to do an interview, probably also in the light of the history of the conflict and their reluctance to more external influence. Also their involvement in illegal activities is not the most easy topic to handle in interviews. Some of the data lacking has been provided by secondary sources or by interviews with NGO officials who directly work with the community members.

The researcher may have been biased by looking for similarities and differences between migrants and longer established community members. As the research objective has been demarcated and there is a time constraint, there may be other factors that may have been overlooked in the consideration of norms, such as education level, personal background and gender.

Being a researcher from another country may have influenced the results of the thesis in one way or another. In the first place it must not be underestimated that local people are aware of the intentions of NGO's and foreign projects to aim at sustainable use of the forest. In Cachuela Mamoré for example, people used to emphasize the importance of conservation of their natural resources. They even referred to researcher's presence by mentioning that 'we' say it is important. This does not mean that they are not telling the truth but the people may want to show a more positive image. Another important factor to consider while doing interviews and interpreting data is the difference in frame of reference between researcher and respondents. An understanding of history, cultural values and social norms is very important to interpret data correctly. The outcome of different results due to this factor is reduced mostly by checking the accuracy with supervisor and NGO personnel (from Bolivia).

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