

SOCIO-ECONOMIC CHANGE IN THE TRANSITION FROM PATRON-CLIENT TO
SOCIAL MOVEMENT NETWORKS IN BRAZILIAN AMAZONIA

By

MASON CLAY MATHEWS

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2011

© 2011 Mason Clay Mathews

To my Mom, who has supported me in every way possible over the years, through all the difficulties that graduate school and life present.

ACKNOWLEDGMENTS

This dissertation was a collaborative effort in every phase. My parents have supported me in every way possible during all the stages of developing this research. I would not have been able to achieve my goal of finishing this dissertation without the support of my dissertation chair, co-chair, and committee. My advisor Marianne Schmink went above and beyond the call of duty, reading proposals, providing emotional support, and guiding me through the difficult process of writing this dissertation. All of my committee members, Chris McCarty, Steve Perz, and Eric Keys coached and shepherded me through the difficult process of developing my research ideas, writing proposals, collecting and analyzing data, and writing the final document. Without their guidance and assistance I could not have accomplished this project. In so many ways this dissertation is also the result of the generosity of dozens of Brazilians who gave me information, told me their personal stories, and trusted me to retell their stories in this dissertation. My host country agency in Brazil, the Nova Cartografia Social da Amazônia also helped me immeasurably during the entire research process. Alfredo Wagner Berno de Almeida and all of the research staff at the Nova Cartografia played a role in bringing this research to fruition. I must also thank the many wonderful Brazilians who helped me get through the difficulties of conducting research and the incredible hospitality and friendship they provided. The National Science Foundation, Inter-American Foundation, and the Working Forests in the Tropics IGERT fellowship provided crucial financial support without which I would have been unable to complete this dissertation.

TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS.....	4
LIST OF TABLES.....	10
LIST OF FIGURES.....	12
LIST OF ABBREVIATIONS.....	13
ABSTRACT.....	16
CHAPTER	
1 INTRODUCTION.....	18
2 PATRON-CLIENT RELATIONSHIPS.....	22
Theory and Patron-Client Relationships.....	22
Research Question and Patron-Client Theory.....	24
What are Patron-Client Relationships?.....	26
Conditions for Patron-Client Relationships.....	26
Resource Scarcity and Inequality.....	26
Strong State / Weak State.....	27
Economics and Isolation.....	28
Patron-Client Profiles.....	30
Patron-Client Processes.....	31
Resource Control.....	32
Generalized Exchange.....	32
Expectations and Thresholds.....	34
Alternatives and Change.....	36
3 “TRADITIONAL” PATRONAGE IN THE SOCIOECONOMIC EVOLUTION OF LÁBREA.....	38
Exchange, Expectations, and Patron-Client Ties.....	39
Exploration and Extractivism on the Purus River.....	40
Early Exploration – <i>Descimentos</i> and <i>Drogas do Sertão</i>	41
<i>Aviamento</i> : Credit, Debt, and Exchange.....	42
Expansion up the Purus.....	44
The Rubber Boom and the Settling of the Purus.....	45
The <i>Seringal</i> Rubber Production System.....	47
The Culture of the <i>Barracão</i>	49
The <i>Regime do Toco</i>	51
Patron to Client Exchanges in the <i>Regime do Toco</i>	54
Client to Patron Exchanges in the <i>Regime do Toco</i>	55

Resource Control in the <i>Regime do Toco</i>	57
Boom Bust Cycles in Lábrea.....	61
From the <i>Regime do Toco</i> to <i>Arrendamento</i>	62
Patron to Client Exchanges in the Rent System.....	63
Client to Patron Exchanges in the Rent System.....	63
Resource Control in the Rent System	65
Subsidized Rubber Production	68
The End of Subsidies and the End of the <i>Seringal</i>	69
From <i>Arrendamento</i> to <i>Seringal</i> Abandonment	70
Patron to Client Exchanges in <i>Seringal</i> Abandonment.....	71
Client to Patron Exchange in <i>Seringal</i> Abandonment.....	71
From Abandonment to State Control	75
State Control and Patron-Client Ties	78
Chapter Conclusions.....	80
4 CONDITIONS FOR PATRON-CLIENT RELATIONSHIPS ON THE PURUS RIVER.....	89
Exclusion and Patron-Client Ties: <i>Aviamento</i> on the Purus Today.....	89
Production Systems, Seasonality, and <i>Aviamento</i>	90
Production Calendars, Seasonality, and Credit	91
Fishing in the <i>Várzea</i>	97
Logging Season in the <i>Várzea</i>	98
Resource Distribution, Quantity, Quality, and Credit.....	99
Rubber.....	99
Brazil Nuts	101
Andiroba and Copaiba Oils.....	103
Variation in Resource Access by Household	104
Floods of Fortune and Famine.....	104
Flooded Forests, Livestock, and Economic Stability.....	105
Health, Vulnerability, and Credit	108
Hygiene	108
Malaria.....	109
Filariasis	111
Hepatitis	112
Health and Credit.....	113
Education, Literacy, and Patronage.....	115
Exclusion from “Formal” Credit and Dependence on <i>Aviamento</i>	116
Geographic Distance.....	117
Citizenship Documents.....	118
Chapter Conclusions.....	120

5	SOCIAL CHANGE, COMMUNITY ORGANIZATION, AND “NEW” SOCIAL NETWORKS: FROM TWO VILLAGES TO TWO EXTRACTIVE RESERVES, NETWORKING AND ORGANIZING OUT OF CRISIS.....	122
	Community Level Currents	125
	Vila Limeira	125
	Negative Social Currents – Resource Conflict.....	135
	Fishing Conflicts.....	135
	Traditional Patrons and Resource Use.....	137
	Negative Economic Currents	140
	Land Tenure and Indigenous Lands	141
	Networking, Social Capital, and Positive Social Currents	147
	Patron Conflicts and the Catholic Church.....	148
	Christian Base Communities	149
	Rural Workers’ Union	151
	Pastoral Land Commission.....	155
	Fishing Conflicts and Social Movements.....	156
	Indigenous Missionary Council (CIMI).....	158
	Children’s Pastoral – Pastoral da Criança.....	162
	Networking with State Agencies to Resolve Agricultural Problems.....	163
	Community Leaders	164
	Municipal Politicians	166
	Social Movement and State Agency Networks.....	168
	Evangelical Church Networks.....	171
	Accessing Resources through Community Associations.....	172
	Vila Vitória.....	174
	Problems and Challenges	182
	Extractive Reserves	184
	Vila Limeira and the Médio Purus Extractive Reserve.....	185
	Network Interactions.....	194
	Social Movement Networks.....	194
	Traditional Patron-Client Networks vs. Community Leader Networks	195
	Chapter Summary.....	196
6	NEW SOCIAL NETWORKS AND THE DISTRIBUTION OF SOCIAL CAPITAL... 200	
	Social Capital and Patronage	201
	Tie Strength and Extensity	202
	Embeddedness	204
	Position Generators.....	206
	Position Generator Measurement.....	207
	Using the Position Generator	208
	Producing the Position Generator Alter List.....	209
	Sampling.....	211
	Sample of Community Inhabitant Social Network Rating Interviews	215
	Conducting the Position Generator Interviews	216

Respondent Characteristics	216
Position Generator Questions	217
Social Capital in Riverine Communities	222
Embedded Resources	222
Embedded Resource Results	224
Assistance and Tie Strength	226
Tie Strength Summary	231
Network Variability, Network Extensity, and Social Capital	232
Research Question #1	232
Contact and Community Contact Scores	232
Weighted Contact Scores	233
Dependent Variables	233
Extractive Reserve Knowledge Score	233
Wealth Indicator Scores	234
Statistical Analysis	236
Ordered Logit Models	236
Chi-Squares	236
Hypotheses	237
Statistical Results Research Question #1	238
Extractive Reserve Knowledge	238
Chi-Square Results	240
Resex Information and Network Variability	240
Wealth and Network Extensity	241
Research Question #2	242
Dependent Variables	242
Independent Variables	243
Correlations	243
Linear Regression	244
Recognition	244
Hypotheses for Recognition	244
Recognition Results and Discussion	245
Recognition Summary	248
Membership	249
Hypotheses for Membership	249
Membership Results and Discussion	250
Membership Summary	253
Contact	255
Hypotheses for Contact	255
Contact Results and Discussion	255
Contact Summary	260
Community Contact	262
Hypotheses for Community Contact	262
Community Contact Results and Discussion	262
Community Contact Summary	267
Who are the Patrons?	269
The <i>Patrão</i> in the Eyes of Community Inhabitants	271

Understanding the Term <i>Patrão</i> in Lábrea	271
Power.....	272
Contact	273
Community Contact	274
Resource Generator Interview Results.....	275
Chapter Summary.....	278
7 DISCUSSION: POST- <i>SERINGAL</i> PATRONAGE	280
APPENDIX: ORGANIZATION INFORMATION.....	288
LIST OF REFERENCES	302
BIOGRAPHICAL SKETCH.....	311

LIST OF TABLES

<u>Table</u>	<u>page</u>
3-1 Control of Key Resources in the <i>Regime do Toco</i>	60
3-2 Control of Key Resources in the Rent System.....	67
3-3 Rural-Urban Migration in Brazil, Amazonas, and Lábrea 1970 to 2000.....	71
3-4 Control of Key Resources in <i>Seringal</i> Abandonment.....	74
3-5 Control of Key Resources under State Control.....	80
3-6 Control/Provision of Key Resources in the Regime do Toco	82
6-1 Likelihood of Providing Assistance	228
6-2 Network Variability and Contact.....	238
6-3 Network Variability and Community Contact	239
6-4 Network Variability and Contact Weighted by Assistance	239
6-5 Network and Variability and Community Contact Weighted by Assistance	240
6-6 Recognition Scores	248
6-7 Membership Scores.....	253
6-8 Contact Scores.....	260
6-9 Community Contact Scores.....	267
6-10 Who are the patrons? (Power).....	272
6-11 Who are the patrons? (Contact)	273
6-12 Who are the patrons? (Community Contact)	274
A-1 Organization Information	289
A-2 Organization Assistance.....	291
A-3 Resources Provided by Groups and Organizations in Lábrea.....	293
A-4 Who are the Patrons?.....	295
A-5 Network Variability and Contact.....	299

A-6	Network Variability and Community Contact	299
A-7	Network Variability and Contact Weighted by Assistance	300
A-8	Network Variability and Community Contact Weighted by Assistance	300
A-9	Village Distances (Research Sites)	301

LIST OF FIGURES

<u>Figure</u>	<u>page</u>
4-1 Production Calendar, Male Respondent, Santa Rosa, Purus River.....	92
4-2 Production Calendar, Female Respondent, Santa Rosa, Purus River	93
4-3 Production Calendar, Male Respondent, Vila Limeira, Purus River.....	95
5-1 <i>Seringal</i> Patronage Triangle.....	126
5-2 Post <i>Seringal</i> Networks	165
5-3 <i>Seringal</i> Patronage Triangle.....	197
5-4 Post- <i>Seringal</i> Multi-Hub Network.....	198
7-1 <i>Seringal</i> Patronage Triangle.....	280
7-2 Post- <i>Seringal</i> Multi-Hub Network.....	281
A-1 Map of Lábrea	296
A-2 Map of Deforestation	297
A-3 Map of Conservation Units Lábrea	298

LIST OF ABBREVIATIONS

ACAR	Association of Credit and Rural Assistance (Associação de Crédito e Assistência Rural)
ADS	Sustainable Development Agency of Amazonas (Agencia de Desenvolvimento Sustentável do Amazonas)
AMIMP	Association of Indigenous Women of the Middle Purus (Associação de Mulheres Indígenas do Médio Purus)
APACJG	Association of the Agroextractive Producers José Gonçalves Community (Associação dos Produtores Agroextrativistas Comunidade José Gonçalves)
APADRIT	Association of the Agroextractive Producers of the Assembly of God of the Ituxi River (Associação dos Produtores Agroextrativistas da Assembléia de Deus do Rio Ituxi)
APAVIL	Association of the Agroextractive Producers of Vila Limeira (Associação dos Produtores Agroextrativistas de Vila Limeira)
APREMP	Association of the Producers of the Extractive Reserve of Lábrea (Associação dos Produtores da Reserva Extrativista de Lábrea)
ASPACS	Association of the Agroextractive Producers of Sardinha Colony (Associação dos Produtores Agroextrativistas da Colônia do Sardinha)
ATAMP	Association of the Agroextractive Producers of the Middle Purus (Associação dos Produtores Agroextrativistas do Médio Purus)
CEB	Christian Base Communities (Comunidades Eclesias de Base)
CDH	Human Rights Commission (Comissão de Direitos Humanos)
CIMI	Indigenist Missionary Council (Conselho Indigenista Missionário)
CNBB	National Conference of the Bishops of Brazil (Conferência Nacional dos Bispos de Brasil)
CNS	National Council of Rubber Tappers (Conselho Nacional dos Seringueiros)
CNPT	National Center of Sustained Development for Traditional Populations (Centro Nacional de Desenvolvimento Sustentado das Populações Tradicionais)

CONTAG	National Confederation of Agricultural Workers (Confederação Nacional dos Trabalhadores na Agricultura)
CPF	Register of Personal Identity (Cadastro de Pessoa Física)
CPT	Pastoral Land Commission (Comissão Pastoral da Terra)
EMATER	Technical Assistance and Rural Extension Enterprise of the State of Amazonas (Empresa de Assistência Técnica e Extensão Rural do Estado do Amazonas)
FETAGRE	Federation of Agricultural Workers (Federação dos Trabalhadores da Agricultura)
FUNAI	National Indian Foundation (Fundação Nacional do Índio)
FUNASA	National Health Foundation (Fundação Nacional da Saúde)
GTA	Amazon Working Group (Grupo de Trabalho Amazônico)
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis)
IBGE	Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística)
ICMBio	Chico Mendes Institute for Biodiversity Conservation (Instituto Chico Mendes de Conservação da Biodiversidade)
IDAM	Institute of Agricultural and Forestry Development of Amazonas (Instituto de Desenvolvimento Agropecuário e Florestal do Amazonas)
IEADLAM	Assembly of God Evangelical Church of Lábrea Amazonas (Igreja Evangélica Assembléia de Deus Lábrea Amazonas)
IEB	International Institute of Education of Brazil (Instituto Internacional de Educação do Brasil)
INCRA	National Institute of Colonization and Agrarian Reform (Instituto Nacional de Colonização e Reforma Agrária)
INSS	National Institute of Social Security (Instituto Nacional de Seguro Social)
ISEI	International Socioeconomic Index
ITEAM	Land Institute of Amazonas (Instituto de Terras do Amazonas)

MANASA	Madereira Nacional S.A.
MMA	Ministry of the Environment (Ministério do Meio Ambiente)
MMC	Peasant Women's Movement (Movimento de Mulheres Camponesa)
MMTRL	Movement of Rural Women Workers of Lábrea (Movimento de Mulheres Trabalhadores Rurais de Lábrea)
OPAN	Operation Native Amazonia (Operação Amazônia Nativa)
OPIMP	Organization of the Indigenous Peoples of the Middle Purus (Organização dos Povos Indígenas do Médio Purus)
PROBOR	Program of Incentives for Natural Rubber Production (Programa de Incentivo à Produção de Borracha Vegetal)
PRONAF	National Program of Strengthening Family Agriculture (Programa Nacional de Fortalecimento da Agricultura Familiar)
RESEX	Extractive Reserve
SEARP	State Secretary for the Articulation of Public Policies and Social and Popular Movements (Secretaria de Estado de Articulação de Políticas Públicas aos Movimentos Sociais e Populares)
SEPROR	State Secretary of Production (Secretaria Estadual de Produção)
SESP	Special Service of Public Health (Serviço Especial de Saúde Pública)
SPI	Indian Protection Service (Serviço de Proteção aos Índios)
SUDHEVEA	Superintendence of Rubber (Superintendência da Borracha)
UEA	University of the State of Amazonas (Universidade do Estado do Amazonas)

Abstract of Dissertation Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

SOCIO-ECONOMIC CHANGE IN THE TRANSITION FROM PATRON-CLIENT TO
SOCIAL MOVEMENT NETWORKS IN BRAZILIAN AMAZONIA

By

Mason Clay Mathews

May, 2011

Chair: Marianne Schmink
Co chair: Chris McCarty
Major: Interdisciplinary Ecology

In Brazil approximately 12,063,068 hectares of forests and other landscapes have been designated as federal extractive reserves designed for self-sustaining exploitation and the conservation of renewable natural resources. Researchers have used a variety of social science methods to study the dramatic social change that typically accompanies the creation of extractive reserves as communities bond into local social movements, build alliances with national and international organizations, and overturn longstanding patron-client relations through land reform processes. This research project employed the theoretical concepts of social capital combined with social network analysis and ethnographic interview techniques to conduct a study of how isolated residents of two extractive reserves in the southern part of Amazonas State use their personal social networks to access resources.

Network analysis combined with ethnographic data collection techniques generated quantitative and qualitative data regarding the level of interaction and cooperation between government institutions, local organizations (such as trade unions), and reserve residents. In addition to providing information on what types of

social networks have replaced the patron-client relations that have long been associated with rural Amazonia, social network analysis provided a new approach for measuring the access that extractive reserve residents have to markets, loans, and other types of capital.

Natural rubber production was a key component of the economy of the municipality of Lábrea, in the southern part of Brazil's Amazonas state, from the 1870s until the early 1980s. The production unit established to produce this commodity, the *seringal*, was characterized by rigid patron-client ties between rubber tappers and landowners. This social system has changed with the collapse of extractivism and the rise of social movements pursuing social justice and environmental conservation in the Amazon. In this dissertation I explain how the networks of inhabitants of the extractive reserves in the municipality of Lábrea transitioned from social systems dominated by a single patron to systems in which individuals used relationships with social movements, government agencies, and other actors to access resources.

A better understanding of the social networks of reserve residents may improve the success rate of conservation and development projects in the reserves as well as provide useful information for policy makers as they make decisions regarding the decentralization of resource management in the region.

CHAPTER 1 INTRODUCTION

“A good patron never refuses to help us when we need something. When we ask he helps,” Celina explained as she smoked a cigarette she had hand rolled from a scrap of old notebook paper. “A bad patron wants to be repaid immediately and does not give much time to repay debts,” she added as smoke slowly curled upward into the thatched roof from the lumpy cigarette hanging precariously from her lower lip. Celina, like many of the inhabitants of the margins of the Purus River, had grown up in a social system in which the exchange of forest products, particularly rubber, for essential supplies dominated much of daily existence. A series of expectations regarding these exchanges had developed over the years and helped people like Celina to judge the validity of their exchange-based relationships. In this dissertation I present some findings, gathered during interviews with people like Celina, about how these exchanges, the relationships associated with them, and their perceived validity have changed over the past fifty years in the municipality of Lábrea in the southern part of the Brazilian state of Amazonas.

Patron-client ties were the foundation of an economy based on the extraction of forest products in much of the Brazilian Amazon for nearly 200 years. Over the last fifty years development projects inspired by modernization and other socioeconomic theories, together with global market changes have led to a series of new land uses that have replaced extractivism in some areas of the Amazon. In some areas the changes from extractivism have occurred more slowly while the increasing presence of government agencies and social movements has provided alternative social relationships to the long-standing patron-client ties that typified the production of rubber

and other extractive products. The purpose of this dissertation research was to determine what kinds of social structures, if any, have replaced the patronage long associated with extractive economies as a result of the socioeconomic changes in the municipality of Lábrea in southern Amazonas state.

Socioeconomic changes over time can lead to the replacement of “traditional” dyadic patron-client relationships with complex social networks in which resources are accessed through several patrons (Boissevain, 1977; C. Escobar, 1994; J. C. Scott & Kerkvliet, 1973; Theobald, 1983, 1992). Some people have more success in developing networks under the “new” socioeconomic conditions than others, and therefore have more needs met. What socioeconomic factors explain the changes from “traditional” dyadic patron-client ties to “new” complex social networks and what characteristics make some individuals more successful at developing these networks than others? Does having a more extensive network make you better off or is it the quality of the specific ties?

This dissertation is laid out in seven chapters, beginning with this introductory chapter. In Chapter 2 I discuss how the literature on patron-client ties explains: a) what patron-client relationships are and how they function; b) under what conditions they are thought to exist; c) how they are viewed in different ways (positive or negative) and; d) the explanations for why and how they change over time.

Patron-client relationships have long characterized extractive economies in the Brazilian Amazon and in Chapter 3 I will explain the socioeconomic conditions that led to the rise of production systems based on patron-client ties in the municipality of Lábrea, where I conducted field research for this dissertation. The final collapse of

natural rubber production combined with the hyperinflation and economic difficulties that impacted Brazil in the late 1980s and early 1990s had profound impacts on patron-client relationships in the area, as did the arrival of a host of government agencies, social movements, religious groups, and other actors that offered alternatives to the old patronage system. As I analyze the socioeconomic changes that have occurred over the past fifty years in Lábrea I will show how “traditional” patron-client arrangements have in some cases been replaced by “new” patron-client arrangements due to changes in the control of resources. I will show how the local understanding of the word patron has changed and how it differs among different segments of the population.

In spite of the changes in these relationships, many of the conditions that inspire people to engage in patron-client relationships still exist in Lábrea. I will show that in spite of the socioeconomic changes of the last fifty years many inhabitants still lack vital resources and services that made it necessary to form relationships with “new” patrons and other actors, who controlled access to these resources.

In addition to people’s lack of access to many resources and services the socioeconomic changes over the past fifty years have caused profound changes in the use and control of natural resources in this area, which in many cases has led to conflict between user groups. The formation of social networks with employees of government agencies and social movements is one solution that many communities have employed to resolve natural resource conflicts. In Chapter 5 I describe how three communities formed a series of relationships with newly arrived government agencies and social movements to address natural resource conflicts, consolidate their claims to land and natural resources, and to access credit and other financial resources. In order to

analyze the formation of these relationships I use as a point of departure the process of the creation of the Médio Purus and Rio Ituxi Extractive Reserves. This chapter reveals how the “new” relationships were formed and how they differ from the “traditional” patron-client arrangements.

In Chapter 6 I explore how the “new” networks differ among individuals in a sample of riverine communities in Lábrea. Using social capital theory and the position generator social network analysis method, I measured the networks of individuals from this sample of riverine inhabitants in order to show which groups (leaders vs. non-leaders, men vs. women, etc.) are more likely to have better developed “new” networks and hence be better off. In order to determine if some subgroups of riverine populations in Lábrea are better at forming relationships after the collapse of the “traditional” patron-client relationships I developed a modified version of the position generator social network analysis technique to measure: 1) which of the new groups and organizations riverine peoples recognized; 2) with which of these groups they have contact; 3) how they rate the power of these groups and organizations; and 4) which of these groups provide them access to resources and assistance. This information was collected to determine the relationship between an individual’s number of contacts (network extensity); 1) the amount of information they have related to the creation of the two extractive reserves in 2008, and 2) the amount of wealth they have acquired. I hypothesized that there would be a positive correlation between the extensity of an individual’s networks and the amount of information and wealth they have acquired. In Chapter 7 I summarize the results of this analysis and my findings about how patron-client ties have changed in Lábrea and what these results mean on a wider scale.

CHAPTER 2 PATRON-CLIENT RELATIONSHIPS

Theory and Patron-Client Relationships

Patron-client relations have been dissected and analyzed by researchers and academics coming from different theoretical backgrounds and with objectives that are often quite different. Anthropology, Sociology, and Political Science have all made contributions to the study of patron-client ties. Each of these disciplines approaches the concept in their own way, which has led to some confusion regarding what the terms mean and for whom.

The development of patron-client theory came at a time when many academics were rejecting structural-functional theoretical bases in sociology and anthropology and looking instead to personal and interpersonal relations, power relations, and networks to explain behavior (Eisenstadt & Roniger, 1980). Early research on patron-client ties focused on the relatively limited, dyadic, interpersonal, semi-institutionalized relations between a single patron and one or several clients (Eisenstadt & Roniger, 1980). The anthropologists who conducted this work tended to focus on personal relations – such as the coparenthood relations of *compadrazgo* – in small, rural communities (Foster, 1961; , 1963; Mintz & Wolf, 1950). Much of the patron-client research was conducted within a wider body of literature known as peasant studies. Anthropologists, with a tradition of conducting detailed ethnographic studies with small sample populations, often focused on the micro-level characteristics of these relationships. According to Weingrod (1968), anthropologists used the term to describe a particular kind of interpersonal relationship in which there are marked inequalities between the two parties (i.e. landowners and peasants), a reciprocal bond, and personal, face-to-face

interactions. For Weingrod (1968), “the study of patronage as phrased by anthropologists is the analysis of how persons of unequal authority, yet linked through ties of interest and friendship, manipulate their relationships in order to attain their ends.”

Political scientists also adopted and expanded on the theory of patron-client ties to help explain the relationships that determine how favors, employment, and other resources are exchanged for votes and other items within the realm of politics. According to Weingrod (1968), political scientists understood patronage as, “the study of how political party leaders seek to turn public institutions and public resources to their own ends, and how favors of various kinds are exchanged for votes.” His principal distinctions between the two are that anthropologists understood patron-client ties as dyadic, social relationships while political scientists viewed them as part of an election cycle and as part of formal organizations (Weingrod, 1968). Political scientists often used Frank Souraf’s (1960) definition in which patronage is “an incentive system – a political currency with which to ‘purchase’ political activity and political responses.” A series of studies and publications in the 1960s and 1970s further illustrated how patronage is used in politics and many further limited the analysis to an exchange of votes for jobs, resources, and services distributed and exchanged within political parties and governments (Bearfield, 2009). This narrow conceptualization led some researchers to believe that important relationships and exchanges outside the realm of political parties and governments were being left out and that political scientists should return to a more anthropological approach that focuses on the relationships between patron and client and the reciprocal nature of the exchanges (Bearfield, 2009).

Sociologists have approached the study of patron-client ties in a similar way to anthropologists, but with perhaps a more systemic focus. In addition to analyzing the relationship between patron and client, sociologists may also focus on the social norms associated with these relationships and how they fit into larger social systems. For sociologists patron-client ties may simply be one component of larger “social structures” (Martin, 2009). For others, like Brazilian sociologist Roberto Da Matta, patron-client ties, as well as other social phenomena like the Brazilian *jeitinho*, are strategies for overcoming systemic social imbalances, such as the disparities in wealth between different segments of the Brazilian population (DaMatta, 1990).

The distinct approaches of the different disciplines and the foci of their analyses have led to different understandings of what patron-client ties are and how the terms should be used. In spite of the disagreement over the meaning of certain terms and how they should be used, anthropologists, sociologists, and political scientists have constantly borrowed from each other as they advance the understanding of how these relationships work and what they mean. In this dissertation I will also draw from the three disciplines, particularly those works that analyze patron-client relationships in rural, agrarian settings, like those I encountered among rural inhabitants in the Brazilian Amazon.

Research Question and Patron-Client Theory

In this dissertation I will apply select components of the large body of literature that focuses on patron-client relationships, patronage, and clientelism to address the following research question:

Socioeconomic changes over time can lead to the replacement of multiplex, dyadic patron-client relationships for those in which resources are accessed through

several patrons (Martin, 2009). Some people have more success in developing networks under the “new” socioeconomic conditions than others, and therefore have more needs met. What socioeconomic factors explain the changes from “traditional” dyadic patron-client ties to “new” complex social networks and what characteristics make some individuals more successful at developing these networks than others? How well do these “new” networks provide people with the resources they need and want compared to the networks they have replaced? What do the changes in Lábrea say about similar changes in other places in which people face the socioeconomic changes associated with globalization, democratization, and the changes in social structures associated with them?

In this chapter I will discuss the aspects of patron-client relationships most relevant to my research question, namely:

- What are patron-client relationships?
- What are the socioeconomic conditions associated with patron-client relationships?
- How do patron-client ties function?
- How do patron-client relationships change over time?

In analyzing the changes in patron-client relationships in Lábrea I believe that changes in the control of resources and services, changes in the perceptions regarding “traditional” patron-client arrangements, and the arrival of alternative sources of resources and services have all been important components leading to the transition from the “traditional” patron-client relationships associated with extractive industries in the Amazon, particularly rubber production, to a “new” kind of patronage involving a wide variety of actors. Consequently, in this chapter I will focus on the theoretical

elements associated with understanding how patron-client relationships change over time.

What are Patron-Client Relationships?

According to the Blackwell Dictionary of Sociology patron-client relationships are:

...those in which a client depends upon a special relationship with a patron who is in a position of influence or POWER. Typically, the patron provides protection or the means to earn a living (such as loans or access to land for cultivation) in exchange for loyalty, support, obedience, and services from the client. It is a relationship that can exist between individuals, GROUPS, or SOCIETIES.

Although patron-client relations are often based on tradition, RELIGION, or contracts of one kind or another, the INEQUALITY inherent in the relationship makes it ripe for EXPLOITATION and abuse. This was the case, for example, in the relationship between nobles and PEASANTS under FEUDALISM in Europe, and in the SHARECROPPING system found throughout the American South, especially after the Civil War ended slavery ("Patron-client relations", 2000 Original Capitalization).

Conditions for Patron-Client Relationships

Understanding the socioeconomic context in which patron-client relationships emerge is a key element for understanding how they change over time. These kinds of relationships date back to antiquity and the conditions that foment them have

Resource Scarcity and Inequality

The scarcity of and control over important resources is thought to be an important condition for the existence of patron-client relationships.

The degree and extent of local power, personified by the patrons and local mediators, depends on the one hand on the nature and degree of appropriation or monopolization of goods or services, and on the other hand on the rarity or precariousness of the resources (such as employment or land) and their importance for the survival of the clients. The fewer alternatives to an asymmetrical arrangement, the greater the probability of the dependent client submitting 'passively' to the dominating power of the master or patron (Silva, 1994).

In Lábrea, like much of the Brazilian Amazon, resources like land were certainly not scarce, as vast expanses of forest were in many instances available. However, the ability to control these lands and the natural resources found on them generally depended on an individual's access to credit, supplies, transportation, and a source of labor. Access to credit, supplies, and transportation were scarce for many inhabitants of the area and the few individuals able to control access to them were in a position to offer them to less fortunate individuals in exchange for another scarce resource, labor. Inequality is thought to be a key element of patron-client relationships, which are formed to ameliorate inequalities by allowing people with fewer resources to access them from those who have more resources (Martin, 2009). Inequality characterized the social setting in the Brazilian Amazon for most of its recorded history. Some had access to credit and other resources, while many did not. These conditions led to fertile setting for the formation of patron-client relationships.

Strong State / Weak State

In early studies of patronage one of the key criteria for explaining the existence of patron-client ties was the incomplete interaction between citizens and the state. In areas where the state was weak and had not gained complete control, it was thought that conditions for patronage and clientelism were better. In this way of thinking the focus was on the pre-modern, pre-capitalist, traditional nature of these socioeconomic conditions. It was thought that once these conditions gave way to those in which a strong state with "modern" bureaucratic systems took over, clientelism and patronage would tend to decline.

One may posit that resort to patronage mechanisms will be the more pronounced where the weak are disproportionately weak, the strong disproportionately strong, and formal, alternative mechanisms for protecting

citizens - laws, court systems, police, procedural rules of the game, etc. - remain embryonic, manipulable or perhaps imbued with little or no legitimacy (Waterbury, 1977).

However, newer research conducted in places that have witnessed the dramatic affects of democratization, return to civilian rule, increased mobilization, decentralization, neoliberalism, and other socio-economic change has shown that patronage and clientelism, instead of disappearing, often simply change form and are adapted to the new conditions (Roniger & Güneş-Ayata, 1994). Martin (2009) makes the important distinction that it may not be the presence of the state, but its ability to reach all of the citizens. As I will show in Chapter 4, an increased physical presence of government agencies does not necessarily mean that everyone will be able to access resources and services through them.

Due to its remoteness, the municipality of Lábrea was long characterized by the limited presence of government agencies and civil society organizations. In many ways it could be characterized as a “pre-modern” government system linked to a merchant-capital economy based on extractive industries. However, over the past twenty years the Brazilian government has expanded its presence in the area and a host of civil society organizations have established a presence there, making Lábrea an interesting place to analyze the way patron-client relationships change over time in response to the increasing presence of the state and civil society.

Economics and Isolation

Economic conditions are a key element of any understanding of patron-client relationships and how they change over time. The following socioeconomic characteristics are thought to increase the likelihood of the existence of patron-client relationships: 1) Extensive, extractive economies aimed at expanding control over large

areas to produce raw materials in exchange for finished goods from urban centers; 2) Oligarchic landholding strata with an export-oriented economic focus, absentee landholders, and vast gaps between urban and rural sectors; 3) Ruling and hegemonic classes economically, politically, and ideologically linked to imperialist powers; 4) Regional imbalances, with the accumulation of capital in urban centers (Roniger, 1990).

Other socioeconomic structural characteristics that may encourage patron-client relationships include: "(1) the persistence of market inequalities in wealth, status, and power which are accorded some legitimacy; (2) the relative absence (or collapse) of effective, impersonal guarantees such as public law for physical security, property, and position - often accompanied by the growth of semi-autonomous local centers of personal power; and (3) the inability of either kinship units or the traditional village to serve as effective vehicles of personal security or advancement (J. C. Scott & Kerkvliet, 1973)."

As I will show in Chapter 3, all of the above characteristics were in evidence in Lábrea from the time of its foundation as a remote colonial outpost established to produce rubber and other forest products in exchange for finished products from urban centers. The following quote by Luis Roniger describes a set of conditions in which "traditional" patron-client relationships are likely to form.

The more 'traditional,' localized patron-client networks existed where the peripheries (particularly agrarian sectors) were tenuously connected to capitalistic markets as simple commodity producers. In such settings, there was a 'seigneurial' appropriation of basic resources, of means of livelihood and, above all, of lands, which were leased to peasants in the form of fragmented and small strips in return for labor, cash, or rents in kind. Moreover, precapitalist forms of work organization, in the framework of rent capitalism, developed, and landowners and merchants had sole access to peasant labor and much of their production. This in turn was usually associated with a low level of mechanization and of technological and

capital investment; a scarcity of credit facilities; and poor communications. The low capacity of landless workers and minifundist peasants to draw a livelihood in a relatively independent way, the precariousness of agricultural contracts, and the effects of multiple part-time occupations, especially among peasants, were also conducive to the emergence of the 'captive' clientele that are characteristic of such localized clientelistic networks (Roniger, 1990).

Interestingly enough, this quote in many ways describes the conditions that existed for more than one hundred years in the municipality of Lábrea, as we will see in chapter three.

Patron-Client Profiles

Having analyzed the types of socioeconomic conditions in which patron-client relationships tend to form, it is important to begin to unpack the relationships themselves. What are the differences between patrons and clients? What kind of interaction occurs between patrons and clients? The following profile of patron-client relationships provides a snapshot of some of the characteristics of those who engage in patron-client relationships.

For the purposes of this paper, the profiles developed over the years by Luis Roniger and Samuel Eisenstadt are useful for illustrating some of the key components of patron-client relationships (Eisenstadt & Lemarchand, 1981; Eisenstadt & Roniger, 1980; Roniger, 1990). For these authors patron-client relationships are vertical (hierarchical) bonds based on inequality and power differences that are usually found in stratified societies in which benefits and resources are distributed selectively to certain elements of the population. Generally the patron is from a more well off social position and controls or monopolizes the means of production, market access, distribution of public goods and/or community services that the client needs. The relationships are “particularistic and diffuse” (goods and services are exchanged according to the

personal traits of the actors) and are highly selective. Patron-client ties involve simultaneous exchange of two different types of resources and services (“instrumental” economic or political resources and “expressive” resources consisting of things like promises of loyalty and solidarity) in a package deal in which both sides offer the other instrumental and expressive resources. Both patron and client expect their attachment to be a relatively unconditional, long-term relationship. Credit and obligations are also long-term and the relationships are formed between individuals of high and low status, not between organized corporate groups. The ties are often neither fully contractual nor legal – and may be illegal – but are based on informal, though tightly binding understandings that are periodically renegotiated. Most of these ties are voluntary, despite their implied long-range commitment, and can, at least in theory, be broken off by either side (Eisenstadt & Lemarchand, 1981; Eisenstadt & Roniger, 1980; Roniger, 1990).

Patron-Client Processes

Profiles like the one above are useful to define certain key characteristics of patron-client relationships and those individuals who engage in them. However, researchers and academics have long understood that the processual elements of how these relationships are formed and maintained better reveal their true nature than the typologies, which may be “little more than lists of parts (Lemarchand, 1981).”

I believe that the most salient processual components for explaining these relationships in remote areas of the Brazilian Amazon, like Lábrea, are: 1) the control and monopoly of access to certain resources and services; 2) the arrangements of “generalized exchange” of “instrumental” and “expressive” resources between patrons and clients; 3) the thresholds and expectations associated with these exchange

arrangements; and 4) the possibility (or lack thereof) of alternatives to patron-client relationships.

Resource Control

According to Waterbury (1977) one way to identify a potential patron is to determine who has monopolistic control over a necessary resource. One of the characteristics of the “classic” or “traditional” patrons who dominated the extractive industries in the Amazon in the colonial period and during the rubber boom was their ability to monopolize control over a series of important resources. As I will explain in greater detail in Chapters 3 and 4, control of the following six resources (market access, land/resources, health services, education, religion, political representation, and information) was fundamental for a patron to maintain his leverage and enabled him to provide key resources and services in exchange for forest product commodities in Lábrea, both then and now.

Generalized Exchange

With vital resources at his (or her) disposal a patron or potential patron is able to engage in relationships of “generalized exchange” in which a series of extra social obligations serve as insurance against risks and uncertainties found in ‘routine’ market exchanges (Eisenstadt & Roniger, 1984). An understanding of the resources being exchanged between patrons and clients has long been thought to be one of the keys to illuminating the inner workings of these relationships (Eisenstadt & Roniger, 1980). In short the question here is what are the resources that patrons control and can offer to potential clients, and what do the clients have to offer in return for these resources?

In a study particularly relevant to the analysis presented in this dissertation, Scott and Kerkvliet (1973) provided an example of this kind of analysis based on their study of

how traditional patrons in an agrarian setting in Asia had lost legitimacy. They observed that in the patron-client ties they were studying patrons were expected to provide the following to their clients: 1) basic means of subsistence (access to land for cultivation, the provision of seeds, equipment, marketing services, technical advice, and so forth); 2) subsistence crisis insurance (loans in time of economic distress, help in case of sickness or accident, or insurance in case of a poor harvest); 3) protection (shield the client from private and public dangers); 4) brokerage and influence (extract rewards from the outside for the benefit of his clients); and 5) collective patron service (services for the community as a whole - sponsor village festivals and celebrations, host visiting officials, mediate disputes, etc.) (J. C. Scott & Kerkvliet, 1973).

Scott and Kerkvliet (1973) pointed out that measuring the flows from client to patron may be more difficult, but no less important for understanding how the relationship functions. In the context of Southeast Asia where they were conducting research, clients were expected to provide patrons: 1) basic labor service (client contributed his labor and other specialized skills to the farm, office, or enterprise); 2) supplementary labor and goods - (some substantial, some symbolic); 3) promotion of the patron's interests (J. C. Scott & Kerkvliet, 1973).

The ability to demand that his or her clients engage in exclusive exchange with him or her is thought to be a key element of patron-client relationships (Martin, 2009). When patrons are able to enforce this “one patron per client” rule, social structures, called patronage pyramids, form (Martin, 2009). Patrons generally use their ability to control scarce resources to invoke, or threaten to invoke, sanctions against their clients in the event that they break this “one patron” rule and exchange with other patrons

(Martin, 2009). A patron threatening to curtail credit or expel a client from his property is an example of how control of scarce resources provides patrons with the ability to invoke, or threaten to invoke, sanctions (Martin, 2009).

In Lábrea, and much of the Brazilian Amazon, “classic” or “traditional” patrons, as I will call them here, used their contacts with providers of credit and other key resources to provide necessary resources (food, medicine, household items) to poorer, less well-connected laborers in exchange for a variety of natural resource commodities. The ability of patrons in Lábrea to control resources, provide services, and invoke sanctions to maintain exclusive exchange arrangements changed over time, based on a series of socioeconomic changes. Four types of “generalized exchange” arrangements between patrons and clients existed at different times in Lábrea: 1) *regime do toco*; 2) *arrendamento* or rent arrangements; 3) abandonment; and 4) state control. In Chapter 3 I will discuss how these exchanges functioned and what types of resources patrons and clients offered one another in these exchanges.

Expectations and Thresholds

Between patrons and clients a series of expectations are formed regarding their arrangement of “generalized exchange”, which is usually in a constant state of negotiation. Clients often expect that their patron will provide certain resources (credit, food, medicine, etc.) and will not leave them wanting in times of need. In exchange patrons may expect deference, political support, or some form of exclusive commercial interaction. Thresholds generally exist on both sides of these relationships that when crossed can lead one or both sides to question the legitimacy of the arrangement and to seek alternatives (J. Scott, 1977).

In Lábrea, as in much of the Brazilian Amazon, gatherers of forest products expected their patrons to provide them with supplies on credit and not let them fall below a certain poverty threshold. Local patrons usually expected their clients to work exclusively for them and refrain from selling precious forest products to others, even if they offered better prices. A patron that could not provide the necessary supplies may find himself abandoned by his workers or run the risk that they would sell their products to someone else. A patron that was seen as being too unfair in the terms of exchange might also run the risk of being abandoned, having products sold clandestinely to other buyers, or even receive adulterated or inferior forest products in exchange for the supplies he provided. The difficulty patrons had in monitoring vast areas of forest made the subtle forms of daily resistance described in James Scott's (1985) "Weapons of the Weak" a common response for many clients when they felt they were being treated unfairly. However, patrons also responded to actions that they felt were contrary to their "agreement" with their clients. A client that was caught selling forest products to others or adulterating the product might have his access to the patron's supplies curtailed or might be expelled from the patron's land.

In Chapters 3 and 5 I analyze how the ability of "traditional" patrons in Lábrea to provide the expected resources to their clients ebbed and flowed over time and manifested itself in the changes back and forth from *regime do toco* to *arrendamento* or rent agreements, until the point when "traditional" patrons provided virtually none of the benefits their clients expected. Once this threshold was crossed the legitimacy of these "traditional" relationships was called into question and clients began to search for alternatives.

Alternatives and Change

In the event that thresholds are crossed and patron-client relationships dissolved, the obvious question becomes what alternatives exist for both parties. If the patron has complete monopolistic control over necessary resources and services, options may be limited for a client trying to replace him or her. Even in the event that monopolistic control is not complete, the alternative for many clients may simply be to find another patron who can provide the necessary resources in exchange for their deference, labor, etc.

Once patrons lose the ability to maintain monopolistic control over key resources, particularly land, their ability to maintain exclusive relationships with their clients diminishes (Martin, 2009). In these instances, when patrons can no longer provide key resources or invoke sanctions based on their control of key resources (such as threatening to curtail credit or evict clients from their property) they no longer have the ability to maintain the “one patron per client” rule and the patronage pyramid begins to collapse (Martin, 2009).

One possible outcome when a system based on highly multiplex patron-client relationships begins to change is that clients will have to develop a more diffuse network of relationships with a greater number of patrons to obtain the resources previously provided by a single patron (Boissevain, 1977; C. Escobar, 1994; J. C. Scott & Kerkvliet, 1973; Theobald, 1983, 1992). When this occurs clients begin to seek out other sources of resources and services. In some cases, when they have to form relationships with several actors to obtain these resources, new social structures begin to take shape. Often the arrival of the state is associated with patrons’ loss of control over land and the ability to provide key resources. In these cases, state agencies and

other actors may begin to provide resources in a new system in which former clients must form relationships with a series of brokers and intermediaries with connections to other actors who can provide access to resources and services (Martin, 2009).

Until recently in Lábrea, as in many parts of the Brazilian Amazon, in the event that a patron-client relationship was dissolved the only viable alternative for accessing the vital resources provided by the old patron was to find a new one. Rubber estate owners and merchants controlled virtually all economic activity over vast areas, and alternative avenues to access credit and necessary supplies were extremely limited. However, over the past fifty years tremendous socioeconomic changes have occurred in the area that may have made available a series of “new” patron-client arrangements with government officials, social movement organizations, religious entities, and NGOs to replace the “traditional” patrons that dominated the area for so long. In Chapter 5 I present case studies from three communities in Lábrea to show how people responded to collapse of the patronage pyramids that had formed during the rubber boom and how they were beginning to form social networks in which they accessed resources and services through a series of brokers and intermediaries.

In summary, over the past fifty years a series of circumstances have led to socioeconomic changes in Lábrea that have potentially changed; 1) who controls key resources, 2) the nature of the exchanges between potential patrons and clients, 3) the thresholds and expectations associated with these arrangements, and 4) the alternatives that clients have to access the vital resources that were once supplied by a limited number of potential patrons. These dramatic changes made Lábrea an interesting place to investigate how patron-client relationships change over time.

CHAPTER 3

“TRADITIONAL” PATRONAGE IN THE SOCIOECONOMIC EVOLUTION OF LÁBREA

Patron-client relationships have been a key component of economies based on forest products in many parts of the Brazilian Amazon since the period of Portuguese colonization. In order to extract dispersed forest products and ship them to national and international markets, a credit system was developed in which essential supplies (and luxury items) were purchased on credit in exchange for forest products. This chain of credit was also a chain of patron-client relationships that began with the collectors working in the forests and linked them through a series of intermediaries to the export houses that sold the commodities on international markets and imported the trade goods for which they were exchanged. During the rubber boom of the late 19th and early 20th centuries this economic system, known as *aviamento*, became institutionalized throughout the Brazilian Amazon and continues to exist in many areas (Weinstein, 1983). The municipality of Lábrea in the southern part of the state of Amazonas was founded as a direct result of the rubber boom, and forest product extraction continued to be the basis of the municipality's economy until the mid-1990s.

In this chapter I describe how patron-client relationships, and the *aviamento* credit system, have changed in riverine communities in the interior of Lábrea over the past fifty years. I describe: 1) the historical socioeconomic setting in which patron-client relationships developed; 2) the resources exchanged between people living in riverine communities and their “patrons”; 3) the expectations upon which these exchanges were (and are) based and the ability of both sides to fulfill these expectations; and 4) the vulnerabilities and alternative relationships (or lack thereof) that helped determine

whether or not people in riverine communities engage in patron-client relationships, and may ultimately decide their continued participation in these arrangements.

Exchange, Expectations, and Patron-Client Ties

For the client, the basic purpose of the patron-client contract, and therefore the cornerstone of its legitimacy, is the provision of basic social guarantees of subsistence and security. If and when the terms of trade deteriorate sufficiently to threaten these social rights, which were the original basis for attachment and deference, one can anticipate that the bond will quickly lose its legitimacy. The patron may still be able to extract services from the client but clients will increasingly consider the relationship unjust and exploitative (J. C. Scott & Kerkvliet, 1973).

One of the processual elements considered essential for understanding patron-client relationships is the notion of “generalized exchange” in which a series of extra social obligations, based on norms of reciprocity, serve as insurance against risks and uncertainties found in ‘routine’ market exchanges (Eisenstadt & Roniger, 1984). The perceived legitimacy of a patron-client relationship for those involved often rests on this notion of reciprocity and is manifested in a series of expectations regarding the interactions and exchange between patron and client (J. Scott, 1977). In this chapter I provide information about different exchange arrangements (and their perceived legitimacy) that patrons and clients in Lábrea engaged in during distinct periods of time. These include the: 1) *regime do toco* periods, 2) *arrendamento* or “rent” periods, 3) periods of rubber estate abandonment, and finally 4) the state control period. The *regime do toco* exchange arrangements are generally associated with the rubber boom periods (1870-1910) and (1943-1945) when rubber prices were high and credit was more available to *seringal* owners. The *arrendamento* exchange arrangements were more common in the “bust” periods, when rubber prices were lower and credit was less available (1920-1930s) and (1960s-1970s). However, these arrangements often

existed at the same time, depending on local conditions. The abandonment phase, characterized by the collapse of the *seringal* production system and the dissolution of the exchange between *seringal* owners and rubber tappers began in Lábrea in the 1970s and ended in the late 1990s, when only one or two old-time *seringal* owners remained. What I am calling the state control period began in the 1970s with the creation of Indigenous Lands in the municipality, intensified in the 1990s with the creation of more federal conservation units, and became consolidated in the 2000s, by which time almost the entire municipality was covered by conservation units. I do not mean to imply that the state has absolute control of all aspects of resource use, but the transition from privately owned seringais to government controlled conservation units certainly implied potentially dramatic changes in the way resources were used.

The interactions between patrons and clients are shaped to a large degree by the socio-economic conditions in which they are embedded (Roniger, 1994a). In addition to describing the details of the exchange between riverine peoples and their patrons, I illustrate the broader historical changes that have occurred in Lábrea over the past fifty years that have created and shaped these relationships. Understanding changes in the socio-economic context can help reveal: 1) the nature of the resources available for exchange in patron-client relations, 2) who controls or monopolizes access to these resources, 2) and the changing nature of the formal and informal social norms that govern exchanges between patrons and clients.

Exploration and Extractivism on the Purus River

Every afternoon we observed, as we steamed along, wisps of smoke rising from the banks at frequent intervals. These indicated the places where men were engaged in the process of manufacturing india-rubber - the Purus being quite the head-quarters of this business (Brown & Lidstone, 1878).

The sediment rich Purus River slowly meanders its way 3,200 kilometers down from the foothills of the Peruvian Andes to its confluence with the main channel of the Amazon (Goulding, Barthem, & Ferreira, 2003). Thousands of oxbow lakes rich in aquatic resources have split off the main channel of the Purus as it periodically changes course during the yearly flood cycle. The rich forests and lakes that surround the river have been the scene of dramatic social and economic change over the past 150 years.

The Purus Valley has a long history of human occupation and the richness of its aquatic and forest resources attracted Amerindian peoples long before the arrival of Europeans. The river and its tributaries were inhabited by a variety of ethnic and linguistic groups, including the Mura, Apurinã, Paumari, Zuruahá, Jamamadi, and Deni, among others, who were rapidly enveloped in the wave of exploration and settlement that began in the 1840s. The exploration of the Purus River and the founding of the city of Lábrea coincided with the expansion of extractive industries in the southwestern Brazilian Amazon and the institutionalization of a series of patron-client relationships upon which economic activities in the region were based for more than one hundred years.

Early Exploration – *Descimentos* and *Drogas do Sertão*

The lower sections of the Purus River near its confluence with the main channel of the Amazon saw an initial wave of Brazilian explorers and traders during the colonial period. A significant part of the Amazonian economy in the 17th to 18th centuries was based on a series of forest products (cacau, sarsaparilla, and cinnamon, among others) known generally as *drogas do sertão* (Reis, 1998). Indigenous slaves did much of the collecting of forest products and rowed the canoes that transported them to markets (Ribeiro, 1996). In addition to being bonded into slavery, indigenous groups were

incorporated into an incipient economy based on merchant capitalism in which forest products were exchanged for beads, metal tools, alcohol, and other items.

During the initial phase of expansion up the Purus, Brazilians collecting the *drogas do sertão* brought in a supplies for an extended period, which were purchased on credit in Belém or Manaus, and then returned to these urban centers to pay their debts after extended periods with the forest products they had collected (de Melo, 1994). During this period initial contact was made with many indigenous groups, systems of trade and barter were established to facilitate the extraction of forest products, and Catholic Church missionaries relocated some of the indigenous groups from the Lower Purus as part of the *descimentos* in which indigenous peoples were concentrated to form missions (Kroemer, 1985). While the Lower Purus was depopulated to form mission villages, the middle and upper sections of the river were little explored by Europeans until the middle of the 19th century (Ribeiro, 1996). The trade and barter system established during the initial contact between Brazilian explorers and merchants and indigenous peoples developed into an extended debt-based system of exchange known as *aviamento* that became the foundation of the region's economy.

Aviamento: Credit, Debt, and Exchange

Understanding the *aviamento* credit system, which began during the colonial period, is key to understanding the economy of the Amazon during the rubber boom period and beyond. The dispersed geographic distribution of the forest products that were so important to the colonial economy of the Amazon, the distance to their intended markets in Europe, and the limited availability of banks and currency in many places may begin to explain the establishment of the *aviamento* system (R. Santos, 1980; Weinstein, 1983). Forest products were often located in distant areas that presupposed

the formation of expeditions to go and harvest them. Transportation and food supplies would be needed to get merchants and collectors out to these areas, while trade goods were often needed to exchange with the indigenous peoples who collected the forest products. Therefore, a line of credit would be essential for someone unwilling or unable to bankroll his or her own expedition. A creditor willing to advance trade goods for extended periods of time was often necessary for someone hoping to collect forest products. The *bandeirante* explorers working in southern Brazil depended on similar credit arrangements to fund their slave raids and expeditions in search of precious metals and stones (Hemming, 1978).

In the Amazon, *aviamento* was based on a chain of credit – as well as a chain of patron-client relationships - that began with the collectors working in the forests and linked them through a series of intermediaries to the export houses that sold the commodities on international markets and imported the trade goods for which they were exchanged. The verb *aviar* in Portuguese literally means “to send” or “to dispatch”. The term *aviamento* refers to a process in which supplies are advanced to producers of a commodity on credit with the understanding that the producer will pay back the line of credit, often with interest, at the end of the harvest season, crop cycle, etc. In this process the person furnishing the credit and/or supplies is known as the *aviador* and the receiver is sometimes referred to as the *aviado*. The person supplying the credit was (and is) also referred to as the *patrão* (patron) and person receiving the credit was (and is) often referred to as the *freguês* (client). Both terms were still common in Lábrea when this research was conducted in 2008-2009. Excellent scholarly works have chronicled how this extensive system of long-term credit, often involving a series of

intermediaries, was employed to bring the dispersed forest products of the Amazon to national and international markets (Barham & Coomes, 1996; Dean, 1987; Frank & Musacchio, 2006; R. Santos, 1980; Weinstein, 1983).

Expansion up the Purus

In the 1840s and 1850s early explorers like João Cameta, Serafim Salgado, and Manoel Urbano da Encarnação explored extensive areas of the Purus Basin (Bittencourt, 1918). These early explorers were interested in forest commodities and began to bring indigenous groups under their control to establish the labor force required to extract these products from the forest and row them to distant ports (Kroemer, 1985). From the time of these earliest expeditions there was a keen interest in finding tributaries that would link the larger tributaries of the Amazon (such as the Purus and Madeira Rivers) and further facilitate shipping and trade linkages.

In 1864-65 the British explorer William Chandless journeyed yet further into the upper reaches of the Purus; his maps and descriptions are some of the best from this period of exploration. At the time of Chandless' trip the Purus was inhabited primarily by indigenous groups, the traders of the *drogas do sertão* were not establishing year-round residences, although some of them had established *feitorias*, which were supply sheds that were precursors to the trading posts that would become ubiquitous during the rubber boom (Chandless, 1866). Iron axes, fishhooks, arrowheads, beads, and other trade articles that dazzled the indigenous people were used to establish trade relationships that often deteriorated into debt peonage and slavery, as occurred in other parts of the Amazon (Hemming, 1978; , 1987). The early traders and explorers of the Purus were interested in many of the same forest products –salsaparilla, cacau, copaiba oil, turtles and turtle eggs - that had been the mainstay of the region's economy

during much of the 18th century. However, the early exploration and settlement of the Purus paled in comparison to the rapid expansion that coincided with the economic boom that would shape the socioeconomic system of the Amazon for the next seventy years.

The Rubber Boom and the Settling of the Purus

The invention of the process of vulcanization by Charles Goodyear in 1839, industrialization in Europe and the United States, and a series of inventions (bicycles, automobiles, electricity) led to an increasing international demand for rubber in the second half of the 19th century (Dean, 1987; R. Santos, 1980; Weinstein, 1983). Aside from some lower grade natural rubbers produced in Africa, the Amazon was the only source of high-grade natural rubber until plantations were developed in Asia at the end of the 19th century. The economic incentives generated by international demand for rubber combined with the desire to expand territorial claims and discover new trade routes led to the rapid settling of the middle and upper sections of the Purus River in the second half of the 19th century.

The establishment of steamship lines on the Amazon in 1853 greatly facilitated this phase of expansion by making it possible to bring in supplies and labor from far away cities and return with rubber and other forest products (Loureiro, 2007; Reis, 1998). Steamships began regular service on the Purus in 1869 and were the deciding factor in the rapid settlement of the area and expansion of the rubber trade (da Cunha, 2003c). The news of the natural riches on the Purus spread by early explorers and the traders of the *drogas do sertão* generated a wave of settlers interested primarily in the ever-expanding rubber business.

The expansion of rubber production often led to tragic results for the indigenous peoples of the Purus, who were either massacred, died of diseases for which they had no immunity, fled to areas that were not coveted for rubber production, or were assimilated into the rubber-based extractivist society that was forming (Ehrenreich, 1929; Steere, 1903). The ever-increasing demand for rubber on international markets combined with a tendency to expand production areas (instead of improving production techniques) led to a demand for labor that could not be met by the dwindling Amerindian population of the Purus. However, in the late 1870s devastating droughts in Northeastern Brazil created an available labor force that migrated to the area by the thousands to work in the rapidly expanding rubber economy and began to replace and intermix with the indigenous labor force (H. H. Smith, 1879).

The middle and upper Purus were settled with astonishing rapidity after Chandless' trip; accounts from the 1870s speak of several thousand rubber tappers setting up operations on the banks of the river (Brown & Lidstone, 1878). Coronel Antonio Pereira Labre, who brought a group of workers from Maranhão to establish rubber production areas in 1871, said that there were 5,000 *civilizados* living in the area with thousands more on the way (Labre, 1872). As in other parts of the Amazon, early settlers and explorers commented on the lack of agricultural production on the Purus - all the available labor was tapping rubber - which led to a dependence on expensive foodstuffs imported from Manaus and Belém (Chandless, 1866; Labre, 1872).

The settlement that Coronel Labre had established with migrants from Maranhão in 1871 quickly developed into the town named Lábrea in his honor. By 1880 Labre estimated that there were 25,000 people in the vicinity of Lábrea and the area was

given the status of municipality by the government of Amazonas in 1881 in response to its growing population (Bittencourt, 1918). The Purus became a gateway to the rich rubber fields of Acre and served as a major transportation route to Manaus and Belém. By 1890 the Purus was estimated to have 50,000 inhabitants and by 1902 this number was estimated to have risen to 120,000 (da Gama e Abreu, 1895; Jaramillo, 1902). The total rubber exports of the Purus for 1892 doubled those of 1885 and this number was doubled again between 1892 and 1902 (da Cunha, 2003c). Lábrea, a key stopping point for steamships bringing in supplies and taking out rubber and other forest products, quickly developed into one of the river's major boom towns. By 1911 nine different newspapers had been in publication in Lábrea and the town became one of the few to have a wireless telegraph service (Ferrarini, 2009). The rapid growth of Lábrea and the settling of the Purus were due to the booming rubber economy, and according to Brazilian author Euclides da Cunha (2003c), Lábrea quickly developed into an important commercial center; its revenues and expenses were the highest of any city in Amazonas, including Manaus. This boom economy was based on a system of rubber production, linked to the outside world through the *aviamento* credit system, known as the *seringal*. This production system – and its entrenched patron-client relationships – shaped social interactions in much of Lábrea until the late 1980s.

The *Seringal* Rubber Production System

As the rubber economy began to develop, the old *drogas do sertão* collection system in which boats and canoes with supplies were sent on expeditions for extended periods before returning to urban centers, was replaced by a more sedentary system based on rubber production estates (de Melo, 1994). Because the *Hevea brasiliensis* rubber trees could be tapped every other day or so during the dry season over a period

of years, it was possible to establish permanent rubber production areas in the forests of the Amazon.

In the initial phase of opening a rubber estate *mateiros*, workers with extensive knowledge of the forest, laid out a series of trails connecting the rubber trees from which the precious latex would be extracted (da Cunha, 2003b). In native forests rubber trees have a dispersed distribution, which meant that the *seringal* often covered an extensive area of forest. Land titles were sometimes established by *posse*, or possession, or were granted by municipal and state government organizations (Woodroffe, 1914). Force was often necessary to maintain a claim in these expanding frontier regions that were effectively out of the reach of the government (Akers, 1914). Trade activity on the rubber estates was conducted at the owner's trading post, known as a *barracão*. The *barracão* was typically a one or two story wooden building, sometimes with a tile roof, in which the owner of the *seringal*, known as a *seringalista*, stored supplies and conducted his business (Tastevin, 1943). The *barracão* was built near the margin of whichever waterway provided access to the area and facilitated the shipment of supplies and forest products. The *seringalista*, often called *patrão* or patron, sometimes lived in the upper floor or in a wooden building nearby. This central cluster of buildings often included storehouses, known as *armazens*, and deposits and fuel dumps known as *paioles*. A series of trails radiated out from this central point into the forest to the areas where rubber was produced. The rubber tappers who collected the latex lived in simple wooden structures, usually built of trunks from the *paxiúba* palm (*Socratea exorrhiza*), and covered with thatched roofs. Their isolated production areas and living quarters were known as a *colocação*.

During the tapping season the rubber tapper would rise early in the morning and walk the rubber trails near his home, making incisions in the boles of the rubber trees located along a loop trail that would bring him back to a starting point. Trails typically had 100 to 200 rubber trees on them, but the dispersed distribution of the trees meant that a trail might be several kilometers in length and might take several hours to walk. Having cut the incisions in the trees the tapper would then walk the trail again to collect the latex from the small cups that he had placed under each incision. The liquid was taken in a bucket back to a point near his home for the process of *defumação* or smoking. During this process the tapper would slowly pour the liquid onto a stick positioned over the rising smoke from a fire of palm nuts. The smoke would coagulate the latex into a solid ball of rubber. These rubber balls, known as *peles*, were then taken to the *barracão* every 15 days or so to exchange for supplies and pay outstanding debts to the *seringal* owner. Rubber tappers often worked up to fourteen-hour days from the time they began walking the trails until they finished the process of *defumação* (Akers, 1914). On some of the larger rubber estates mules or canoes were used to transport supplies to the tappers and bring back rubber. By 1906, when the Brazilian author Euclides da Cunha led a Brazilian / Peruvian boundary commission expedition to the upper reaches of the Purus there were 400 *seringais* on the Purus River, not counting those on tributaries like the Ituxi, Pauini, Iaco, and Acre (da Cunha, 2003c).

The Culture of the *Barracão*

In order to understand the patron-client ties that existed on the *seringais*, and that have shaped the social interactions in riverine communities along the Purus up until the present, it is critical to understand the interactions associated with the *barracão* trading posts. Power on the rubber estates was concentrated at the *barracão* trading post

where rubber, Brazil nuts, and other forest products were brought from the rubber tappers' homes in the interior of the property and exchanged for food, tools, medicine, clothing and other products that were essential for survival. On most of the *seringais* money was a rarity and forest products were exchanged directly for merchandise. This exchange was based on the familiar *aviamento* system in which a rubber tapper would receive supplies, known locally as *mercadoria*, on credit and then pay back the debt with whatever rubber and other forest products he produced over an extended period of time.

The exchange of rubber and other forest products for needed supplies were at the heart of patron-client relationships between *seringal* owners and rubber tappers during the roughly seventy-year period that represented the rubber boom. Some believe that the patron-client interactions associated with the *aviamento* credit system became so ingrained that they led to the formation of a *cultura do barracão*, or trading post culture, in riverine communities along the Purus (F. S. D. d. Santos, 2000). In spite of the entrenched nature of this mode of exchange, it is important to recognize that these trading arrangements changed over time and were conditioned to a large degree by the often-extreme fluctuations that characterized the extractive economy. In the next section I will describe the types of exchange that occurred between patrons and clients in rubber producing areas during several distinct economic phases. These include the following exchange arrangements: 1) *regime do toco*; 2) *arrendamento* or rent arrangements; 3) *seringal* abandonment; and 4) extractive reserves.

In this kind of analysis it is tempting, but incorrect, to imply a perfect lineal trajectory to these relationship changes. There were certainly ebbs and flows in the

nature of the relationships between patrons and clients that often mirrored the ebbs and flows in the extractive economy and there were periods of time when different exchange arrangements existed at the same time. It was clear during timeline interviews with older inhabitants of the Purus in 2008-2009 that they associated certain patron-client exchange arrangements with particular time periods. Many respondents mentioned the names of these exchange arrangements, such as *regime do toco*, during interviews without being prompted. The information in this section was also taken from the accounts of travelers who passed through Lábrea during different time periods. Carlos Teixeira's (2009) excellent analysis of the relational elements of *aviamento*, including his in-depth explanations of the *regime do toco* and *arrendamento* systems, were also important for developing this analysis.

The *Regime do Toco*

The type of exchange between patron and client most often associated with boom periods, when rubber and other forest products had high prices, is known as the *regime do toco* (Teixeira, 2009). In this system there was a rigid, regimented nature to the exchanges between *seringal* owners and the rubber tappers who worked for them. Tappers were required to buy all of their supplies in the owner's *barracão* and sell their rubber only to him. The patron and his staff controlled the tappers' debt ledgers and in the most remote areas could also control information about the price of rubber and supplies. In the *regime do toco* a patron could adjust the amount of merchandise that tappers would receive based on their credit standing and use this leverage to further control them. Complete control of a rubber tapper's access to necessary supplies was a key control mechanism for most patrons because the dispersed nature of the *seringal* production system made it difficult to monitor the tappers' work and police the

clandestine sale of rubber (Barham & Coomes, 1996). With the patrons setting the prices for the rubber that the tappers' exchanged and the supplies that they bought in the *barracão* there was tremendous opportunity for abuse, and many rubber tappers were unable to cancel their debts (da Cunha, 2003a; Mathews, 1879; Woodroffe, 1914; Yungjohann, 1989).

Many tappers who migrated from the Northeast of Brazil were already in debt when they arrived at the *seringal*, owing the *seringalista* for the cost of transportation and food as well as the tools, clothing and other items that were needed to produce the first season's rubber production (Reis, 1953). Keeping tappers in a continuous state of debt was a strategy patrons used to hold on to their labor force, which was in chronically short supply (R. Santos, 1980; Weinstein, 1983). The extremely isolated nature of the area and limited communication with the outside world further strengthened the position of the patron vis-à-vis the tapper (da Cunha, 2003c). Rubber tappers who traded rubber to other patrons or to itinerant river traders, known as *regatões*, were threatened with expulsion from the *seringal* or other forms of punishment. Monitors, known as *fiscais*, periodically visited the interior of the *seringal* to ensure that tappers were tapping the trees properly and not selling rubber to river traders. Many patrons also had enforcers on their *seringal* staff, known as *capangas*, who ensured that the rules were followed. Hair-raising tales of *capangas* chaining errant tappers to logs, applying lashes, and inflicting other forms of corporal punishment are still told in riverine communities along the Purus. The coercive nature of the *regime do toco* is part of the lore and legend of the rubber boom and there are many accounts from travelers

deploring this debt system as purely exploitative and unjust (da Cunha, 2003a; Labre, 1872; Mathews, 1879; H. H. Smith, 1879; Woodroffe, 1914; Yungjohann, 1989).

Although tales of coercive behavior from patrons dominate much of the writing about these relationships, some writers point out that rubber estate owners were also trapped in the debt-based exchange system of *aviamento* (Barham & Coomes, 1996; Benchimol, 1999; C. Costa, 1940; Frank & Musacchio, 2006; Weinstein, 1983). At the beginning of the rubber *safra*, or tapping season, patrons would buy the supplies they needed for their tappers on credit in Manaus and Belém and then repay their debts in rubber at the end of the tapping season (C. Costa, 1940). Tappers who sold their rubber to outside parties or ran away after borrowing supplies could make it difficult for a *seringalista* to pay his debts. When tappers borrowed supplies and were then unable to pay due to illness or death from disease, which was common, the *seringalista* was left with the debt. Finally, the extended nature of the credit system meant that rubber prices, currency exchange values, and the cost of supplies might fluctuate wildly from the time a *seringalista* purchased his supplies on credit to the end of the season when he paid in rubber (Lange, 1911; Pearson, 1911). Rubber estate owners often charged very high prices on the supplies in their *barracão* to offset these risks. In summary, there were a series of risks that rubber estate owners assumed that may explain the high cost of supplies and the poor reputation of the debt system (Barham & Coomes, 1996).

Therefore, in spite of the way these relationships are often presented, because patrons needed the tappers' labor to repay their debts, power was probably not completely unidirectional on the *seringais*, even during the boom periods. Patrons had

a limited capacity to monitor rubber tappers and if they were too harsh in their treatment of the tappers or too stingy with credit and supplies they might find themselves victims of some of the “Weapons of the Weak” that peasants in many places have used to try to level the playing field with their more powerful patrons (J. C. Scott, 1985). In the rubber forests of the Amazon this often amounted to adulterating rubber with other latexes or with heavy objects to increase its weight, selling the rubber to river traders or other parties, or even abandoning the *seringal* without paying their debts. Even if the tapper did not resort to these tactics, harsh treatment might compel him to seek out another patron, thereby decreasing the amount of labor that the original patron had on his *seringal*, which was generally already in short supply. For these reasons, conflict with his tappers due to poor treatment would probably have put many *seringal* owners at risk of not being able to pay back their own debts. It seems more likely that while the system was by no means egalitarian, the relationships between patrons and clients were more nuanced than they are often portrayed to have been, with both sides giving and taking in a relationship in which expectations were periodically reevaluated and renegotiated. To unpack how patron-client relationships in Lábrea have changed over time, it is instructive to analyze and compare the exchange of resources between patrons and clients in the *regime do toco* and compare it to the exchange arrangements that replaced it.

Patron to Client Exchanges in the *Regime do Toco*

In the *regime do toco* system patrons were generally expected to: 1) set up the tapper’s house in the forest; 2) provide the tools necessary to tap rubber (on credit); 3) open rubber trails and clean them at the beginning of the season; 4) provide transportation (mule trains or canoe) to take the tapper’s rubber (and other forest

products) to the *barracão* and bring in supplies; 5) provide long-term credit and access to supplies; 6) provide medicine or transportation in times of illness (on credit); 7) organize and pay for religious celebrations and election parties, 8) carry out other social services, such as raising orphaned children, often engaging in fictitious kinship relationships as godfather to tappers' children, and 9) provide protection for the tappers in an often wild, frontier region with virtually no police force (Benchimol, 1999; F. S. D. d. Santos, 2000; F. S. D. d. Santos & Muaze, 2002; Teixeira, 2009).

Client to Patron Exchanges in the *Regime do Toco*

In the *regime do toco* arrangement the tapper was expected to: 1) provide the labor that was necessary (and often in short supply) for tapping rubber and collecting forest products; 2) provide labor for other important off-season activities (e.g. cutting firewood for steam ships); 3) give the patron gifts or *agradas* to show deference from time to time (fish, game, etc.); 4) buy supplies from the patron's *barracão*; 5) give their patron the first opportunity to buy any item he was going to sell, and 6) in some areas they might be expected to vote (if they voted at all) the way the patron said they should (Benchimol, 1999; Teixeira, 2009).

These arrangements varied during different time periods and even from *seringal* to *seringal*, as some patrons were more benevolent than others. In spite of its often-coercive nature, there were reciprocal aspects to the exchange between patrons and clients in the *regime do toco*. The patron provided a constant source of credit and supplies, even in the off-season when the tapper had no rubber to exchange, or in other times of crisis. Although on the one hand many respondents in interviews along the Purus decried the lack of freedom they had in these arrangements, they also lamented

the abandonment of the *regime do toco* because of the security it provided in times of crisis.

It seems obvious from the interviews I conducted, and another study conducted on the Purus in the late-1990s (F. S. D. d. Santos & Muaze, 2002), that patrons in the *regime do toco* used the “carrot” as much as the “stick” in their relationships with tappers. For every hair-raising story of the cruelty of *capanga* enforcers there were two more that invariably included the refrain “*não faltava nada*” – nothing was lacking – and “*o meu patrão era bom demais*” – my patron was exceedingly good to me – revealing the complex nature of these arrangements.

The remoteness of Lábrea, the dispersed nature of the rubber production areas, and the difficulties in monitoring the actions of dispersed tappers meant that purely coercive relations between patrons and tappers were probably only feasible, if at all, in periods when high rubber prices made it possible to hire extra staff to monitor tappers’ actions and enforce the rules (Weinstein, 1983). Otherwise maintaining the trust and deference of the tappers through benevolent treatment may have been just as, if not more, common than coercive behavior. By providing year-round credit and access to supplies even during the months when a tapper was not producing rubber or other forest products, medicines in times of illness, etc. the patron filled a crucial role. For much of this time the government was non-existent, visits from religious groups and politicians were sporadic at best, and there were no civil society organizations operating in the area. In short the patron was the only source of many of the items that were essential for survival, hence his position of power and the seemingly endless opportunities for exploitation. However, the patron also depended on the tappers to

produce the rubber that he would use to pay his own debts, which might explain the “carrot and stick” nature of these relationships.

Resource Control in the *Regime do Toco*

Social relationships in which roles, exchanges, or affiliations overlap are said to exhibit multiplexity (Verbrugge, 1979). In the *regime do toco* patrons and clients had relations with high levels of multiplexity. In these multiplex relationships patrons often filled several social roles as: boss, protector, godfather to their children, etc. Their ability to control access to their rubber estate and the fact that there simply were not many other groups willing or able to provide key resources certainly strengthened their position. An analysis of the control of and access to six important resources can help us better understand the arrangements between patrons and tappers: 1) Market access / credit, 2) Land / resource control / ownership, 3) Health / Education services, 4) Religion, 5) Political access, and 6) Information. In the *regime do toco* period the patron had almost complete control over all six of these resources and services, putting him in a position of nearly complete control of those who lived on his *seringal*.

Market access and credit: In the *regime do toco* the patron controlled access to credit, supplies and markets, which was the basis of much of his control over the tappers. For the most part people living on the *seringal* had to sell any resources collected to the patron, or at least give him the first option to buy before trying to sell them to someone else. Patrons had relationships with banks, traders, and other sources of supplies that the ordinary tapper did not have. At times patrons would allow residents to sell animal pelts, fish, etc. to someone else, but usually only if they had no use for them. Clandestine exchanges with itinerant river traders, known as *regatões*, also existed, but could lead to harsh reprisals from the patron if discovered.

Land / resource control / ownership: During the rubber boom period in Lábrea *seringal* owners took the time and money to obtain official land titles that recognized their claims. During this period there was very little questioning about the validity of a patron's claim to the *seringal* (unless it was in a conflict with another *seringal* owner over boundaries). During interviews in 2008-2009 older inhabitants said that they had no way of knowing that many of these land claims were false or inflated. They said that all of the resources on a particular *seringal* belonged exclusively to the owner and tappers from one *seringal* would not hunt or fish on another *seringal* without explicit permission from the owner. This was a widely recognized norm. In spite of the large distances that made monitoring difficult, the leverage that the patron had in being able to expel a tapper that broke the rules, or limit his access to credit and supplies, were apparently quite effective in maintaining order. Patrons normally had close relationships with the few police officers in town and could call on them to evict a tapper that broke the rules (F. P. Costa, 2005). Patrons also made sure that outsiders did not take resources from the *seringal* without permission.

Health and education: In the *regime do toco* the patron also had control over a tappers' access to health and education. Medicines were generally only available, if at all, in the *barracão*, and patrons could also arrange for transportation to the city in case of more serious illness. The municipal government had extremely limited capacity to provide health care in urban areas and no capacity to provide services in rural areas. Most of the *seringais* did not have even rudimentary education, but those that did only had schools if the patron allowed it.

Religion: Since patrons controlled access to the *seringal* they also controlled access to religious services. When priests periodically visited the interior to conduct religious services they arranged these visits with the *seringal* owners. Usually they stayed in the patron's house and often conducted services in and around the *barracão*. Until the ideology of liberation theology became popular in the late 1960s, the Catholic Church was not known for questioning social hierarchies and in Lábrea the church did not openly question the hierarchies of the *seringal* system until the 1970s (personal communication Bishop of Lábrea).

Political representation: Politicians who were campaigning in the interior also coordinated their visits with the *seringal* owners. Typically these visits were limited to campaign cycles if they occurred at all. Patrons maintained strong relationships with politicians, unless they were political enemies, and had much easier access than tappers to politicians (F. P. Costa, 2005). As landowners and businessmen they were often sought out for financial support during campaigns or for their ability to deliver the votes of the tappers on their *seringal*, making their friendship important for politicians to acquire. As in the case of the priests, politicians visiting during campaigns would stay in and around the *barracão* or patron's house during their visits. Patrons often organized parties at election time in which food and drink would be provided for the tappers who came in from the interior of the *seringal* to vote.

Information: In days before portable transistor radios, much of the information that came from the outside world, like everything else that came and went from the *seringal*, would pass first through the *barracão* or patron's house. There is no doubt that information passed between tappers, but it was certainly hindered by the dispersed

nature of the *seringal* layout. In some parts of the Brazilian Amazon tappers would leave the *seringais* in the rainy season and stay in the nearest town until the next tapping season (Lange, 1912), in these cases tappers must have had more access to information about the price of rubber and supplies than those who lived full time on the *seringal*.

Table 3-1. Control of Key Resources in the *Regime do Toco*

Resource	Controlled / Provided by
Credit / supplies / market access*	<i>Seringal</i> owner
Land / resource control	<i>Seringal</i> owner
Health and education	<i>Seringal</i> owner
Religious services	<i>Seringal</i> owner
Political representation	<i>Seringal</i> owner
Information	<i>Seringal</i> owner

*The main exception to the patrons' control during the *regime do toco* may have been interactions with the itinerant river traders, who provided a clandestine source of exchange for goods, information, etc. However, as previously mentioned there was an element of risk in engaging in these relations.

Until relatively recently the tremendous physical distances from the *seringais* to the small interior towns like Lábrea strengthened the position of the patrons and river traders vis-à-vis their clients. Tappers were often separated from urban centers by several days, if not weeks, of hard rowing in open canoes. During boom periods there were many more ships going up and down the rivers that tappers could travel on, if they had the resources to do so. During interviews conducted in 2008-2009, I was told that there were many fewer boats on the rivers than before; however, this lack of boats was offset to some degree by the proliferation of small outboard *rabeta* motors that had greatly reduced the amount of time it took inhabitants to get to town.

During the boom periods, credit and supplies were considered the most important resources over which patrons maintained control and used as leverage in their relationships with their clients. When rubber prices were high, patrons could buy

supplies on extended credit and pass it on to the tappers; however during economic busts credit restrictions and low prices often dramatically changed the ability of the patrons to provide credit to the tappers, which often placed the legitimacy of the rigid *regime do toco* exchange arrangements in question.

Boom Bust Cycles in Lábrea

The rubber boom that had led to the founding of Lábrea and the institutionalization of the *aviamento* system in the area was greatly impacted by the development of rubber plantations in Asia from seeds spirited out of the Amazon by the British in the 1870s (Dean, 1987; Jackson, 2008; Weinstein, 1983). Expanding plantation production in Asia drastically lowered the price of rubber on international markets, sending a shock wave down the *aviamento* credit system. Rubber producers could no longer repay their debts and the defaults led to bankruptcies all the way up the *aviamento* chain. The rubber tappers at the bottom of this chain of debt were often in a perilous position as their source of foodstuffs, medicine, clothing, and other essential items began to disappear. The situation became so desperate that in the years following the bust of 1910-11 there was a mass exodus of workers from many of the *seringais* to urban areas like Manaus and Belém (Benchimol, 1999). Many rubber tappers eventually decided to return to their places of origin in the Northeast of Brazil (Benchimol, 1999). Labor, which had always been scarce, became insufficient on many of the old rubber estates to keep them operating (Schurz, Hargis, Marbut, & Manifold, 1925). However, rubber production continued and even increased in some years of the 1920s. Although the 1930s were a decade of extremely low rubber production in the Brazilian Amazon, production never ceased entirely, nor did the patron-client relationships that had become entrenched in the boom years.

Along the Purus those that stayed in the rubber estates often had to dramatically shift their production activities in order to survive. Many inhabitants began to do agriculture on the fertile, sediment-rich beaches of the Purus that appear in the low water season (Gondim, 2001). Others did their best to survive by fishing, collecting turtles, or working as Brazil nut collectors (Gondim, 2001). Many of the essential supplies that had once been provided by rubber estate owners were now furnished by river traders, who continued the practice of exchanging them for forest and agricultural products on credit (Gondim, 2001). *Seringal* owners who were able to diversify their production to incorporate Brazil nuts and other products were sometimes able to maintain a *barracão* with supplies and continue with the *regime do toco*. Many of those who could not abandoned or sold their *seringais*, and others decided to dramatically renegotiate the exchange arrangement they had with the tappers who worked for them. These renegotiated relationships implied a whole new series of obligations and expectations between patrons and clients. The *regime do toco* appears to have dominated during the times when rubber prices were high (such as the pre-1910 boom years) and in the periods when government subsidies made credit available to patrons (such as during World War II and in the years following the conflict). When rubber prices dropped significantly or when subsidies were not available, new exchange arrangements between patrons and tappers often developed.

From the *Regime do Toco* to *Arrendamento*

When rubber prices fell, the *aviamento* system often faltered, and in some cases collapsed altogether, which led some rubber estate owners to modify their demands vis-à-vis the production of rubber and their obligations to provide supplies on credit. In these arrangements, often called *arrendamento* or rent, tappers were no longer

obligated to sell all of their production to the patron and they were not obligated to buy supplies in his *barracão* (Teixeira, 2009). Instead, tappers paid a flat rate “rent” in rubber for each of the trails they tapped to their patron and could sell the rest to whomever would buy it (Teixeira, 2009). Antonio Loureiro’s (1981) book, based on newspaper archives from the town of Sena Madureira, further up the Purus, provides fascinating accounts of how patrons went as far as putting advertisements in the newspaper in the attempt to rent their rubber trails after the big crash. Although patrons were demanding less in this system, they also significantly reduced the services they provided to the tappers. Once again we can analyze these patron-client relationships by unpacking the exchange that took place between patron and client.

Patron to Client Exchanges in the Rent System

In the “rent” system the patron: 1) allowed the tapper to use resources on his land; 2) may or may not have made supplies available in the *barracão*; 3) may or may not have provided transportation for rubber and supplies; 4) probably would not maintain the rubber trails; 5) may or may not have provided credit but typically would reduce credit or reduce the amount of time given to repay the debt; 6) would probably not organize or hold parties / festivals; 7) may or may not have provided medicine and /or transportation in case of emergency (Schurz et al., 1925; Teixeira, 2009).

In the “rent” system, land and resource control became the patron’s main leverage over the client, who often traded directly with river traders but still paid rent.

Client to Patron Exchanges in the Rent System

The main obligation of the tapper / client in this system was to pay the “rent” for each trail he was tapping. However, the option to buy supplies on credit in the *barracão* was often greatly reduced, or eliminated altogether. On many *seringais* in Lábrea

patrons began to physically move from the *seringais* to town and may or may not continue to operate a *barracão*.

In this system the tapper often had to find another source of the supplies, which were vital for survival in these remote areas. In Lábrea river traders increasingly became the source of these supplies. However, this meant developing a new line of credit with the river trader for periods when the tapper had no rubber or other forest products to trade for supplies. Depending on the quantity of “rent” expected for each trail from the patron, the ability of the tapper to buy supplies was often reduced. I was told that some patrons demanded the *renda* be paid with the first rubber produced during the tapping season, which is often when the trees produce best. Chagrined tappers said that they had to try to make a living with the rest of the season’s production, often the period when the trees were less productive. In the *regime do toco* the demands of the patron were offset to some degree by the constant availability of credit and supplies. In the rent system this safety net was often largely withdrawn, which often put the tapper’s subsistence in doubt. When a patron begins to make demands and no longer provides the resources that enable their client to maintain even a subsistence existence, the client often begins to question the legitimacy of the arrangement (J. Scott, 1977; J. C. Scott & Kerkvliet, 1973).

In the *regime do toco* credit and supplies were the patrons’ main source of control and leverage in their relationships with their clients. However, during rent periods when tappers were free to sell surpluses to whomever would buy them, this was not the case. During interviews along the Purus in 2008 and 2009 older residents explained that they

paid rent because the patron said he owned the land and everything on it and he would get the police to expel them if they did not pay.

Resource Control in the Rent System

At this point it is instructive to once again analyze the six resources that were controlled by *seringalistas* in the *regime do toco* and compare them to the “rent” system.

Credit / supplies / market access: Increasingly tappers in the “rent” system had to look for other sources of credit and supplies, although some patrons still maintained *barracões* and were able to provide supplies on credit. In Lábrea the river traders increasingly became the source of supplies for many inhabitants of the interior. They entered into arrangements with the river traders similar to those they had had with the *seringal* owners, receiving supplies – often on credit – in exchange for forest products. Inhabitants often expanded their agricultural production to offset the shortage of foodstuffs.

Land / resource control / ownership: In the “rent” system the *seringalistas* often no longer maintained a physical presence on the *seringal*; many moved to urban areas, and left a *gerente* or manager in charge of the *seringal*. The infrastructure on the rubber estate was often abandoned and left to slowly deteriorate. In some cases the manager did not live on the *seringal* either and only passed sporadically to collect the rent. In some cases instead of hiring a manager the *seringal* owner would lease the area to an *arrendatario* who would pay a fee to the owner and charge the “rent” himself. By this time the *capangas* that had once been so feared were long gone but *seringal* owners could still threaten eviction to those who did not pay rent, through their relationships with local police. Generally, however, the tappers had much more freedom with the way they used resources than in the *regime do toco* system. Land tenure

arrangements, which had always been uncertain, became even more so when the *seringal* owner no longer lived on the estate.

Health and education: The closing of the *barracões* in this period often removed the limited access that inhabitants had had to medicines and many people started to turn to “traditional” medicines to offset this problem (F. S. D. d. Santos & Muaze, 2002). Municipal agencies in some cases provided some basic health services by periodically sending doctors and dentists to the communities.

Religion: The period of the final shift from the *regime do toco* to the rent system in Lábrea coincided with a shift in the policy of the Catholic Church regarding its work with the poor. In the 1960s the church hierarchies in many parts of Latin America adopted the tenets of Liberation Theology, and began to associate the fate of the poor with social inequalities (Berryman, 1987). Priests in Lábrea were no longer willing to ignore the exploitation that they felt was occurring between patrons and rubber tappers. In the 1970s the Prelacy of Lábrea began to form Christian Base Communities in many of the communities that were forming on the former *seringais*. They began to form direct lines of communication with the inhabitants, no longer deferring to the hierarchies of the *seringal* system, in which they would arrange everything through the patrons. They began to carry out literacy campaigns and programs to elect community leaders. Priests in Lábrea were instrumental in forming the Rural Workers’ Union of Lábrea in 1979. In this period they open a Pastoral Land Commission office in the Prelacy to address land tenure issues, and began to get involved in indigenous rights issues in the municipality.

Political representation: Contact with politicians was still generally limited to political campaigns, but in the absence of the patrons politicians increasingly began to communicate with community leaders and inhabitants.

Information: People had access to radios in some cases, interactions with other community members, and increasingly with the priests who were forming the Christian Base Communities. The budding social movement organizations also began to provide crucial information. For example, the Rural Workers' Union and Pastoral Land Commission agents began to inform inhabitants of their rights and of the false nature of the land claims of many patrons, who often charged "rent" from families when they had no valid title to the lands upon which the families lived.

Table 3-2. Control of Key Resources in the Rent System

Resource	Controlled / Provided by
Credit / supplies / market access	<i>Seringal</i> owner (or no one)
Land / resource control	River traders (some <i>seringal</i> owners)
Health and education	None (or limited government services)
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	River traders, priests, etc.

The rent system was common during periods when rubber prices were low and patrons could no longer provide supplies on credit, including the period after the first rubber crash, most of the 1920s and 1930s, and then again in periods after World War II when government subsidies were withdrawn. As previously mentioned, the *regime do toco* and rent systems often existed side-by-side, depending on several factors particular to the situation of each *seringal*. Under the rent system, control changed drastically; patrons no longer demanded exclusive exchange arrangements but they were also less willing (or able) to provide necessary supplies and credit in times of need. Patrons often moved to nearby towns and were even less likely to be able to

monitor resource use, although they sometimes hired *gerentes* or managers to do so. Tappers began to expand their interactions with river traders, who often became their primary source of credit and supplies. The patron-client relationships in these cases became less multiplex in many cases as tappers could no longer obtain everything from a single patron.

Subsidized Rubber Production

During World War II the governments of Brazil and the United States attempted to revive natural rubber production in the Amazon to offset the capture of the Asian rubber plantations by the Japanese (Martinello, 2004; Secreto, 2007). This government program pumped money back into the rubber economy and led to a new wave of migration from the Northeast of Brazil. So-called *soldados da borracha* or rubber soldiers were sent by the thousands up the Purus and into Acre to tap rubber as part of the war effort.

Although this program lasted only a few years, it led to the establishment of a series of the rubber subsidies in the Amazon that enabled many of the old rubber production estates to keep functioning. With the national demand for rubber expanding in Brazil due to its own industrialization period, beginning in the 1950s, there was an incentive to maintain natural production in the Amazon to decrease Brazil's dependence on foreign rubber. The PROBOR rubber production programs were periodically renewed and included monies for: *seringal* improvements (infrastructure), loans for operating costs (supplies), and funds for opening and maintaining rubber processing facilities (Lábrea had one of these) ("PROBOR II - Segundo Programa de Incentivo à Produção de Borracha Natural: Fundamentos - Objetivos - Normas Operativas", 1978; , "Programa de Incentivo à Produção de Borracha Vegetal - Normas Operativas

Aplicáveis ao Financiamento de Projetos - PROBOR ", 1972). In an ominous twist for Amazonian production these subsidy programs also included funding to expand the rubber plantations in São Paulo state and in Bahia that could produce greater quantities per hectare at lower costs (Hoelz & Martinez, 1972; , "PROBOR II - Segundo Programa de Incentivo à Produção de Borracha Natural: Fundamentos - Objetivos - Normas Operativas", 1978; , "Programa de Incentivo à Produção de Borracha Vegetal - Normas Operativas Aplicáveis ao Financiamento de Projetos - PROBOR ", 1972).

The End of Subsidies and the End of the *Seringal*

Rubber subsidies kept production alive in Lábrea into the 1980s; as late as 1982 the Beneficiamento de Borracha Ltda. plant in Lábrea sold approximately 2 million tons of processed rubber and there were 120,000 hectares of planted rubber producing latex in the municipality (Peret, 1985). However, a series of financial shocks in the late 1980s and early 1990s would finally bring an end to the *seringal* system and dramatically alter the surviving patron-client relationships between tappers and *seringal* owners.

In the 1980s and early 1990s Brazil suffered from rampant inflation and a debt crisis that led to dramatic changes in economic policy. Brazil's currency was changed several times in a few short years and economic austerity measures were applied. The rubber industry in Brazil, which had enjoyed protected status for years in the form of high import tariffs on Asian rubber and the PROBOR subsidies, soon found itself without this support (Cardoso, 2009). Without these subsidies natural rubber production in the Amazon was not able to compete with rubber produced on plantations in Asia or those that had been planted in Bahia and São Paulo (Brooke, 1995). I was informed in an interview that the rubber production plant in Lábrea closed down for good in 1992. Beginning in 2003, state and federal subsidy programs were implemented and a few

hundred tappers in the interior of the municipality began tapping rubber again as a complement to other activities.

Although some former owners and *arrendatários* still attempted to charge rent, the prices of rubber without the subsidy programs became so low that it was no longer worthwhile to take the time to try to charge rent. Patrons whose *seringais* had extensive Brazil nut groves still had an incentive to charge rent from the occupants, and some continued with this practice in 2008-2009. Once timber and other resources had been extracted, many former *seringal* owners completely abandoned their claims to these areas, leaving the former rubber tappers to fend for themselves. I learned that the sharp fluctuations in currency rates and inflation were also devastating for many of the river traders who had continued to furnish supplies in exchange for forest products. These shocks greatly impacted the *aviamento* credit system that people in the interior of Lábrea, and throughout rural Amazonia, still depended upon (Aramburu, 1994).

From *Arrendamento* to *Seringal* Abandonment

With the end of government subsidies in the late 1980s and early 1990s, the price of rubber fell so low that most people in Lábrea stopped tapping it altogether. A mass exodus from the rural villages along the river to urban areas that had begun years earlier intensified. Table 3-3 shows the dramatic rural-urban migration trend in Lábrea from 1970 to 2000 compared to Amazonas state and Brazil.

With these dramatic socioeconomic changes, even the *arrendamento* arrangements began to break down. In other cases landowners continued to try to extract rent payments from the inhabitants of the former rubber production areas, many of whom were now involved in the timber industry, fishing, or collecting Brazil nuts. Those who remained and did not move to urban areas began to question even more the

exchanges with patrons that now had virtually no benefits for them. Once again it is instructive to analyze the exchange between patrons and clients in this period.

Table 3-3. Rural-Urban Migration in Brazil, Amazonas, and Lábrea 1970 to 2000

		1970	1980	1991	2000
Brazil	Total	93,134,846	119,011,052	146,825,475	169,799,170
	%Urban	55.9%	67.6%	75.6%	81.2%
	%Rural	44.1%	32.4%	24.4%	18.8%
Amazonas	Total	955,203	1,430,528	2,103,243	2,812,557
	%Urban	42.5%	59.9%	71.4%	74.9%
	%Rural	57.5%	40.1%	28.6%	25.1%
Lábrea	Total	16,737	22,026	33,052	28,956
	%Urban	18%	37.5%	46.7%	66.6%
	%Rural	82%	62.5%	53.3%	33.4%

(IBGE Census Data from Oct.2009)

Patron to Client Exchanges in *Seringal* Abandonment

At this point many of the old patrons had long abandoned the area and in many cases had even stopped attempting to charge rent. The *barracões* had mostly disintegrated back into the tropical forest and inhabitants had turned to river traders to exchange their products and acquire supplies. In places that had once been dominated by a single patron who had been the tappers' link to the outside world, people were now beginning to form relationships with different groups that could help them with different needs. In some cases new patron-client ties began to form to replace those that had existed on the rubber estates.

Client to Patron Exchange in *Seringal* Abandonment

With the fall in prices in rubber and other extractive products, the refusal (or inability) of former *seringal* owners to provide supplies on credit, and the knowledge that they had been charged "rent" on lands to which patrons often had no legal title, the inhabitants began to refuse to pay rent and to rebel against the patron-client ties that no longer appeared to provide even minimal benefits. Inhabitants of the villages that had formed in these areas were increasingly interacting with social movements, religious

organizations, and government agencies that were encouraging them to organize and fight for their rights.

In this abandonment phase the services that had once been provided or controlled almost exclusively by the *seringalistas* were further divided among a new set of actors.

Credit / supplies / market access: For most inhabitants of the interior the river traders became their main access to markets and supplies on credit. Most of the inhabitants of the interior greatly reduced, and in some cases stopped altogether, the collection of forest products and instead began to engage in fishing and the production of agricultural products, particularly manioc and beans. Improved access to outboard motors made access to markets in town easier and inhabitants living closer to Lábrea began to purchase supplies directly from shop owners in town.

Land / resource control / ownership: By this time most of the *barracões* that had been at the center of the patron's power and proof of his ownership of the area were long gone. Even the periodic visits by patrons, managers, and *arrendatários* had ceased in many communities. The land tenure situation became even murkier as inhabitants discovered they had some nominal land rights based on their occupation of the land, but these rights were generally weak and inhabitants were constantly unsure if they would be evicted at some point. The federal government began to create extensive indigenous territories that implied the eviction of any non-Indians living on them, including many riverine communities comprised of former rubber tappers. Government agencies began to have an increased presence in the municipality and became more involved in land issues. In some cases this led to a situation of "open access" in which outside fishermen, loggers, and other groups began to use resources

that the people living in the villages felt belonged to them. Resource conflict was inevitable in these situations. The government agency charged with enforcing Brazilian environmental laws, IBAMA, began to monitor resource use in Lábrea more strictly in the 1990s. The Pastoral Land Commission and other social movements began to try to help resolve resource use conflicts in these areas.

Health and education: In the 2000s the municipal and state governments began to invest in education in the interior and inhabitants of the villages on the former *seringais* began to gain access to primary education services. Health care continued to be limited to occasional visits by a medical barge, usually during campaign season, and to the malaria control efforts carried out by municipal and federal agencies.

Religion: The policy of the Catholic Church regarding the Christian Base Communities began to change in the 1980s and 1990s as Liberation Theology became less popular with the church hierarchy. However, the pro-poor work of the Catholic Church in Lábrea continued and new organizations and projects were established to help the inhabitants of the interior; in urban areas they also helped the flood of people arriving from the rural areas. The Pastoral Land Commission (CPT) continued to organize community leaders and help them with land tenure issues. In the 1980s and 1990s there was an explosion of Evangelical churches in Lábrea and great number of people began to convert from Catholicism. This mirrors a larger trend in Brazil, which has witnessed a tremendous expansion in the number of Evangelical churches (Stoll, 1990, 1993).

Political representation: Interactions with politicians continued to be limited to campaign periods for the inhabitants of the villages in the interior. In many cases these

sporadic interactions were characterized by the exchange of votes for supplies, diesel motors, and other resources. For inhabitants able to travel to the town of Lábrea, the mayor's office and city council often became places to ask for food, medicine, transportation, and other items.

Information: Social movement organizations increasingly supplied information to inhabitants. In the 1990s government agencies began to help communities form community associations in an attempt to help them market and sell their products and also to access government assistance programs. One of the main reasons for the formation of these organizations was the injustice and exploitation of the old patron-client system that had existed between *seringal* owners and tappers, and the need to replace them with more just interactions. Government agencies also brought

Table 3-4. Control of Key Resources in *Seringal* Abandonment

Resource	Controlled / Provided by
Credit / supplies / market access	Federal gov. agency (or no one)
Land / resource control	River traders (some shop owners)
Health and education	Municipal and fed gov. agencies
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	Soc. mov., river traders, priests, etc.

information regarding potential solutions to the unclear land tenure situation of people living in the villages, particularly the possibility of creating extractive reserves and agricultural settlements. Inhabitants of the riverine communities were increasingly worried about being expelled from the lands they occupied, as a result of the creation of indigenous lands, and their leaders were actively looking for solutions to their land tenure uncertainty.

From Abandonment to State Control

The collapse of the rubber industry, and others based on forest products, in the Amazon coincided with a rapid increase in the presence of social movements, church organizations, NGOs, and government agencies that began providing services and assistance in a way that often directly challenged or replaced the old patron-client ties. The legitimacy of the patron-client exchange arrangements had been called into question by clients whose patrons provided fewer and fewer services in exchange for forest products and/or “rent” payments. Information about the dubious nature of many patrons’ land claims further weakened the legitimacy of the old arrangements for many inhabitants.

In Lábrea the role of the Catholic Church was fundamental in the emergence of social movements that would challenge the patron-client system that dominated the area. In the early 1970s the priests in Lábrea decided that they would begin working directly with the communities on the *seringais* to form Christian Base Communities. They held meetings directly with the workers on the *seringais* and no longer coordinated their work with the patrons. The decision to organize the CEBs was made by the local priests, but was inspired in part by the tenants of Liberation Theology that emerged from the Vatican II decree of Pope John XXIII and the ideas generated at the meeting of Latin American bishops in Medellín in August 1968 (Berryman, 1987). Part of this work included the formation of community leaders that would help organize and teach other people in the communities (Boff, 1985). In addition to spreading religious teachings and literacy to their neighbors, these leaders began to act as “brokers” between people in their communities and the rest of the world. People from government agencies, politicians, etc. typically sought out community leaders when they arrived in the

communities or when they wanted to spread information. The community leaders would often travel to Lábrea to meet with people in social movement and government agencies to resolve issues on behalf of their communities or individuals in the communities.

In the late 1970s one of the priests in Lábrea began to help organize community leaders and they formed the *Sindicato de Trabalhadores Rurais de Lábrea* (Rural Workers' Union of Lábrea), which established links with national rural workers unions like *Federação dos Trabalhadores da Agricultura* (FETAGRE) and *Confederação Nacional dos Trabalhadores na Agricultura* (CONTAG). The union directly challenged the injustices that were occurring on the *seringais*. Rubber tappers brought their debt ledgers to the union with complaints of being cheated. On several occasions when patrons threatened to throw tappers off their *seringais* for one infraction or another the union intervened, even providing legal counsel on several occasions.

In the 1970s indigenous people in the municipality of Lábrea began to demand the creation of Indigenous Lands as a way of reestablishing their rights to the lands and resources that they had lost during the expansion of the rubber economy in the Amazon in the late 19th century. The Catholic Church of Lábrea opened a *Comissão Pastoral da Terra* (CPT) office in the early 1980s to address land conflicts in the area and a *Conselho Missionario Indigena* (CIMI) office to address human rights issues involving the indigenous peoples in the region.

The Catholic Church worked with these newly created social movement organizations to set up community associations that were designed to provide an alternative for people to buy merchandise and sell their production. These associations

were created to replace the patron-client relationships that had become institutionalized in the *seringal* production system.

After the year 2000, regional social movement organizations like the *Grupo de Trabalho Amazônico* (GTA) and *Conselho Nacional de Seringueiros* (CNS) also established a presence in Lábrea. These groups saw the creation of Extractive Reserves as a way of maintaining extractivist livelihoods, breaking unjust patron-client ties, and conducting land reform. Since the 1980s these goals had been joined with the goals of national and international environmental organizations, which saw the Extractive Reserves as a way to maintain forest cover and conserve biodiversity.

In addition to the rise of social movements in Lábrea, there was a shift in the way many state and even some national government organizations conducted their work. State government agencies in Lábrea like the *Instituto de Desenvolvimento Agropecuário e Florestal Sustentável do Estado Amazonas* (IDAM) and *Agencia de Desenvolvimento Sustentável do Amazonas* (ADS) now coordinate a large part of their activities through community associations, which they often help to create and legalize, and often form partnerships with local social movement organizations. A wide array of rural credit programs designed to benefit small producers are accessed through government agencies like IDAM. Over the last ten years, social programs like *Bolsa Família* became available to people in Lábrea and became a vital source of income for many families in the wake of the collapse of extractive industries. *Bolsa Família* was a cash transfer program that benefited approximately eleven million Brazilians (Soares, Ribas, & Osório, 2010).

Local government agencies began to increase their presence in the communities at about the same time that the *seringal* system began to collapse. This was about the same time, 1985, in which Brazil returned to democratic rule. However, the contact was (and is) often limited to the election season when candidates travel to the communities to campaign. Vote buying was (and is) common and communities often feel abandoned once the politicians are elected. For the most part, politicians only visit the communities during campaign activities.

State Control and Patron-Client Ties

In May 2008 the Médio Purus Extractive Reserve, which covers 604,290 hectares and containing more than ninety communities, was created. In June 2008 the Rio Ituxi Extractive Reserve, covering 776,940 hectares and eleven communities, was created on the Ituxi River. The inhabitants of these reserves, many of whom worked on the old rubber estates and had patron-client ties with estate owners, will see yet more changes in their social interactions.

Credit / supplies / market access: The extractive reserve model also typically favors one or more community associations to be the direct link between the inhabitants and the government agencies that provide assistance. Project monies and resources are typically channeled through this “mother association” or *associação mãe* on to the inhabitants. The community leaders that head these associations are a new power within the reserves and may often become the new link that people have to go through to access government programs and project funds. Many government agencies also hope to replace the old river traders and landowners, who are perceived to be exploitative in their relations with reserve inhabitants, with community associations. However, at the time this research was conducted it was obvious that most of the newly

created community associations had neither the operating capital nor the business contacts to buy and sell with the riverine communities in the reserves. River traders and storeowners in Lábrea were still the main market access that riverine communities depended on to obtain supplies in exchange for forest and agricultural products.

Land / resource control: The creation of an extractive reserve implies almost complete government control over the natural resources found within the reserve. Communities have usufruct rights to resources in the reserve but they do not own the land. With this arrangement the old patron-client ties with *seringal* owners should be a thing of the past. However, the communities will now have to answer to the government officials in charge of co-managing the extractive reserve. Theoretically they are required to have management plans in order to utilize the resources found within the reserve, implying the elaboration of expensive and time-consuming official documents.

Health and education: Municipal and federal government increasingly provided these services. Since the year 2000 the municipality of Lábrea had built one-room school buildings in most of the communities along the river. However, since the schools in the riverine communities were limited to the primary school grades, children had to live in the town of Lábrea if they wanted a higher education. Health services, one of the major worries for riverine community inhabitants, were still non-existent outside of the urban center except for periodic visits from the municipal health boat and the FUNASA indigenous health agency.

Religious services: Priests and nuns visited the riverine communities on the Purus approximately two to three times per year to conduct religious services. Many inhabitants of these communities also had contact with them when they visit the town of

Lábrea. A boom in the number of converts to Evangelical faiths had also changed the religious dynamics in these areas. Pastors lived in some of the communities and in many Evangelical churches were being built alongside Catholic churches, or replacing them all together.

Political representation: Politicians often depended on relationships with community leaders as a way to reach the wider population. However, they did occasionally visit the communities during political campaigns.

Information: Social movement groups like the Pastoral Land Commission and the National Council of Rubber Tappers increasingly provided information in riverine communities, including information about the extractive reserves, community associations, government programs, land tenure, and other issues. River traders, politicians, and other groups often provided their own information, which often contradicted the information provided by social movement groups, particularly regarding the creation of extractive reserves, which many of these actors did not want to see created.

Table 3-5. Control of Key Resources under State Control

Resource	Controlled / Provided by
Credit / supplies / market access	River Traders / Gov. agency
Land / resource control	Community associations (river traders)
Health and education	Municipal and fed gov. agencies
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	Soc. mov., river traders, priests, etc.

Chapter Conclusions

The Brazilian exploration of the Purus River and the establishment of the municipality of Lábrea in the second half of the 19th century coincided with the Amazonian Rubber Boom. The patron-client relationships associated with the

aviamento credit system and the *seringal* rubber production unit dominated Lábrea's economy for approximately one hundred years. Patronage and *aviamento* continued even during periods when rubber lost value and people were engaged in the extraction of other forest products and family agriculture. Through the years patron-client relationships changed based on: 1) the ability to control and provide key resources, 2) the economic ebbs and flows that altered resource control and exchange expectations between patrons and clients, and 3) the alternatives (or lack thereof) to the patron-client relationships that were established during the rubber boom.

Table 3-6 below summarizes the changes in the control of resources and provision of services that occurred over time with socioeconomic changes that included: the booms and busts of an economy based on the extraction of forest products (particularly rubber) and the arrival of government agencies and social movements that challenged the position of the *seringal* owner patrons as the sole provider of necessary resources and services.

In the rigid *regime do toco* exchange system, rubber tappers were expected to maintain exclusive resource exchange arrangements with a single patron (forest products for supplies). Although they often demanded exclusivity in their exchanges, patrons often provided a safety net in times of need in remote areas where no other help was available. Patrons and clients had highly multiplex relationships, which included the exchange of a range of resources and services.

In the more relaxed *arrendamento* or rent arrangements, patrons charged rent for the right to use resources, but no longer demanded exclusive resource exchange. Once they paid their rent, tappers could sell their products to whomever would buy

them. Although they no longer demanded exclusivity, in the rent arrangements patrons were less likely to provide credit or serve as a safety net in times of crisis, which led many tappers to begin to question the legitimacy of these exchanges. Instead of dealing with a single patron who controlled most of the resources and services available to them, tappers began to form (out of necessity) relationships with whomever could or would provide vital resources and services.

Table 3-6. Control/Provision of Key Resources in the Regime do Toco

Resource	Controlled / Provided by
Credit / supplies / market access*	<i>Seringal</i> owner
Land / resource control	<i>Seringal</i> owner
Health and education	<i>Seringal</i> owner
Religious services	<i>Seringal</i> owner
Political representation	<i>Seringal</i> owner
Information	<i>Seringal</i> owner
Control/Provision of Key Resources in the Rent System	
Resource	Controlled / Provided by
Credit / supplies / market access	<i>Seringal</i> owner (or no one)
Land / resource control	River traders (some <i>seringal</i> owners)
Health and education	None (or limited government services)
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	River traders, priests, etc.
Control/Provision of Key Resources in Seringal Abandonment	
Resource	Controlled / Provided by
Credit / supplies / market access	Federal gov. agency (or no one)
Land / resource control	River traders (some shop owners)
Health and education	Municipal and fed gov. agencies
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	Soc. mov., river traders, priests, etc.
Control/Provision of Key Resources under State Control	
Resource	Controlled / Provided by
Credit / supplies / market access	River Traders / Gov. agency
Land / resource control	Community associations (river traders)
Health and education	Municipal and fed gov. agencies
Religious services	Direct contact with priests
Political representation	Direct contact with politicians (limited)
Information	Soc. mov., river traders, priests, etc.

The final collapse of the *seringal* system due to the removal of rubber subsidy programs and tariffs on rubber imports in the late 1980s and early 1990s caused yet another shift, as most of the old *seringal* owner patrons completely abandoned the *seringal* properties, and many of the river traders also went out of business. The Catholic Church began organizing Christian Base Communities and no longer deferred to the hierarchies of the old *seringal* system. During this phase government agencies increased their presence in Lábrea and began to provide credit through government programs, an alternative to the *seringal* patrons that had not been available in the past. Social movement groups also began to arrive at this point and also became potential alternatives for information and assistance with community organization.

As this research was being conducted many of the riverine communities were incorporated into federal extractive reserves, which could once again change the balance of resource control and the provision of services to one in which the government would play an even greater role. In this scenario, instead of deferring to the resource use rules imposed by a *seringal* owner, community inhabitants may need permission from government officials to conduct certain resource use activities. While this research was being conducted, government agencies and social movement groups were trying to help communities form associations and replace traditional market actors, like river traders. However, these associations were still struggling to organize their business operations and had not yet been able to replace the river traders as a source of credit and supplies.

Over the past fifty years Lábrea's socioeconomic systems underwent dramatic changes. The patron-client relationships that became entrenched in the region's social

fabric, on the one hand seem to have dissipated along with the *seringal* rubber production system on which they were based. As patrons lost the ability to provide access to credit and control resources, they lost their ability to enforce the exclusive nature of their exchanges with their clients. As Martin (2009) points out, this often leads to a situation in which the patron can no longer enforce the “one patron” rule. This led to a breakdown in the patronage pyramids that had become established during the rubber era.

In areas where rubber estate owners used to control almost all of the resources necessary for survival, inhabitants began forming relationships with new actors (including government agencies, religious organizations, and social movements) that increasingly provided the resources once controlled by single patrons. However, in many cases the direct exchange of forest products and crops from family agricultural plots continued to follow the patterns established during the rubber boom period, and for many inhabitants, river traders and local merchants continued to provide credit and supplies as part of patron-client relationships based on informal exchange agreements.

Early studies of patronage predicted that once weak state conditions gave way to those in which a strong state with “modern” bureaucratic systems took over, clientelism and patronage would tend to decline (Waterbury, 1977). Later, researchers found that patronage and clientelism did not necessarily disappear with modernization, but simply changed form and were adapted to the new socioeconomic reality (Roniger & Güneş-Ayata, 1994). Some scholars have speculated that the activities of “new social movements” combined with the rapid proliferation of access to print and news media will undermine the foundations of clientelism (Gay, 1998). Other authors have predicted the

decline of patron-client ties when developing countries integrate into modern capitalist economies (Gough, 1981; Vercrujisse, 1984).

The presence of the state and of civil society certainly increased in Lábrea over the past fifty years. In some cases people simply traded in “traditional” patron-client arrangements, in which landowners who controlled key resources (land, markets, etc.) were the patrons, for “new” patron-client arrangements in which a new set of actors (government agencies, NGOs, etc.) controlled the key resources and hence were in a position to become the “new” patrons (Roniger, 1994b).

As highlighted in Table 3-6 above, highly multiplex relationships in which one patron provided access to markets, credit, health care, and other resources and services were replaced by less multiplex relationships in which inhabitants had to seek out a variety of different actors to obtain these necessities. Areas that had once been the privately owned fiefdoms of an oligarchy of *seringal* owners, by 2009 had been converted into federally controlled conservation units that implied an entirely new resource control hierarchy. Services, like health care, which *seringal* owners had once provided (if they were provided at all) were increasingly being provided by state and federal agencies (albeit in an extremely limited fashion). These changes from dyadic, highly multiplex patron-client relationships to a multitude of relationships, each with fewer obligations but also providing fewer resources, is not unique to Lábrea. Similar changes have occurred in other parts of Brazil, in other Latin America countries, and in other regions of the world (C. Escobar, 1994; Roniger, 1990, 1994b; Silva, 1994).

On the one hand the “new” system appeared to be more equitable in many ways, and isolated riverine peoples had more freedom to engage in relationships with a variety

of actors. On the other hand, in many cases they no longer had the safety net that the dyadic patron-client relationships often provided, as each “new” relationship generally provided a more limited set of resources and services. Clients might no longer face the abuses of the old *seringal* owners, but at the same time they were now forced to expend more energy to develop and cultivate a multitude of relationships with several actors instead of one highly multiplex relationship with a single patron able to provide most of the resources they needed. These new relationships, in spite of being more equitable, often provided fewer resources per contact than previous arrangements. This may help explain why on the one hand, inhabitants decried the exploitation of the old system, and on the other they lamented the loss of the security that it often provided.

The changes in economic activities, resource control and the arrival of alternatives to traditional patrons (like government agencies and social movements) that I outlined in Chapter 2 as important components of understanding patron-client relationships were certainly important in the evolution of these ties in Lábrea. However, as I will show in the following chapters, patron-client relationships (albeit modified ones) continued to persist in the area. One question that needs to be addressed is why do these relationships persist in some cases even when these dramatic changes have occurred?

For one thing, dealing with some “new” actors, particularly government agencies, may imply negotiating a complex, impersonal, bureaucratic structure with which inhabitants who are used to personalized face-to-face interactions may be unfamiliar or uncomfortable. In a similar case in Peru, the transition from face-to-face clientelistic arrangements to impersonal bureaucracies actually made it more difficult for isolated peasant communities to access resources and improve their situation in the short and

medium terms (Guasti, 1981). Engaging in familiar, albeit imbalanced, patron-client interactions may still be more comfortable for some inhabitants than the official structures that are slowly replacing them (Güneş-Ayata, 1994).

In addition, the inability of the “new” actors to reach all of the inhabitants who may need the resources and services they provide leaves opportunities for more “traditional” patron-client relationships to thrive and survive. Even constitutional, democratic “modern” governments are unable to provide for everyone’s needs all of the time (Landé, 1983), which may lead those who are excluded from the resources and services they provide to seek whatever other options may be available to them, including patron-client relationships. Some of the “new” actors with the potential to replace the old patrons, like government agencies, often made demands that were difficult for inhabitants familiar with the old patron-client relationships to satisfy. For example, in order to participate in their programs, government agencies in Brazil typically demanded official documentation, such as personal identification documents, that some riverine inhabitants had not yet acquired. In short, just because there were “new” actors that could be alternatives to the old patrons did not mean that everyone was able to access the resources they offered.

A lack of official documentation is just one of a series of factors that continued to exclude many riverine inhabitants in Lábrea from engaging in relationships with the “new” actors that were replacing the old *seringal* owners as a source of key resources and services. In the next chapter I will show how a series of factors continued to exclude many of the inhabitants of riverine communities from engaging in relationships

with these “new” actors, which may explain the persistence of patron-client relationships in spite of the dramatic socioeconomic changes outlined above.

CHAPTER 4
CONDITIONS FOR PATRON-CLIENT RELATIONSHIPS ON THE PURUS RIVER

Exclusion and Patron-Client Ties: *Aviamento* on the Purus Today

In spite of the social, economic, and political changes that have occurred in Lábrea over the past fifty years, many of the inhabitants of the interior were still dogged by a series of conditions that compelled them to depend on patron-client ties and the *aviamento* credit system. An understanding of the conditions that put people in positions of vulnerability may be one of the keys to patron-client ties and how these relationships change over time (Weingrod, 1977).

What needs or wants would inspire a person to form a relationship with a patron? I argue in the following pages that inhabitants of riverine villages faced a set of circumstances that, when combined, put them in a position of having to resort to patron-client relationships to meet basic needs. The seasonality of production activities that riverine inhabitants of Lábrea engaged in required them to obtain some form of credit to get from one harvest to the next. In addition to problems of seasonality, inhabitants had to confront the tremendous physical distances between their homes and markets in urban centers, which greatly increased transportation costs. Isolation and a lack of infrastructure made crop storage and transport difficult and precarious. Uncertain harvest outcomes, poor infrastructure, and low prices for the commodities they sold, coupled with the high prices of needed supplies that had to be shipped from distant ports through a chain of intermediaries, also made finding a source of credit necessary for many inhabitants. The patchy and dispersed nature of many of the forest products they depended upon often increased their production costs and augmented their need for credit. Inhabitants of these remote villages also faced a series of health problems

that often limited their ability to engage in production activities and increase their expenses.

Why would people engage in patron-client relationships to access credit instead of going through more “formal” channels, such as taking out a bank loan? In this section I discuss a series of conditions that tended to exclude many of the inhabitants from “formal” sources of credit, leaving them little option but to engage in patron-client relations that enabled them to access “informal” sources of credit. These include: lack of education, lack of citizenship documents, and lack of collateral (land title).

Production Systems, Seasonality, and *Aviamento*

The people, patron and all, were from Ceará, and now, as there was too much rain for rubber working, were busily engaged, some making canoes, others handsawing planks under a shed near the beach, and still others cutting wood for the steamers (Steere, 1903).

Chambers, et al. (1981) argued that for many inhabitants of rural areas in the tropics there is a direct correlation between seasonality and poverty. The seasonality of productive activities based on dry and wet climatic cycles can lead to periods of feast and famine throughout the year (Chambers et al., 1981). Seasonal climatic changes are also associated in many areas with outbreaks of illnesses that can greatly impact production activities (Chambers et al., 1981). These factors often place people in situations of extreme vulnerability and may accentuate the effects of poverty. Janet Townsend (1985) showed how the challenges of seasonal resource use, health problems, transport difficulties, and other factors inspired Amazonian peasants to borrow from river traders as a survival strategy in times of scarcity.

In this section I explore how the seasonal nature of production activities in riverine communities along the Purus and Ituxi Rivers, combined with impacts of the illnesses

with which inhabitants contend, were directly linked to their need to access some form of credit in order to obtain needed supplies.

Although the inhabitants of these communities obtained much of their food from rivers, forests, and family agricultural plots, there were a series of items that could not be produced locally. These items included: fuel, salt, cooking oil, medicines, clothing, tools, cooking gear, and other items. People living in these remote areas relied on the natural resources at their disposal as a source of wealth that they could exchange for these vital supplies. By analyzing peoples' production activities we can see that the seasonal nature of their production activities implied that during some points of the year they may not have had a product in hand that they could directly exchange for supplies, necessitating some form of credit until they once again harvested crops or collected forest products.

Production Calendars, Seasonality, and Credit

Below I have included diagrams of production calendars from male and female inhabitants living in two of the communities inside the newly created Médio Purus Extractive Reserve along the margins of the Purus River in Lábrea. These calendars are the result of interviews in which I asked people a series of questions about the production activities they engaged in during each month of the year. Analyzing these production systems is one point of departure for understanding why people engaged in *aviamento* and patron-client relationships. Above the calendar months in Figures 4-1, 4-2, and 4-3 there are blocks that indicate the production activity that the person is engaged in during that month of the year. I have also included a line that represents the tremendous fluctuation in the water level (as much as twenty meters) of the Purus River near Lábrea, which profoundly affected the production activities in which people could

engage. Below the calendar are a series of arrows that represent the constant need for *mercadoria* or supplies that people had throughout the year and whether or not they were able to buy through direct exchange or on credit.

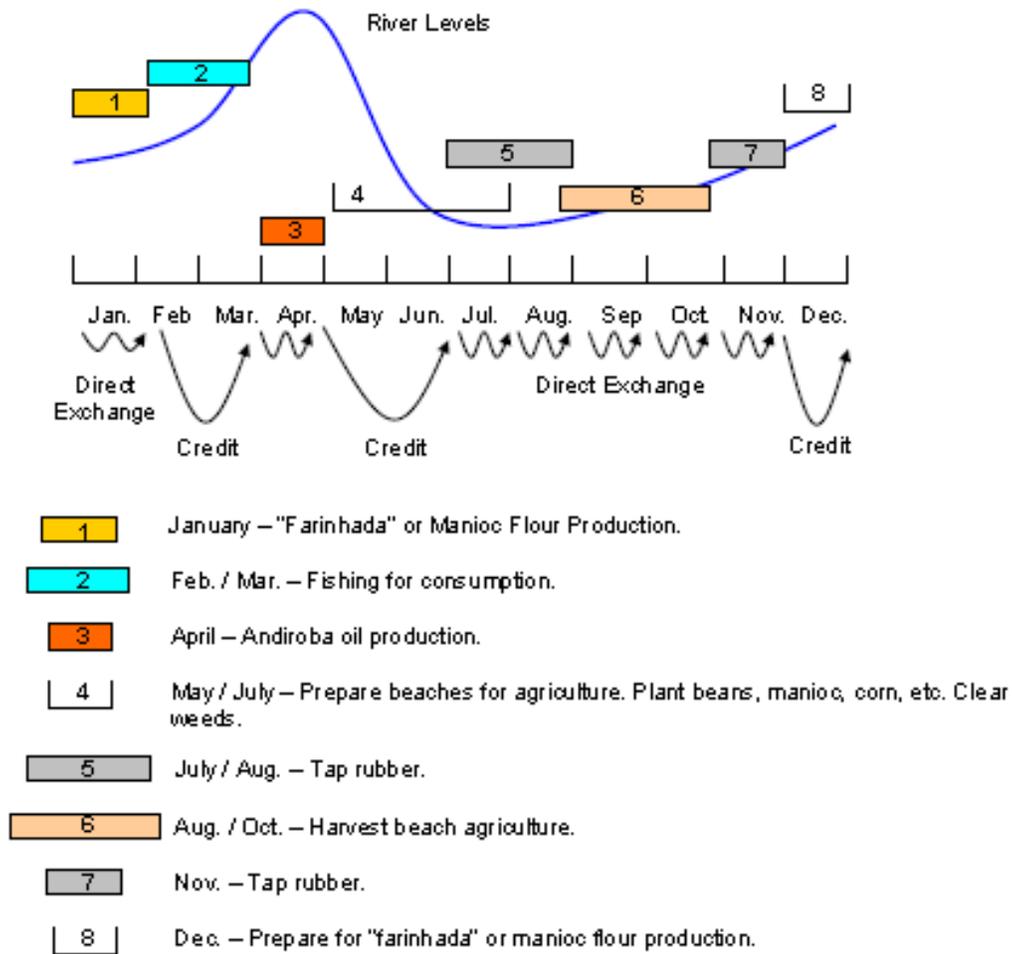


Figure 4-1. Production Calendar, Male Respondent, Santa Rosa, Purus River

In the production calendar in Figure 4-1 there were three time periods when the male inhabitant may not have had a product in hand that could be exchanged directly for supplies: February to March when subsistence fishing was the main activity; May to July when he was engaged in the laborious task of preparing the beaches for planting but did not yet have a crop to exchange for supplies.

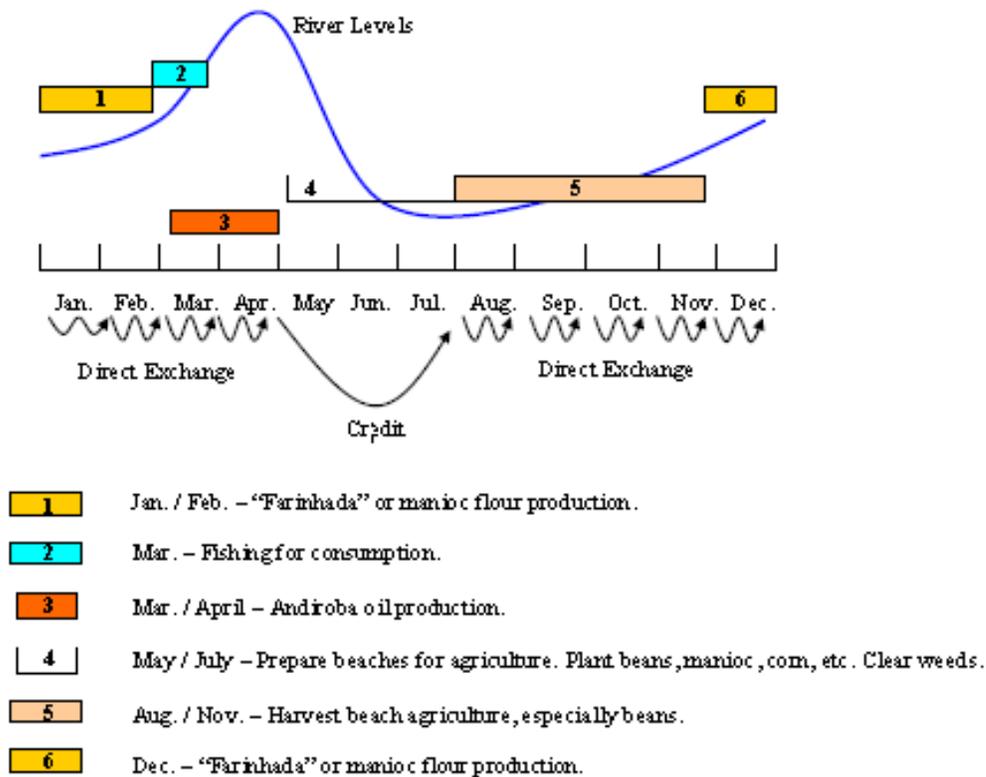


Figure 4-2. Production Calendar, Female Respondent, Santa Rosa, Purus River

It is important to point out that women, in addition to household duties and child care, were usually just as involved in other production activities as the men. Figure 4-2 is an example of the norm for many women in the communities along the Purus River, who along with the children, contributed to virtually all of the household's production activities. In some cases the exception was the work that took place in the *centro* areas that were far from the household, like Brazil nut gathering. However, I conducted several interviews with women who had tapped rubber and sorva, gathered Brazil nuts, and accompanied their husbands in virtually all of the household production activities. Some of these women even did these activities by themselves when their husbands were ill or when they had died. These interviews revealed situations similar to those described in Cristina Wolff's (1999) book "Mulheres da Floresta," which refutes many of

the claims of historians that downplay or ignore the presence of women in rubber production areas and also ignore their contributions to agricultural and extractive activities.

In spite of the fact that the entire family was usually involved in virtually all of the production activities, the seasonal nature of these activities and uncertain outcomes of agriculture and extractivism made it difficult to combine production activities in a way that eliminated periods in which households did not have an agricultural or extractive product to trade directly for supplies. In some cases an exceptional harvest may have enabled a household to get through the months when they had no products to exchange for supplies. However, the reverse was also true; a poor harvest due to insects, river fluctuations, or other unforeseen problems could actually extend the period in which a household had to buy on credit. Changes in the price of inputs, like fuel, could also have huge impacts on households trying to produce enough to get them through the year. With low prices for extractive and agricultural products, and high prices for supplies that had to be shipped from distance ports through a chain of intermediaries, in many cases even a good harvest was insufficient to get a family through the year without buying on credit. A low market price for the beans they produce, for example, may have meant that a household would need access to some form of credit to buy supplies even if they had had a relatively successful harvest in terms of production quantities.

In Figure 4-3 we see a calendar in which the respondent was able to couple activities together in such a way that the period when he may not have had a product in hand to trade for supplies was greatly reduced. However, even in the best set of

circumstances when production activities could be combined in such a way that a household had products to exchange throughout the year, unforeseen circumstances, such as a serious illness, could make access to some form of credit a necessity. This was also true if a household wanted to purchase expensive tools (chainsaws, outboard motors, etc.), household items (gas stoves, television sets, etc.), or costly building materials (roofing materials, wood planks, etc.). In these instances it was even less likely that a family would have the surplus on hand to buy these products outright without a establishing a line of credit.

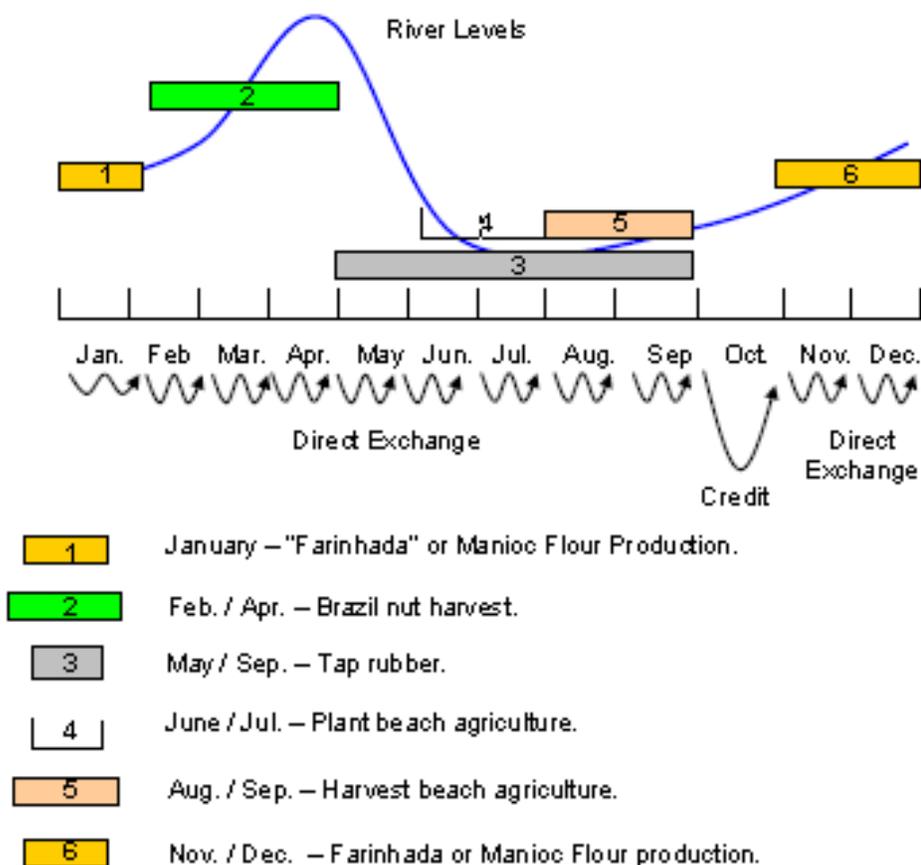


Figure 4-3. Production Calendar, Male Respondent, Vila Limeira, Purus River

A comparison of these three calendars reveals production systems in which inhabitants attempted to couple together seasonal production activities throughout the

year in order to have products they could exchange for supplies or even earn some kind of revenue. At the time this research was conducted, some families along the Purus were once again tapping rubber as a secondary or tertiary production activity due to federal and municipal subsidies that significantly raised the price above market levels. However, rubber tapping was only feasible in the dry season, because during the rainy season the mid-day rain showers would fill the rubber tappers' *tigelas* (collection cups) before they could collect the latex. The seasonal flooding in the extensive areas of *várzea* on the Purus also meant that during six months of the year the tappers' rubber trails were underwater. Brazil nut harvesting, another important extractive activity, was also seasonal; the seedpods began falling in November and December, and collection then took place from January through May. The production of andiroba oil was also a seasonal endeavor; the trees dropped their seeds in March, collection took place in April, and the seeds were cooked and the oil extracted in the following months.

Agricultural activities on the fertile beaches of the Purus, the main production activity in most riverine communities on this river, were also subject to the rise and fall of water levels. In May water levels typically began to drop rapidly, exposing beaches newly covered with an extremely fertile layer of sediment, which were subsequently weeded and prepared for planting. Manioc, corn, beans, watermelon, jerimum, and other crops were planted at this time. Periodic weeding was required during the rest of the low water months as the crops matured. September and October were the months in which beans and other perishable crops were harvested off the beaches. Manioc was harvested last as the water levels began to rise again in November and December, when the beaches were once again covered with water. January and December were

the months when the manioc was soaked, grated, and toasted into manioc flour. Along the Purus beach agriculture became the most important production activity after the collapse in rubber prices in the 1980s and 1990s. In a survey of community characteristics and production data collected by José Maria Carneiro de Oliveira, President of the ATAMP Association, and himself an inhabitant of the Médio Purus Extractive Reserve, 78 of 95 the communities where interviews were conducted listed beans as their number one productive activity. Manioc flour was generally the second most important, followed by other activities.

Fishing in the *Várzea*

The thousands of oxbow lakes along the course of the Purus made it extremely rich in fish resources; however, fishing activities also had seasonal limitations. The lower water levels of the river in the dry season made fishing easier as fish were concentrated and easier to catch. However, spawning and migration patterns often determined the location of certain species at different times of the year. In some months individuals were spawning in the headwaters and in others they formed schools and feed in the main channel.

I learned that in 1998 environmental laws were established in Lábrea to prevent the extirpation or extinction of important commercial species. These laws were in response to the rapid deterioration of the fishery around Lábrea due to increased pressure from commercial fishing operations from Manaus and Boca do Acre. With the collapse of extractive activities in the area in the early 1990s, fishing became an increasingly important activity for many riverine communities also, further increasing the pressure on this resource. When this research was conducted in 2008 and 2009, six important commercial species – Matrinxã (*Brycon amazonicus*), Pacu (*Mylossoma sp.*),

Sardinha (*Triportheus sp.*), Aruanã (*Osteoglossum bicirrhosum*), Mapara (*Hypophthalmus sp.*), and Curimatã (*Prochilodus nigricans*) – were protected during the *defeso* period (Nov. 15 to March 15) when they spawn and produce eggs. There were also limitations placed on commercial fishing of Tambaqui (*Colossoma macropomum*) and Pirarucu (*Arapaima gigas*). The species that were to be protected during the *defeso* were negotiated yearly by IBAMA and then communicated to the public. Members of the *Colônia de Pescadores de Lábrea* received a government stipend during this period to offset wages lost due to the fishing restrictions. Non-members were ineligible to receive the benefits. The *defeso* laws implied further seasonal limitations for fishing activities because they placed restrictions on key commercial species.

Logging Season in the Várzea

The timber boom along the Purus from the 1970s to the mid-1990s also had seasonal characteristics. Large buoyant tree species in the *várzea*, like the *Ceiba pentandra*, were the target of logging companies who used them to make plywood. These huge trees were cut by men with chainsaws in difficult and dangerous working conditions right before the coming of the annual floods so they could be floated to the main waterways, bound together into *jangadas* or log rafts, and floated downriver to sawmills in Itacoatiara. Depending on the species, the trees could not be felled too far in advance of the flood season because insects, fungus, and rot could lower the value of the timber. Since there were no roads in the area, the loggers had to wait for the floods in order to be able to float the logs out to the main river channel. A great deal of timber was lost when water levels did not reach high enough for logs to be floated out. The transport and sale of *madeira em tora*, or unprocessed logs, was prohibited in the

late 1990s, and the large *jangadas* that floated down the Purus ceased. People engaged in logging in 2008-2009 along the Purus and Ituxi Rivers often cut the wood into planks while in the forest and transported them in canoes to the small sawmills and furniture makers in Lábrea.

Resource Distribution, Quantity, Quality, and Credit

Rubber

Variations in the production capacities of key resources were also important to understanding the inhabitants' need for credit. Although rubber tapping was no longer a primary activity for most households along the Purus and Ituxi Rivers, they still engaged in it and it provides an interesting example of how resource distribution affects the need for credit. Rubber production quantities and qualities were far from homogenous throughout the Amazon basin and often varied greatly from one river valley to the next, within a municipality, or even within a *seringal* production unit. The rubber trees in the *várzea* forests along the main stretch of the middle section of the Purus around Lábrea produced lower quantities of latex per season than the rubber trees on many of the tributaries of the Purus. Annual production for a rubber tapper on the Purus might average from 200 to 600 kilos of rubber while a tapper on the Ituxi or Pauini might produce as much as 800 to 1,200 kilos. The rubber trees on these tributaries were larger and produced much higher quantities of latex per day than those on the middle stretch of the Purus. Tappers who had worked on the Pauini informed me that they often tapped enough to earn a *saldo* or surplus at the end of the season. These same tappers complained about the poor production capacity of the rubber groves along the Purus, where they moved when the rubber industry on the Pauini collapsed in the 1980s and early 1990s.

In addition to the production quantities of rubber groves in different locations, there was the question of latex quality. As many as twenty-four different subspecies in the genus *Hevea* have been identified, and the taxonomy of the species has always been a challenge for botanists (La Rue, 1926). *Hevea brasiliensis* was considered to produce the best quality rubber, but there are several other species that also produced latex of secondary quality. *Hevea benthamiana*, *H. discolor*, *H. rigidifolia*, *H. foxii*, *H. pauciflora*, *H. minor*, and *H. cuneata* were all species that were considered producers of “fair to good” quality rubber (La Rue, 1926). The rubber tappers and former patrons I interviewed for this research made a simple distinction between trees that produced “forte” (strong) and “fraca” (weak) rubber. The higher quality “forte” rubber was generally worth more than the “fraca.” Testing the elasticity of the rubber that had dried on a *tigela* (collecting cup) was the way they made this distinction: the “forte” would snap back with more elasticity when pulled than the “fraca.” Tappers and patrons informed me that the rubber groves along the middle Purus had a mix of trees producing “fraca” and “forte” rubber, while the tributaries like the Ituxi and the Pauini had much higher concentrations of “forte.”

So in addition to the production quantities that varied greatly from one geographic location to the next, the quality of the rubber, and hence the money that could be made from it, also varies. The differences in rubber tree production potential based on geographic location were noted in research done in the area in the 1920s: the lower stretches of the Purus had very low rubber production capacity, while the further upstream one went, the better the production numbers and quality of the rubber (Schurz et al., 1925). The point is that tappers in areas with high production, like the Pauini

River, would often earn enough during the tapping season to offset the months when they were not tapping, while tappers on the middle Purus often engaged in other activities, like Brazil nut collecting, to offset their lower production of rubber. Obtaining a source of credit from a patron was often a necessity to offset the limited production capacity of some rubber forests.

Tapping over a period of years or cutting too deep into the bark could also lower the production of a rubber grove. In addition to the variation from river to river there were also differences in rubber production within micro-regions. Some of the tappers had *centros* or *colocações* that produced more than others on the same *seringal*. During the early 1990s rubber tapping was generally abandoned along the Purus and Ituxi Rivers as a production activity, due to the collapse in prices when government subsidies were cancelled and protective tariffs on imported rubber were lifted. In recent years subsidies at the municipal and state levels inspired some inhabitants to begin tapping rubber again, as evidenced in the production calendars I have presented here.

Brazil Nuts

Combining production activities throughout the year to offset low production from one seasonal activity had long been the norm for inhabitants in this region. Brazil nut collection was an important activity in the wet season for many inhabitants along the Purus when rain made rubber tapping unfeasible. However, Brazil nut harvests also faced problems of seasonality. Brazil nut trees along this section of the Purus and its tributaries typically started to drop their seedpods in November and December. It was extremely dangerous to be in the groves when the cannon ball sized pods were falling from as high as 100 feet to the ground, so the collecting season typically did not begin until January or February when most of the seedpods had fallen. The Brazil nut harvest

typically came to an end in April or early May. Production quantities for Brazil nuts often varied tremendously from year to year. Some years the production was high and other years a grove might produce virtually no Brazil nuts. In recent years lower than average precipitation and caterpillar infestations had also lowered the production of many groves. This variation in production could also determine whether or not a household will need to buy on credit or seek yet another alternative production activity.

The geographic distribution of Brazil nut groves presented another problem related to the need for credit. The *Bertolletia excelsa* tree is an upland species that did not grow in the extensive *várzea* forests along the Purus around Lábrea. It was found on the few patches of upland near the banks of the Purus but generally the Brazil nut groves were found on the tributaries, like the Ituxi River, with higher ratios of *terra firme* upland to *várzea*, and in the forests that are some distance from the banks of the Purus. The distance from the banks of the river, where most households were located, meant that during the Brazil nut harvest gatherers had to travel to the groves and set up temporary living arrangements until the end of the harvest. In addition to the fuel needed to reach the groves, gatherers needed other supplies to get through the harvest (food, ammunition, cooking supplies, etc.). These items were usually bought on credit from a patron and then paid back at the end of the harvest with the Brazil nuts they had collected. In some cases the price of Brazil nuts fluctuated during the season to the point where it was difficult to pay back the loan for supplies.

The uncertain land tenure of the Brazil nut groves was also related to the problem of credit and debt. When gatherers were collecting the nuts that had fallen they could already see the new seedpods on the tree, which gave them an idea of what the harvest

production for the following year would be. Even so, I spoke to several families that went ahead with a Brazil nut harvest even though they knew that it was not going to be a good year and that they would probably end up not making any money (or even be in debt) once they paid back the patron who sold them supplies on credit. When I asked why they would borrow the supplies and do the harvest knowing that the trees were not going to produce much they answered that their “ownership” of the grove was based on use. If they did not collect Brazil nuts in their grove for a year or two another family could take it over. They decided to buy the supplies on credit and go into debt because they did not want to lose their “rights” to their Brazil nut grove.

In other cases people from families that once lived in the interior but had moved to Lábrea had managed to maintain their “ownership” of certain groves that they no longer worked directly. Other needy families then arranged with them to pay “rent” in order to collect Brazil nuts in their grove. Having to pay rent to another family on top of buying supplies on credit often made it even harder for a family to pay back loans and make a profit. In addition, when this research was conducted it was getting more and more difficult to obtain supplies on credit to finance the production of Brazil nuts. Banks were not interested in loaning money for these activities and the storeowners were becoming more and more leery of loaning supplies and money that gatherers would be hard pressed to pay back.

Andiroba and Copaiba Oils

The uncertain nature of the markets for many forest products also made surviving between seasonal activities a challenge. The oil derived from the seeds of the andiroba tree (*Carapa guianensis*) and the sap that was tapped from the trunk of the copaiba (*Copaifera sp.*) tree were known to have medicinal properties and were also used in the

production of cosmetics. Inhabitants of the Purus had a long history of using andiroba oil to make soap and it had become a commodity sought after by companies from southern Brazil that manufactured cosmetics. Copaiba oil was also used for cosmetics. The problem with these products was that prices could fluctuate wildly from year to year and even during a production season. A household might find that this activity provided an income one year and had almost no value the next, forcing them to find another activity to replace it, or once again buy on credit.

Variation in Resource Access by Household

The distribution of resources by household also played an important role in determining which production activities households engaged in and how they combined activities throughout the year. Some households had extensive beach areas for agriculture, while others did not. Some households had Brazil nut groves, while others did not. Some households had productive lakes for fishing, while others did not. The need to string together a series of production activities to get through the year helps us to understand the conflicts that ensued when resources, like Brazil nut groves, became contested. It also helps explain why extractive reserves were so appealing for communities who were desperately trying to consolidate their land tenure situation and felt like they had few alternatives to do so.

Floods of Fortune and Famine

The often-fickle nature of the flood cycles of the Purus could greatly impact a household's ability to successfully string together production activities and avoid having to purchase on credit. River levels had to drop soon enough to allow crops to be planted and reach maturity before the next flood cycle. A flood cycle that came too soon could wash a crop away before it had been harvested. For households that

depended to a great extent on their bean crop as a source of wealth to buy needed supplies, a reduced low water season might mean that their crops would not have time to mature before the floods come again, putting them in an even more precarious financial situation.

In 2009 the rubber-tapping season was cut short on the Purus because the water levels dropped much later than usual. When I went out to the communities to tap rubber in July 2009, many tappers, who often began tapping in late May and early June, were just beginning to tap because their trails were just then becoming dry enough to walk. This meant that their yearly yields were greatly reduced due to the shortened tapping season caused by the unusual flood cycle. The flood cycles of the river could quickly wipe out crops or delay extractive activities in ways that forced people to search for credit to buy needed supplies.

Flooded Forests, Livestock, and Economic Stability

One of the strategies increasing employed in other parts of the Amazon is the acquisition of livestock as a buffer to offset these seasonal variations. Livestock can be walked to markets, sold at any time during the year, and there was generally a constant demand for beef and pork products. However, the flood cycles in the *várzea* forests along the middle Purus placed limitations on inhabitants' ability to engage in large-scale animal husbandry activities. Of the 90+ villages on the Purus between Lábrea and Pauini only five or so had *terra firme* uplands close by; the rest were inundated for up to six months per year. This meant that during the flood season it would be very difficult to find a place for a large herd of cattle.

In other parts of the Amazon riverine communities built *marombas* (floating corrals) for their cattle to live on during the flood season and cut grasses for them to eat

during this period (N. J. H. Smith, 1999). I saw no *marombas* on the Purus or any of the tributaries during nearly two years of field research. Even if communities had built them they would be limited in the number of cows they could put on these rafts during the flood season.

Most of the *terra firme* uplands near the middle section of the Purus between Lábrea and Pauini were incorporated into the extensive Indigenous Lands that have been created in the area, and even if riverine communities wanted to establish pastures in these areas, which were often quite some distance from the banks of the river where they lived, they no longer had access to many of these areas. It is important to note that the few communities on the Purus that still had access to *terra firme* uplands were raising cattle and some hoped to expand their herds and pasture areas. Even some of the *várzea* communities grazed a limited number of cows on the exposed beaches during the low water season. These small herds (generally less than 10 head) could cause fierce conflicts within and between villages when they strayed into agricultural plots and destroyed crops.

Pigs were common in some of the riverine communities along the Purus, but they were generally left to run free and were not corralled or fenced. In one community the pigs had become feral and formed herds that occupied nearby forests. Other communities had no pigs and cited the odor and unclean nature of the pigs as a reason they did not raise them. A dependence on beach agriculture may have also been a limiting factor that prevents many communities from increasing their animal herds. Both pigs and cattle can rapidly destroy a plot of beach agriculture and many families may have elected to limit their livestock to avoid this problem.

In spite of the extensive *terra firme* uplands along the Ituxi River I found only one household that had livestock of any kind in the riverine communities I visited there. People explained that they did not have the capital to invest in fences for pasture areas for cattle and they had constantly seen their pigs killed by jaguars, alligators and other wild animals. Some people said they did not have the *costume* (custom) of raising livestock. This included knowledge regarding: vaccinations, pasture management, and other information necessary to successfully raise livestock in tropical areas where they are plagued by insects, diseases, and poor foraging conditions. The fact that the Ituxi was even more remote and isolated than the Purus may also explain this trend. Small canoes were often the only mode of transportation for many households, which also would make transport of livestock more difficult.

The contrast between the radical change to a livestock economy in much of the nearby states of Acre and Rondônia and the continued dependence on faltering extractive activities in municipalities like Lábrea has been noted by other researchers (F. S. D. d. Santos & Muaze, 2002). The extensive *várzea* areas and lack of road networks may help explain this, as well as the incentives for agriculture and livestock raising offered at different times by state and municipal governments in Acre and Rondônia that may not have been offered in Amazonas state where Lábrea is located. As some respondents mentioned, the lack of a *costume* of raising cattle may also have played a role.

In summary, patchy resource distribution, varying quantity and quality of production based on location, the seasonal nature of agriculture and extractive activities, and the impacts of seasonal flooding, combined with uncertain markets,

limited the ability of households to purchase costly supplies without accessing some form of credit.

Health, Vulnerability, and Credit

In respect of ague [malaria] the Ituxy has the worst name of all the affluents: the Pamanás, a tribe on it, are said to be always suffering, and consequently very indolent and unwilling to work, whatever price offered (Chandless, 1866).

Notável é a tradição mórbida de Lábrea, considerada uma das cidades mais doentias do Purus (Cruz, 1913).” - (Notable is the tradition of morbidity in Lábrea, considered one of the most unhealthy cities of the Purus.)

In fact, certain localities in the Purus and the Jurua, as in other rivers, have a reputation for salubrity that is borne out by actual observation. However, some places are notorious centers of infection. One such is the village of Labrea, the principal town on the Purus and formerly a center of considerable importance, whose entire population in 1922 was said by an inspector of the Public Health Service to be afflicted with malaria (Schurz et al., 1925).

For many the town of Lábrea, and much of the Purus River, became synonymous with disease and infection, a reputation that dates back to observations by early explorers and researchers. During the rubber boom the Ituxi River became known as the *cemitério da humanidade* (cemetery of humanity) due to the number of fatalities from malaria epidemics (Bittencourt, 1918). A deadly strain of Hepatitis D first identified in the area became known as the *Febre Negra de Lábrea* (Black Fever of Lábrea) and the area was still associated with this virulent strain of Hepatitis. Health concerns, which can also be seasonal, are directly related to production activities and could also determine the need for credit for many inhabitants of the Purus and its tributaries.

Hygiene

Hygiene in the communities along the Purus and its tributaries was generally very poor. Inhabitants did not have access to treated water, and human waste was disposed

of in pit latrines, which due to the high water table and seasonal flooding constantly threatened to contaminate the drinking water supply. Gastrointestinal complaints such as diarrhea and various kinds of stomach parasites were common.

Malaria

In addition to the maladies associated with lack of hygiene and water treatment, inhabitants faced a series of illnesses that were transmitted by the abundant swarms of insects that plagued the banks of the Purus. The sediment rich waters of the Purus and the thousands of oxbow lakes that formed as the river changed course were famous for the quantity of insects they produced at different phases of the flood cycle. In the report of his ascent of the Purus Chandless wrote that the unbelievable quantity of mosquitoes, blackflies, midges, and other biting insects prevented early settlers from establishing year long residences along the river (Chandless, 1866). Malaria, transmitted by various species of *Anopheles* mosquitoes, had been common on the Purus and its tributaries since at least the 1860s when Chandless noted its presence in his report (Chandless, 1866). It is not known exactly how or when malaria arrived in the Amazon, but it appears that it was prevalent in the region by the 17th century (Stepan, 2003). There is some speculation that it was brought during early European colonization or arrived as a result of the African slave trade (Stepan, 2003).

Malaria was considered to be one of the principal obstacles to developing agriculture, extractivism, or industry of any kind in the Amazon from early on in the colonial period. The extremely high toll that malaria took on the rubber workers in the 19th and 20th centuries and on the workers of infrastructure projects like the Madeira-Mamoré Railroad led the Brazilian government to sponsor a series of public health studies from 1905 to the 1920s led by the famous Brazilian physicians Oswaldo Cruz

and Carlos Chagas. They traveled thousands of miles on the Amazon and its tributaries collecting data and trying to determine how malaria infection could be controlled. In Lábrea they found extremely high incidents of malaria and observed many patients with enlarged spleens, a symptom of chronic infection (Cruz, 1913). They noted the poor sanitary conditions in the area and the almost complete lack of access to medicines and health care (Cruz, 1913). With the lack of tax revenues and general economic collapse associated with the rubber bust in 1913, the Brazilian government was unable (or unwilling) to invest in the malaria control and eradication programs suggested by Cruz and Chagas (Stepan, 2003).

Malaria was still a considerable problem for the inhabitants of riverine communities in Lábrea in 2008 and 2009. The vast majority of the villages on the Purus and its tributaries did not have even the most basic health facilities. FUNASA, the government agency in charge of indigenous health, and the Health Secretary of the Municipality of Lábrea formed a partnership to try to control malaria epidemics in the area. A boat staffed with municipal employees trained to use microscopes to identify malaria and provide treatment was periodically sent to riverine communities. However, the costs of transportation to access remote communities were high and the visits were often limited to the peak seasons of malaria transmission or when the municipality had been notified of epidemics. The lack of health facilities in the villages and the sporadic nature of visits by municipal health providers meant that inhabitants had to travel to Lábrea in cases of health emergencies. In some cases the municipality sent small boats with outboard motors to retrieve the sick, but this service was often unavailable. This meant that inhabitants had to find a way to make the trip, which often took several days in a canoe

with a *rabeta* motor, and then pay for food in Lábrea while they obtained treatment. Generally the health posts and the hospital, which were run as part of Brazil's national health program, provided some medicines and treatment free of charge. However, in some cases the inhabitants had to purchase their own medicine. During interviews, residents of the Ituxi listed the high incidence of malaria, lack of health care, and the costs of traveling to Lábrea to obtain treatment were cited as major concerns. Inhabitants also said that several women had died during childbirth due to the total lack of health facilities. Women in the later stages of a pregnancy often traveled to town to give birth, which also implied expenditures that were often difficult for inhabitants to pay.

Filariasis

Filariasis was another malady transmitted by insects that was common in many communities along the Purus and its tributaries. Insects of the Ceratopogonidae (midges) and Simuliidae (blackflies) families transmit the nematode *Mansonella ozzardi*, the most common variety of this larger family of blood parasites on the Purus and its tributaries (Medeiros, Py-Daniel, Barbosa, & Izzo, 2009; Shelley & Coscarón, 2001). This particular filarial parasite can cause headaches, fever, coldness in the legs, aching joints, and inflammation of the lymph nodes and liver. A study conducted in riverine communities along the Purus and Pauini Rivers between 2004 and 2006 revealed a high incidence of infection (Medeiros et al., 2009). Infected inhabitants were found in all thirty-five of the communities sampled with a 24.86% infection rate in the sample of inhabitants from the Pauini River and a 24.6% infection rate in the inhabitants sampled on the Purus River (Medeiros et al., 2009). Infection rates were higher for inhabitants that engaged in farming and extractive activities than for those engaged in domestic activities due to their increased exposure to blackflies (Medeiros et al., 2009). In

several of the villages I visited on the Purus every single inhabitant had tested positive for filariasis the last time the health boat had passed to provide medical care. A similar study conducted on the Ituxi River revealed that 30.23% of a sample of 129 individuals from twelve communities were infected with the parasite (Medeiros, Py-Daniel, Barbosa, & Ogawa, 2008).

Hepatitis

While I was receiving treatment for malaria in Manaus in 2008 the first thing that physicians brought up when I told them where I was working was the *Febre Negra de Lábrea*. Several books about the municipality of Lábrea refer to this mysterious strain of Hepatitis that was known to wipe out entire families in short periods of time (Ferrarini, 1981; Luxardo, 1973). For some victims the final stages of the disease included internal hemorrhaging and vomiting of a black liquid, which is how the disease came to be christened “*febre negra*.” I was told during interviews that the mysterious and deadly nature of the disease often led survivors or neighbors to burn down the houses that it had struck and abandon the area. Research in the 1980s revealed that the *Febre Negra de Lábrea* was a variant of Hepatitis D. Hepatitis continued to be a serious problem in Lábrea, with the Purus, Juruá, and middle Solimões Rivers being areas of high endemism of the disease (Braga et al., 2004). Hepatitis A, B, C, and D are all prevalent in and around Lábrea, with Hepatitis D being the most feared because of its lethality. According to one study the rates of infection had dropped since 1989 when the first vaccination campaigns for Hepatitis B were conducted in Lábrea (Braga et al., 2004). After 1989 the numbers dropped considerably, but people in rural areas were still much more likely to acquire the disease than those living in urban areas, probably due to the sporadic nature of the vaccination campaigns and the lack of medical

facilities. The Hepatitis B vaccine is often administered in a series and requires refrigerated storage. If the series is not administered according to the proper cycle (3 injections, each a month apart) the vaccine may not provide protection. Many inhabitants of the villages in the interior may not have had complete vaccinations or the vaccinations may not have been properly stored or administered.

In addition to malaria, filariasis, and hepatitis, inhabitants of rural villages faced infection with leishmaniasis, a disease transmitted by black flies. Chagas disease was another ailment spread by insects that can cause heart diseases. Lábrea also had a reputation as an area with a large population of people infected with leprosy. It was not uncommon to see people in the interior who had become unable to work due to the debilitating effects of the disease, which can be cured if treated in the early stages. A diet based on manioc flour and fish that was often lacking in vegetables, lacked key vitamins, and often left inhabitants more susceptible to these ailments.

Health and Credit

The health challenges faced by inhabitants of the villages of the Purus and its tributaries could have large impacts on their need for credit. First, the insect infestations that plagued the area often coincided with periods of the year when inhabitants were engaged in important production activities. Malaria transmitting mosquitoes often reached their greatest abundance during the periods of the flood cycle when river levels were rising (*enchente*) and falling (*vazante*), exactly the time when inhabitants were planting and harvesting their agricultural crops. Filaria transmitting blackflies were most common during the high water seasons of the flood cycle. These illnesses could lead to missed days of work or a reduced labor capacity that could lower the final crop yields. Hepatitis could also greatly reduce an inhabitant's capacity to do the hard labor

associated with non-mechanized agriculture and forest product collection. When these illnesses were combined with intestinal parasites, diarrhea, and an incomplete diet, the ability to produce sufficient crops and forest products could be further reduced.

In addition to the reduced labor capacity associated with these illnesses that could lower production quantities, the need to travel to the city for health care could lead to expenditures for fuel and food, as well as lost work days due to travel. Sometimes medicines also had to be purchased. All of these could lead to expenses that required the acquisition of credit. I conducted surveys in communities on the Purus and on the Ituxi in 2008 and 2009. In one question I asked respondents to rate seven services (Health, Transportation, Education, Technical Assistance Agriculture, Technical Assistance with Extractivism, Sanitation, and Security) by degree of urgency. 75% of the respondents answered that health care was the most urgently needed service in their community. The point here is not to paint the area as a disease infested inferno, but to point out the real challenges that the almost total lack of health services presented for the inhabitants and how it impacted their need for credit and their ability to pay off debts. Concerns about the lack of health care were mentioned in almost all of the interviews I conducted with inhabitants of the riverine communities on the Purus and Ituxi Rivers.

In the past twenty-five years health facilities in the city of Lábrea had certainly improved. In 1970 health facilities consisted of one SESP health post and a one physician. In the rubber production areas the government carried out sporadic malaria control and patrons often had at least basic medicine available for sale in their *barracões*. In 2008-2009 the city of Lábrea had a fifty-bed hospital and five health posts

distributed throughout the city. The municipality invested in a health barge that periodically made trips into the interior to provide basic health care.

In spite of the improvements in health care in the city of Lábrea, the inhabitants of the riverine communities in the interior in most cases lacked even the most basic health facilities. Since 1999 programs implemented to train *agentes de saude* (health agents) had given some inhabitants the ability to do tests for malaria and identify other maladies. However, the lack of any medicines or health facilities meant that for the most part *agentes* were limited to reporting on the conditions in their communities. The lack of effective means of communication was also a great concern in many communities. Not only were health facilities unavailable, but in many communities there was no effective form of communication in case of health emergencies. A network of CB radios existed along the Purus and to a lesser extent on the Ituxi, but most of the radios were inoperable much of the time. The lack of health facilities in the interior, in addition to economic difficulties, were one of the deciding factors for many families in their decision to move from rural areas into the cities.

Education, Literacy, and Patronage

After health care, education was the service that respondents felt was most urgently needed in their communities. Improvements had been made to the education system in rural areas in the last five years before I conducted the study and the municipal, state, and federal governments had made improvements in the school system in rural areas of Lábrea. By 2008-2009 when this study was conducted the municipality had twenty schools in rural communities with seventy professors. The requirements for professors in rural areas had also risen and professors were required to have university education; previously many rural schoolteachers had only a primary

school education. After 2000 a program to build rural schools was implemented in which twenty schools were built. By the time I conducted this research most of the children in rural areas at the very least had the opportunity to attend primary school. During interviews respondents did complain to some degree about the quality of the education and the fact that after completing primary school their children would have to go to the city to continue their education. There is no doubt that inhabitants put an extremely high value on education and they brought it up constantly as a service that they wanted their children to have.

Education certainly played a role in the changes in patronage that have occurred in Lábrea over the years. One of the principal reasons that people were forced to find a benefactor or *patrão* was to obtain help with government paperwork, explanations about how certain procedures are done, etc. The inability to read and write made understanding written contracts or other written agreements extremely difficult. This included bank loans, obtaining citizenship documents, obtaining government retirement and social welfare benefits, etc. Respondents often said that they would have to go to a patron or someone else they could trust that would explain these things to them. Increasingly community leaders were turning to social movement organizations like the National Council of Rubber Tappers and the Pastoral Land Commission, or state government agencies like IDAM, for explanations and information regarding legal procedures, such as the process of registering their community associations.

Exclusion from “Formal” Credit and Dependence on *Aviamento*

At this point it is instructive to analyze the opportunities that many families have for accessing credit in order to understand their continued dependence on *aviamento*, or some other form of “informal” credit arrangement. I am defining “formal” arrangements

as those based on written contracts and “informal” arrangements to be those based on verbal agreements.

Geographic Distance

The distance that separated households from credit providers was one of the first things that stood out when traveling to communities in the interior of Lábrea. In an area with no roads, the meandering course of the Purus and its tributaries were the only access route between the town of Lábrea and households in the interior. A journey of several days often separated communities from the nearest bank, grocery store, or medical facility. The average distance from the town of Lábrea and the communities where I conducted research was more than 200 kilometers¹ by river. Communities consisted of small groupings of houses on the banks of the river with the only community infrastructure being a one-room schoolhouse, an empty health post, a poorly functioning CB radio, and electric generator. Many communities lacked even this basic infrastructure. Aside from river traders, people in remote communities had few if any alternatives for purchasing needed supplies, unless they had the resources to make the long journey to the city, where they had to find a place to stay and food to eat while they were there. In some cases they simply found it easier to sell their agriculture and extractive products to a passing river trader in exchange for needed supplies. They were aware that they were probably selling for their products for less and paying more for the supplies, but many recognized that this enabled them to avoid the cost of traveling to the city themselves. The reverse was also true; most of the inhabitants of communities that were relatively close to Lábrea preferred not to buy from the river

¹ Please see Appendix Table A-9 for table showing distances from Lábrea to the research communities.

traders and did most of their shopping in town, where prices were lower. The proliferation of 5, 10, and 15 horsepower *rabeta* motors over the past fifteen years had greatly improved the access of many families in the interior to markets in the city. A journey that once took a week or two when paddling could be cut to several days with one of these motors. However, fuel was still a limiting factor for many families hoping to make the journey to markets in the city. For this reason the sheer immensity of the physical distances between rural communities and the city could impact the options that inhabitants had to access markets and credit.

Even if a family was able to get to the city they may have been excluded from formal lines of credit. Banks typically required some kind of collateral when they granted a loan. For families in the interior with no land title and no other property considered valuable enough to mortgage, this avenue was usually closed. In addition, extending credit for a family to engage in basic production activities may have been considered too risky or not interesting enough financially for a bank looking to invest its money and earn interest payments. High interest rates and a complex bureaucracy were also impediments for families considering a bank loan. In many cases families in the interior were also hampered by their lack of citizenship documents, which were also necessary for obtaining loans, opening bank accounts, and accessing government assistance programs.

Citizenship Documents

The following is an example of how the lack of proper documentation excluded many inhabitants from government programs and formal lines of credit. I learned that in October and November 2008 a team from INCRA traveled to all of the communities on the Ituxi and Purus Rivers that were within the limits of the newly created Rio Ituxi and

Médio Purus Extractive Reserves to register the inhabitants so they could receive government benefits. When a federal extractive reserve was created the inhabitants became eligible for many of the benefits that inhabitants of the *assentamentos* or government land reform colonies were eligible to receive. The *Instituto Chico Mendes* was in charge of administering the extractive reserves, but INCRA was in charge of administering these benefits. Registered households became eligible to receive credits for housing, food, and agricultural implements. The INCRA team spent twenty-nine days registering families in the two areas. In order to become legally registered, inhabitants had to show one identification document, which can be an identity card (*carteira de identidade*), a work card (*carteira de trabalho*), or a military identification (*carteira de reservista*). If they were married they were required to show their marriage license. Inhabitants had to be 18 in order to register and the registration was usually done at the household level. So if the male head of household did not have all of the documents but the female head of household did, they would be registered in her name. During their trip the INCRA team registered 91 families on the Ituxi and 890 families on the Purus. There were 100 families on the Ituxi and approximately 200 on the Purus that were unable to register for the credits because they did not have the proper documentation. This meant that a significant number of the inhabitants of these areas were excluded from accessing formal lines of credit and assistance and had to turn to informal sources, often based on patron-client relationships, if they needed credit and assistance.

A study done among business owners in Lábrea in the 1990s revealed that even for the inhabitants of the city that operated businesses and had property and capital

reserves it could be extremely difficult to obtain loans and credit from banks (*Diagnóstico Sócio-econômico e Cadastro Empresarial de Lábrea*, 1996). In a survey including six different industries in the municipality of Lábrea (clothing, furniture, foodstuffs, meat packing, and locksmiths) 88% depended on their own capital to run their businesses, while only 12% had access to bank loans (*Diagnóstico Sócio-econômico e Cadastro Empresarial de Lábrea*, 1996). 63% responded that they faced difficulty in accessing credit due to their inability to provide sufficient collateral, high interest rates, and excessive bureaucracy (*Diagnóstico Sócio-econômico e Cadastro Empresarial de Lábrea*, 1996). If business owners in the urban center faced this level of difficulty in accessing formal lines of credit, we can only surmise the difficulties that a rural inhabitant with no collateral, no citizenship documents, and no education would face in negotiating the bureaucracy and convincing a bank to loan them money.

Chapter Conclusions

As described in the previous paragraphs, many riverine households in Lábrea were walking a tightrope from one seasonal production activity to another as they attempted to produce goods that they could exchange for the supplies they needed throughout the year. The patchy distribution of many of the resources and the unstable nature of many of the markets of these products could further increase the vulnerability of riverine inhabitants and their need for credit. In addition to insects, damage by birds and other animals, and other natural elements that could damage crops, the uncertain nature of the annual flood cycle could wipe out crops or prevent them from being planted in time. Lack of infrastructure for transportation and crop storage could lead to losses even when a harvest is good.

Riverine inhabitants in the interior of Lábrea were beset by a number of illnesses that could greatly lower their capacity to engage in production activities. There were virtually no health facilities in the communities along the Purus, which implied that health care had to be obtained in town, implying travel costs and lost days of work.

All of these elements implied that riverine inhabitants would invariably face times of the year in which they would have no products in hand to exchange for much needed supplies. The fact that they were often excluded from formal sources of credit meant that they had to find some other form of safety net should they have a bad harvest, an unforeseen illness, or the need to make an expensive purchase. In many cases they had to seek out relationships with someone who would help them through these difficult periods. That someone was often in a position of great leverage in this relationship due to the vulnerable position of the inhabitant that results in part from the complicated nature of their seasonal production activities and the fact that they were excluded from many other forms of credit.

CHAPTER 5
SOCIAL CHANGE, COMMUNITY ORGANIZATION, AND “NEW” SOCIAL
NETWORKS: FROM TWO VILLAGES TO TWO EXTRACTIVE RESERVES,
NETWORKING AND ORGANIZING OUT OF CRISIS

Just as the river systems that they lived on dictated many of their production activities, a series of social and economic currents also had profound effects on the lives of the inhabitants of riverine communities in Lábrea. These social and economic currents, much like the flows of the Purus River, were often cyclical; flowing forcefully at times, threatening to envelope everything in their path, at other times ebbing to a point in which they were barely perceptible. Just as the meandering Purus River periodically changed its course, leaving behind oxbow lakes and abandoned channels that eventually dry up and are reclaimed by the forest, the social and economic currents that impacted the lives of the inhabitants of riverine communities also ebbed and flowed before coming to the end, only to be replaced by new social and economic currents.

The rubber industry, which was so important to the formation of the society that developed in Lábrea, was itself a finite current, with strong ebbs and flows that shaped the lives of those engaged in it for time and was then replaced by other economic activities. Social currents are also finite, ebbing and flowing for a time before new social currents replace them. For example, the social current that led to the formation of the Rural Workers' Union of Lábrea flowed forcefully for several years, causing significant change in the lives of those that were swept up in it and then saw its power ebb as it was replaced by a new set of social currents in the form of new governmental and social movement organizations.

The strength or weakness of these social currents did not imply that they impacted people in the same way or to the same degree. In some cases individuals and

communities were hardly impacted by certain social currents, which passed by with little or no impact. Other currents appeared unavoidable and individuals found themselves in a position in which they had to confront them or be swept away. In some cases individuals and communities actively sought out a social or economic current that they felt would benefit them or help protect them from those that threatened to sweep them away. The inhabitants of these communities were not passive actors, helpless in the face of dramatic social and economic change, and often sought out and became incorporated into these broader social and economic currents as a means of adapting to their changing reality. The localized problems and challenges that inhabitants of riverine communities in Lábrea faced were often caused and shaped by larger social forces, and these localized problems and challenges also inspired individuals in these communities to incorporate themselves into larger social forces in order to resolve their localized problems. Typically this implied forming relationships and social networks with individuals who were involved in these social currents and could help them fend off the forces that threatened their existence.

In this chapter I describe the social and economic events that shaped the recent history of three communities in the interior of Lábrea: Vila Limeira, Floresta, and Vila Vitória. First, I relate the recent history of these three communities as they adapted to the social and economic changes described in Chapter 2. Next I analyze the broader social and economic currents that inhabitants of the community perceived as threats to their wellbeing and way of life. Then I describe the social and economic currents that they perceived as helpful in resolving their problems and useful to thwart the negative currents that they perceived as threats. I describe how leaders from these three

villages used social networks to incorporate themselves into these positive social currents in order to achieve their goal of creating two extractive reserves, which they viewed as a solution to many of their problems including: land tenure uncertainty, economic crises, and lack of basic services. The history of these three communities and the actions of their leaders illustrate the changes in patron-client ties that have occurred in the area, particularly the shift from dyadic, multiplex patron-client ties to networks in which a multitude of brokers and intermediaries are sought out to obtain resources and services. These case studies not only reveal how patronage changes, but also provide examples of how people in remote areas actively form relationships and build social capital to resolve problems and improve their living conditions.

I must point out that this story was developed from extensive timeline interviews and daily interactions with individuals from these communities. Although I did interview patrons, river traders, and a host of other individuals with different perspectives and points of view, my understanding of the history of these communities, the threats that they faced, and their manner of responding to these threats is the product of my interactions with them. Events that individuals in these riverine communities considered to be threats were seen as beneficial by some other groups. For example, the creation of the Indigenous Lands along the Purus River that threatened to push riverine peoples from their communities was seen as tremendously beneficial from the point of view of the long-suffering indigenous peoples who stood to achieve some land tenure and resource security of their own. The deforestation, land speculation, and conversion of forests to pasture that represented such a threat to the livelihoods of communities on

the Ituxi River were seen as beneficial “development” and “progress” in the minds of the ranchers and business people who stood to benefit from these activities.

Community Level Currents

Between the city of Lábrea and the city of Pauini there were more than 90 riverine villages when this research was conducted in 2008-2009. Vila Limeira was a community located at the far western end of the municipality of Lábrea, abutting the neighboring municipality of Pauini. It is 507 kilometers from the town of Lábrea by river, and depending on the mode of transportation could be several days distant. Vila Limeira consisted of 19 households, most with direct family ties to one another, located several kilometers off the main course of the Purus on a tributary known as the Seruini River.

Vila Limeira

The inhabitants of Vila Limeira traced their arrival in the area to 1942 when Napoleão Oliveira, a migrant from Pombal, Paraíba, arrived at the nearby Seringal Ermida to work as a rubber tapper. Napoleão Oliveira came as part of the government migration program that was part of President Getulio Vargas government’s “Marcha para o Oeste” or “March to the West” campaign. According to one source, by 1940 the *Departamento Nacional de Imigração* (National Immigration Department) had already sent 8,000 Northeasters to the Upper Amazon and Acre as part of this migration program, which was designed to populate “unoccupied” areas in the interior and reverse the rural-urban migration that was seen as a threat to the large coastal cities (Secreto, 2007). This program predated the Washington Accords and the *Soldado da Borracha* program by two years, although it was later incorporated into the *Soldado da Borracha* program (Secreto, 2007). During interviews, the Oliveira family made it clear that

Napoleão had not arrived as a *soldado da borracha* but instead as a migrant participating in this government program.

When Napoleão arrived in the Amazon, the patronage pyramids that had become entrenched on the seringal rubber production system still existed. As we can see in Figure 5-1¹ below, supplies came in to the *seringal* through the owner's contacts with merchant houses, who in turn often had ties to large banks. This is an example of a patronage pyramid, in which a patron uses his influence to maintain control of several clients (Martin, 2009).

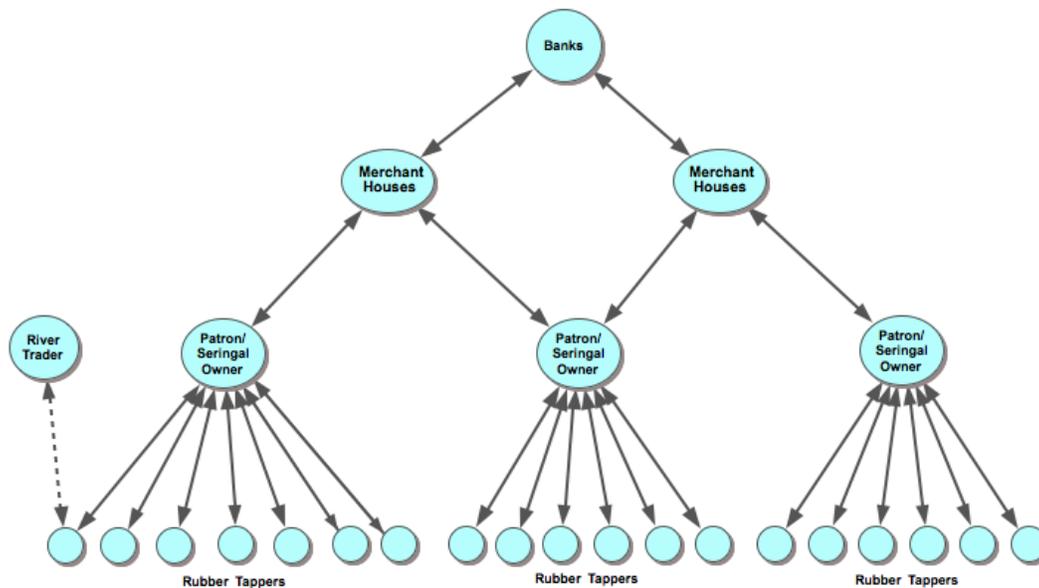


Figure 5-1 *Seringal* Patronage Triangle

Seringal owner patrons were able to keep their tapper clients by providing supplies on credit on an exclusive basis. In the event that the tapper sold rubber to someone else, such as a river trader, the patron threaten to invoke sanctions, such as restricting credit or evicting the tapper and his family from the *seringal*. Priests, government

¹ This figure was inspired by the patronage pyramid figures in (Martin, 2009).

agents, politicians, and others respected the *seringal* hierarchy and would seek out the *patrão* upon arriving at the *seringal*. In the 1940s the merchant houses in Figure 5-1 were increasingly replaced by government organizations that began to control elements of the rubber industry as part of the *Batalha da Borracha* program (Dean, 1987; Martinello, 2004; Secreto, 2007).

After working for a time at the Seringal Ermida, Napoleão decided to try his luck on the rubber-rich Pauini River, a tributary of the Purus, where he met his wife and began a family. Several years later Napoleão returned to the Purus, moving his family to the Seringal Meteripuíá. Napoleão's movements from *seringal* to *seringal* and even from river to river show that despite their tendency to be bound by debt, there appears to have been a good deal of mobility among rubber tappers, and many were constantly moving in search of better tapping areas, more benevolent patrons, better areas for hunting and fishing, etc. (Cabral, 1984 (1949); Pantoja, 2004).

By this time few of the *seringais* still had the *capangas* that had terrorized some tappers and enforced *seringal* rules with corporal punishment during the Rubber Boom. The wave of migration from the Northeast in the 1940s included men with more education and more awareness about their rights as citizens than the migrations of the late 19th century (Secreto, 2007). Many of the tappers who came as *soldados da borracha* were from urban areas, and the patron-client institutions that had also dominated the rural backlands of the Northeast were less familiar (and perhaps less acceptable) to them than to earlier waves of immigrants (Secreto, 2007). This wave of immigrants included men who were more likely to stand up for their rights and not accept the harsher treatment that had characterized the *seringais* in the boom period.

In addition, as part of the *Batalha da Borracha* the Brazilian government promised to reform the *seringal* system and put an end to the debt peonage and physical punishments that had made the rubber industry so infamous. Tappers were to have written contracts with their patrons that would stipulate the percentages that would be paid and how the exchange would take place (Secreto, 2007). In theory, these reforms should have led to great changes in the relationships between patrons and tappers, but in practice the government had little or no capacity to enforce these laws, and much of the abuse associated with the debt peonage system continued. When Napoleão Oliveira arrived as a migrant from the Northeast, the rubber estate patrons still had the contacts with merchants who furnished supplies, with the government agencies that had replaced the *aviadores* as a source of credit, and with the local police and politicians who were charged with creating, implementing, and enforcing legislation.

In 1958 Napoleão Oliveira moved his family to the Seruini River, which was considered part of the Seringal Meteripuíá, and built his house. A village of extended family households began to form around this small settlement, which came to be known as Vila Limeira. The inhabitants of Vila Limeira continued to live and work in the patron-client regime of the *seringal* system that existed virtually everywhere in the interior of Lábrea at the time. When rubber was still a valuable commodity they were engaged in the *regime do toco* in which all merchandise was bought from the owner of the Seringal Meteripuíá in exchange for rubber and other forest products.

As noted in Chapter 3, much of the power of the *seringal* owners was based on their monopoly of key resources and their ability to provide supplies in exchange for forest products. As previously noted the *regime do toco* consisted of a system of

'generalized exchange' in which both parties had expectations about what they would provide to and receive from the other party.

The government investment resulting from the Washington Accords and *Soldado da Borracha* program during the 1940s revitalized the rubber industry and in many cases revitalized the power of *seringal* owners, in spite of the government's rhetoric about eliminating the abusive practices of the *seringal* system. When Oliveira arrived at Meteripué it was still owned by the infamous Coronel Umbelino Bezzera. In his travels up the Purus in 1921, Joaquim Gondim listed Umbelino as the owner of the Seringal Meteripué, although there is no mention of his conduct vis-à-vis the tappers working there at the time (Gondim, 2001). He was still the owner in 1958 when the elder Oliveira arrived, and his fame as a particularly perverse patron persisted nearly seventy years later when this research was conducted in 2008 and 2009. Individuals living as far away as the Ituxi River told a nearly identical story in which Coronel Umbelino had once caught one of his tappers selling a backpack full of *sernambi* scrap rubber to a river trader, and had decided to have his *capangas* pour kerosene on the *sernambi* and light it on fire while it was still in the pack on the tapper's back. According to the story, the man was burned to death before he could extinguish himself in a nearby stream.

This is just one example of the lore and legend that still informed the way inhabitants of the riverine communities in Lábrea understood the patron-client relationships of the Rubber Boom period. It is interesting to note that two of the older gentlemen with whom I conducted timeline interviews had actually met this Coronel near the end of his life. One of the men, who also repeated the story of Coronel Umbelimo burning the tapper to death, said without hesitation about five minutes after

telling the story that he considered Umbelino to be a “good” patron and that he had had no problems when he worked for him in the 1930s.

This strange mixture of potentially apocryphal stories describing patrons brutally treating their clients does not seem to match many of the first-hand accounts of more benevolent treatment. Even elderly respondents always explained that they had not witnessed these episodes of extreme cruelty and that this behavior had either happened “before their time” or “somewhere further upriver.” However, there are certainly enough first-hand accounts of inhuman treatment of rubber workers from the boom period (Lange, 1914; Mathews, 1879; Woodroffe, 1914; Yungjohann, 1989) that I am reluctant to completely dismiss the oral histories that I collected during my research. However, many of the apocryphal stories may also have been part of what James Scott (1990) has called the “hidden transcripts”, which amount to stories, legends, songs, and other forms of expression that are used by the powerless in certain settings as a discourse that challenges real (or perceived) imbalances in their interactions with more powerful actors.

Therefore, embellished or exaggerated stories and legends about cruel patrons could have simply been another means of struggling against the real or perceived injustices of the social system in which riverine people found themselves. In Chapter 6 I delve further into the different emic and etic understandings of the word “patron,” how they have changed over time in Lábrea, and what these changes may mean in other parts of the Amazon and Brazil.

Respondents in many of these interviews grouped historical events into periods of time instead of responding to timeline questions with exact dates. People said that the

patrons like Coronel Umbelino existed in their grandfather's time – Period of the *Coronéis* – and patron-client relationships that included these kinds of abuses no longer existed when they were born. Another team of researchers who interviewed individuals in the area in the late 1990s also noted how their understanding of historical events was centered around periods of time, instead of concrete dates (F. S. D. d. Santos & Muaze, 2002). The tendency of respondents to group events into general periods instead of specific dates complicated attempts to develop linear timelines of events.

Coronel Umbelino died, presumably of old age, in the late 1950s or early 1960s at the Seringal Meteripué and was replaced by another patron, his son-in-law, Eurico Castelo Branco, to whom the Oliveira family in Vila Limeira continued to sell their products. At some point after the death of Coronel Umbelino the arrangement shifted to a “rent” system in which the inhabitants of Vila Limeira would pay the patron thirty kilos of “rent” for each rubber trail for each tapping season. The families in Vila Limeira began to feel short-changed in this new arrangement as they received less and less from the patron and the exchange felt more and more lopsided in his favor.

As described in Chapter 3, the ability of patrons to provide supplies on credit and their control of certain resources was diminished in periods when key commodities lost market value. Hence, their ability to provide all of the services that the tappers' had come to expect was also diminished. In spite of this, patrons continued to demand rent from people living on the *seringal*. As the ability of the patron to provide necessary supplies and control key resources diminished, the tappers began to form relationships with other individuals in order to meet these needs.

When Eurico Castelo Branco passed away his son, Francisco Castelo Branco, took over the area and the families in Vila Limeira paid the rent to him. They paid rent on all of the extractive activities that they were engaged in, which included rubber tapping, Brazil nut collecting, and sorva tapping. Inhabitants told me these patrons prohibited them from planting permanent crops, like fruit trees, that could be used to establish squatter's rights to the land. They were only allowed to plant annual crops, like manioc, that were not seen in Brazilian law as the kind of *benfeitoria* or improvement that might be used to establish a land claim. The patrons used their connections with the police to threaten the elder Oliveira when he attempted to plant orange and lemon trees in the area.

Around 1974 Napoleão Oliveira decided to stop paying rent to the Castelo Brancos after nearly fifteen years. His children explained that he simply decided to do this of his own volition but that his sons, who while working outside the community had come into contact with people who had informed them about their land rights, had influenced him. They also mentioned during interviews that part of the *seringal* had been sold at this time to absentee owners who never appeared to establish their claim. Family members of the old patrons kept trying to charge rent and control key resources, like the Brazil nut groves nearby, but the Oliveiras knew that part of the land had been sold and it was not clear who owned and controlled the land. When patrons lose control of a key resource, particularly land, it becomes more and more difficult for them to maintain the exclusivity of their exchange relationships with the client because they are less able to sanction clients for breaking the "one patron" rule by withholding the resource (Martin, 2009). This is what appears to have happened in communities like

Vila Limeira as the old *seringal* owners became less able to provide credit and as the inhabitants began to become aware of the tenuous nature of the patron's land claims.

In 1975 or 1976 Francisco Castelo Branco moved to Manaus and left his son Edmar Castelo Branco in charge of the area to collect payments from the families that would still pay rent, and determine how resources would be used. This patron maintained control of the Brazil nut groves near Vila Limeira, which by this point had become the most valuable commodity with the continued fall of rubber prices. He claimed to own the Brazil nut groves and would not allow the Oliveira family to harvest there, bringing his own workers to harvest the Brazil nuts.

In the 1970s and 1980s many of the old *seringal* owners began to move to the cities. Some left managers in charge of their *seringal* areas or sent them periodically to collect rent. Some of the old *seringalistas* simply died and left no one to run their lands. Edmar Castelo Branco, the last patron to charge rent and determine resource use in and around Vila Limeira, moved to Manaus in 1993 or 1994. This exodus of the last remaining old-time *seringal* patrons was almost complete by the time I arrived to conduct research in 2008. There were a couple of old-time patrons who continued to charge rent on Brazil nut production in other communities along the Purus, but most had long ago abandoned the area and moved to Manaus, Porto Velho, or Lábrea.

The exodus of the *seringal* owners led to a situation in which river traders began to replace them as a source of supplies for many families. New relationships began to form based on the same old *aviamento* debt-based exchange system. As described in Chapter 4, riverine people in Lábrea have long been engaged in production activities that changed from one season to the next, and often from one commodity to the next

based on periodic boom/bust economic cycles. In the face of the continuing collapse of rubber prices, families once again changed activities and began to emphasize production activities that had previously been secondary or tertiary, like sorva, Brazil nuts, animal pelts, copaiba oil, fish, and other forest products. Increasingly people began to shift their production activities to agriculture and fishing to replace the faltering extractive industries.

In the late 1970s a timber boom began in the riverine communities along the Purus and Ituxi Rivers. By the middle of the 1990s approximately 680,000 cubic meters (24 million cubic feet) were being logged along the rivers in Amazonas state (Hemming, 2003). Most of the people in Vila Limeira worked as loggers during this timber boom in response to the collapse of rubber. I was informed that the system worked much as it had with rubber and Brazil nuts; they were sold supplies, tools, gasoline, etc. on credit and they were expected to repay the loan with the timber. Many inhabitants combined their logging activities with copaiba oil production. Copaiba oil prices collapsed around 1995 and Brazil nut prices also slumped for several years.

I learned that the changes in resource use patterns also led to changes in settlement patterns. When rubber and Brazil nut prices were high, there were families living in remote areas up the many *igarapés* or streams that feed into the Purus and its tributaries. Families often lived many miles from the main course of the river, working the remote Brazil nut and rubber areas, known as *centros*. Some families would spend the dry season in the *várzea* near the main course of the Purus, which has better rubber tapping areas, and the wet season would be spent in the uplands where the Brazil nut groves were located. With the collapse of rubber, people began to spend less time in

the *centro* and established more permanent residence along the main course of the river where they could fish and do beach agriculture. It became harder and harder to get supplies in the more remote areas and it made sense to move to the main course of the river where the river traders would pass.

According to the inhabitants of Vila Limeira, the 1990s were a time of economic hardship in their community and in the other communities in the interior of Lábrea. Rubber prices collapsed between 1986 and 1992, according to the inhabitants of Vila Limeira due to changes in fiscal policy, the elimination of subsidies, and the removal of protective tariffs. The timber industry that had supplanted rubber in many of the communities during the late 1970s began to slow down as most of the trees that could be easily floated to the main waterways had already been cut. At this time, the government began to restrict timber production. The remaining *seringal* owners were often involved in the timber business and many allowed loggers to cut trees on their land for part of the profit. These economic and social changes led to the departure of *seringal* owners, which forced inhabitants to expand their interactions with river traders to supply their needs. The economic changes also led to changes in resource use, which often led to conflict between the different groups.

Negative Social Currents – Resource Conflict

Fishing Conflicts

The meandering bed of the sediment-rich Purus River periodically changes course over a period of years, creating hundreds of oxbow lakes rich in aquatic resources. Since the colonial period the Purus has been an important source of fish and turtles for urban centers like Manaus. With the population increase in urban centers like Manaus, Porto Velho, and Rio Branco since the 1950s, the demand for fish for these markets

skyrocketed. As the fisheries near these urban centers became depleted, fishing boats began to go further and further to satisfy market demands. Improvements in refrigeration equipment allowed the larger fishing boats to travel hundreds of miles in search of fish.

At the same time that over-fishing and increasing market demand were pushing commercial fishermen to explore areas farther from market centers, families along the Purus, like those in Vila Limeira, were increasingly turning to agriculture and subsistence fishing to offset the collapse of rubber and other forest products. Inhabitants of Vila Limeira informed me that in the 1980s and 1990s commercial fishing boats began to arrive from distant cities to exploit the lakes upon which communities like theirs depended for their main source of protein.

People in Vila Limeira recalled large fishing boats coming down the Purus from Acre to trawl in the lakes. Sometimes these fishermen paid the *seringal* owner or even the people in the communities and other times they simply arrived and began fishing. With trawling nets and other equipment these fishing boats could remove virtually all of the fish from a lake in just a few days.

In addition to the conflicts with commercial fishing boats from urban centers, the local collapse of extractivism in the area led many families to move to the city of Lábrea in search of economic opportunities. Many of these individuals who moved to the cities found that small and medium scale commercial fishing was one of the few economic opportunities available to them. Those of more modest means fished from canoes with basic equipment or fished for someone else. Others invested in small boats with some storage capacity capable of capturing relatively large amounts of fish in little time with

trawling nets. The increasing availability of relatively inexpensive nylon fishing nets and other equipment increased the capacity of fishermen to catch fish and enabled even riverine people with small amounts of capital to buy fishing equipment. Many of these fishermen who had once lived in communities in the interior felt that they still had rights to fish in these areas and that the laws of free navigation permitted them to take their boats wherever they wished. Increasingly this led to conflicts between these small and medium sized fishing operators and the families that continued to live in the rural communities.

The uncertainty and confusion regarding land title and resource use rights in the Brazilian Amazon further complicated the situation. Riverine communities generally had no registered land titles and many of the old patrons either did not have title themselves or had not paid land taxes on these old properties for many years, leaving the ownership of these resources in question. At best, most riverine communities had simple possession rights to the areas where they lived, which offered limited legal security and tenure rights. Brazilian laws regarding the free navigation of rivers led fishermen to believe that they could fish anywhere, and legislation stating that seasonally flooded areas were officially under the control of the Brazilian Navy also complicated resource use and land tenure claims (Benatti, Surgik, Treccani, McGrath, & da Gama, 2005). In most cases the land tenure situation was unclear, fraudulent titles were common, and overlapping land claims were the norm.

Traditional Patrons and Resource Use

The transition from a patron-dominated *seringal* system to “free” communities was also related to the resource use conflicts and resource mining that were occurring along the Purus when this research was conducted. The case of the Seringal Realeza is an

example of this phenomenon. The Seringal Realeza was one of the better-known *seringais* on the Middle Purus and was once bustling with rubber tappers. Since the fall of rubber prices many of the families that once lived there moved to other areas or to the cities. However, a group of families stayed, forming a community also known as Realeza. On the land that was once part of the Seringal Realeza there was a large lake that the former *patrão* managed. He built a floating dock on the lake and maintained guards there to keep the communities and anyone else from fishing on the lake, which led to the build up of sizeable fish and turtle populations.

The patron-client power structure on the *seringais* was established over more than one hundred years in Lábrea and people had come to respect a code of rules associated with this structure. Older inhabitants informed me that everyone was aware of these rules. A *freguês* or client had permission to use certain resources on his patron's *seringal* but would never hunt or fish on another patron's land without permission.

This all began to change when the patrons started to abandon the area after the rubber crash in the 1970s and 1980s. Patrons often no longer maintained a physical presence on their lands and began to rent out their lakes and forests to fishermen and loggers. In other cases, like in Vila Limeira, *seringais* were sold to absentee landowners who rarely, if ever, visited the area. In still other cases fishermen and loggers simply began using the areas without permission because the only people left were the patrons' former clients who did not "own" the land either.

In the case of Realeza, when the patron decided to abandon his claim to the area and stopped protecting the lake, the rules that had been established over so many

years regarding the use of the lake resources were suddenly considered invalid, and many of the surrounding communities and even indigenous communities from across the river started to exploit the fish resources in the lake. In effect it became an “open access” resource because the old patron left and no one knew to which of the nearby communities the lake “belonged.” People began trying to take as much out of the lake as they could before the other nearby communities did the same.

In addition to the conflicts with other resource users, inhabitants of riverine communities found difficulties in entering the fishing market in a way that enabled them to profit from this activity. Commercial fishing on a medium or large scale required equipment that the inhabitants of the communities did not have at their disposal. Boats, fishing nets, motors, and other equipment were often financially out of their reach. Certain inputs were also necessary to engage in commercial fishing in the area. For fishermen selling fresh fish, ice was absolutely crucial and at the time of this research there was only one ice-production facility in Lábrea, which never seemed able to produce enough ice for all the fishermen. In addition, ice storage was only feasible for individuals living near enough to the city to obtain ice and use it before it melted.

Communities further from Lábrea produced dried fish for commercial markets. Although they were not dependent on ice to engage in this market, they usually depended on considerable amounts of salt that they applied to the fish before drying it in the sun. Without a constant source of salt this activity was also difficult. Without their own boats to transport fish to market, communities often found themselves once again dependent on river traders who would buy their fish at low prices in exchange for high-priced supplies.

Many communities in the 1980s and 1990s found themselves in a similar situation as Vila Limeira in which their ability to protect and manage the fishing resources they had come to depend upon was complicated by the unclear and unenforced *de jure* property legislation in the Brazilian Amazon. In addition, the *de facto* property and resource use rules that had become established over nearly one hundred years on the *seringais* were disintegrating as economic collapse forced old patrons to abandon these areas, leading to a situation of “open access” resource use in many cases.

Communities like Vila Limeira found themselves facing the unenviable task of trying to defend these resources from both local and regional fishing operators who believed that they were also within their rights to fish in these areas. Their limited access to necessary equipment and inputs meant that the possibilities for the inhabitants of Vila Limeira, like most riverine communities, to engage in commercial fishing were generally limited to exchanges with river traders, which they felt were lopsided in favor of the traders.

Negative Economic Currents

The collapse of extractive industries along the Purus and its tributaries forced riverine inhabitants to search for alternative economic activities. As we saw in the previous section, fishing was an important alternative, albeit a complicated one often associated with its own complications. The timber boom from the late 1970s to the late 1990s provided some employment opportunities, and occasionally prices for Brazil nuts and copaiba oil were high enough to convince them to engage in these activities.

However, agriculture increasingly became the main production activity for the inhabitants of Vila Limeira.

For most of the riverine communities in the Middle Purus beach agriculture was the only viable option. Most of the communities did not have *terra firme* uplands and depended on the uncertain flood cycles of the Purus. Since the period of the first rubber bust these communities had experience with agriculture, upon which many depended for survival in the periods when rubber prices crashed (Gondim, 2001). In spite of their experience and expertise producing manioc, beans, and other crops, much as the case with their fishing activities, they faced limitations due to a lack of equipment and infrastructure, transportation, and storage. Even manioc production, which is ubiquitous throughout the Brazilian Amazon, required basic equipment. A *forno de farinha* or manioc roasting equipment was required and implied some investment. Production of crops like sugar cane required even more equipment and investment. As described in Chapter 3, the opportunities to access loans to buy expensive farm equipment and transport it to isolated communities with no road access were generally non-existent. Riverine communities also confronted a lack of seeds and had to contend with the ravages of pests that could also impede agricultural activities. Again, the lack of transportation often left riverine communities dependent on river traders to sell their products.

Land Tenure and Indigenous Lands

Fishing conflicts and the transition to agricultural activities were not the only worries of the people in Vila Limeira. In addition to the conflicts with those who claimed to be the owners of the Seringal Meteripuíá and the surrounding area, they were increasingly at odds with indigenous groups on the upper Seruini River that also claimed the lands and resources in the area. An indigenous post had existed on the upper Seruini River since at least the 1920s, when it was visited by Joaquim Gondim

during his travels up the Purus (Gondim, 2001). This post was run by the *Serviço de Proteção aos Índios* or Indian Protection Service (SPI) and included indigenous schools and production facilities for sugar and manioc flour (Gondim, 2001). A group of Apurinã lived and worked at this post, which came to be known as Pedro Dantas or Mariené and was managed by a former military officer from the Northeast of Brazil who later became the owner of the Seringal Caçadoá (Kroemer, 1985). A brief description of the post from 1921 gives the impression that the indigenous inhabitants were expected to work at the post in hunting, fishing, and agriculture and may not have been the beneficiaries of the items produced there (Gondim, 2001). The agricultural production was insufficient to support the 85 Apurinã that lived at the post in 1927, much less the 300 that lived in the area around the post (Kroemer, 1985). The SPI furnished food, supplies, and other necessities to the indigenous inhabitants at the post and in 1929 there were 91 Apurinã living there (Kroemer, 1985). The SPI post fell on hard times in the 1930s and by 1940 only 25 Apurinã were living nearby; the rest had become incorporated into the *seringais* along the Purus as cheap labor (Kroemer, 1985). The post was deactivated around 1950 and its lands were sold to the MANASA company, which was developing timber extraction activities in the area, by the son-in-law of the official in charge of the post (Kroemer, 1985).

Indigenous groups in Lábrea began to organize in the 1970s, and with the help of the Catholic Church, CIMI, OPAN, FUNAI, and other organizations to reclaim areas that they had occupied prior to the rubber boom. They began to form relationships with these groups and agencies that were interested in helping them, in much the same way that riverine communities would later build their own social capital. One older resident

of Vila Limeira remembered that around 1976, lands that had been part of the Mariené indigenous post on the Upper Seruini became the *Area Indigena Mariené*. This indigenous area was quite some distance up the Seruini River and apparently did not have large impacts on the resource use of the inhabitants of Vila Limeira. However, the tensions over resource use were coming to a head when I conducted my research in 2008 and 2009. The inhabitants of Vila Limeira informed me that the indigenous people living in the Indigenous Lands in the Upper Seruini were moving downriver to be closer to the main channel of the Purus, and wanted to take control of resources to which the people in Vila Limeira believed they had a claim. Two important Brazil nut groves on the Seruini were at the heart of this conflict. The inhabitants of Vila Limeira claimed that they had rights to the area and that the indigenous people were trying to expand the size of their Indigenous Lands to take over an area that they already occupied. I was not able to interview people from the indigenous community to get their side of the story. However, regardless of who had the better claim, the end result was a conflict over resource control.

The creation of Indigenous Lands along the Purus and near Vila Limeira began in the 1970s. An older resident informed me that the first to be created was the T.I. Catipari (São Jerome), created in 1974. In 1980 the T.I. Mariené was created and in 1986 the T.I. Matoria was created, which was an area occupied by the Jamamadi.

In the 1980s and 1990s there was an explosion of indigenous land creation in Lábrea. In many cases the creation of these areas led to the expulsion of all non-Indian peoples, including riverine people. Communities that had existed in an area for two or three generations were suddenly informed that they would have to move elsewhere. In

some cases they were told that they would be compensated for infrastructure and permanent plantings, like fruit trees, but not for the land itself. Under Brazilian law, when a indigenous area is created all land titles existing in the area are annulled and the land becomes property of the state, to be managed for the benefit of the indigenous group for which it was created. Private lands can be expropriated to create Indigenous Lands, even if the land title is legitimate and all property taxes have been paid. Some people received a small compensation and attempted to move to the city, where the money ran out quickly. Others were never compensated at all. Some communities stayed in spite of constant conflict with the indigenous people, waiting until the government provided their compensation. In the attempt to protect indigenous cultures and right a historic wrong, the creation of these indigenous lands represented a major threat to the riverine communities, many of whom were terrified of being forced to move to the cities where they were ill equipped to survive.

The threat of being expelled from their lands due to the expansion of existing Indigenous Lands or the creation of new ones was a cause for extreme concern for the inhabitants of Vila Limeira, who felt they would have nowhere to go once expelled from the area. This threat served as a major motivation for the inhabitants as they began forming networks with government agencies and social movements to ameliorate the constant threat of being pushed off the land they lived on or of losing access to key resources, like Brazil nut groves, that helped them eek out a living.

Vila Limeira was not the only riverine village engaged in conflict with indigenous groups over the control and use of key resources. The nearby community of Ajuricaba, which had also formed on the site of an old *seringal*, was also engaged in a conflict with

indigenous communities from the nearby Catiparí/Mamoriá Indigenous Land over the control and use of a large Brazil nut grove. The boundaries of the indigenous area were unclear, and both sides believed that the Brazil nut grove belonged to them. Indigenous lands, national parks, and other conservation units with unclear and overlapping boundaries were unfortunately not unique to Lábrea, nor were the resource conflicts that can be exacerbated by these boundary problems, and were common throughout the Brazilian Amazon.

The riverine community of Várzea Grande also had a conflict with indigenous communities from the Catiparí/Mamoriá Indigenous Land. Several indigenous fishermen began predatory fishing operations in a lake that the community was attempting to manage. The indigenous fishermen claimed that the lake was going to be included within another Indigenous Land that was going to be created.

In the community of Madeirinho there were also conflicts between riverine communities and indigenous communities over the Sacado Lake, an important fishing area. The indigenous community claimed that the riverine community was located in an area that was going to be included in their Indigenous Land, which was due to be augmented.

The riverine community of Jurucuá, located on the site of another old *seringal*, was informed by the land agency INCRA that their community was located in the Jarawara/Jamamadi/Kanamati Indigenous Land and that they would be ineligible for Incra assistance until their community either moved out of the area or proved that it was not located in the Indigenous Lands. The limits of this Indigenous Area on the ground

were once again unclear, which was a common problem throughout the Brazilian Amazon (Ricardo, 2004).

The inhabitants of Santa Rosa lost virtually all of the land behind the community with the creation of the T.I. Ilha Verde around 1998. They had received no notice about the creation of this indigenous area until one day when they found officials demarcating a boundary behind their community. The creation of this Indigenous Land also negatively impacted the community of Praia do Buraco, which lost the *terra firme* upland areas where they had always planted manioc to produce the maniva cuttings used to plant their manioc fields.

The creation of indigenous lands on the Sepatini and Cainaã Rivers also displaced riverine peoples, who were forced to leave their homes, crops, and other resources and move elsewhere.

I was unable to interview indigenous people in these communities and my goal is not to demonize them in any way. Indigenous peoples along the Purus were brutally displaced from their lands, massacred in *correrias*, subjected to death from diseases to which they had no immunity, and often forcibly assimilated into the extractive economy and Brazilian society (Kroemer, 1985; Ribeiro, 1996). However, it is important to note the impact that the creation of indigenous lands have had on riverine populations, who are also a poor and often marginalized group. The threat of being expelled from their communities due to the creation of indigenous lands was one of the catalysts that inspired riverine people on the Purus to form relationships with government agency personnel and social movement groups. They believed that these agents could use

their position as brokers and intermediaries to higher government officials to help them resolve their resource and land tenure problems.

Networking, Social Capital, and Positive Social Currents

In Chapter 4 I described the difficulties that the inhabitants of riverine communities face in confronting seasonal production cycles, lack of health care, and lack of access to formal loans and credit. In this chapter I have described resource conflicts and limitations to production activities specific to the community of Vila Limeira, but also impacting other riverine communities along the Purus. These are examples of the negative social and economic currents that riverine inhabitants faced in their difficult existence. However, as I previously stated the inhabitants of these communities were not passive actors, content to sit by as these currents swept them away. For many of the former inhabitants of these communities migration was seen as the most appropriate solution to these hardships. The rural-urban migration that began in Lábrea in the 1970s had totally reversed the population dynamic by the time this research was conducted in 2008-2009. In 1970 80% of the population lived in rural areas and 20% lived in the urban center. By 2000 the rural population had shrunk to 20% and the urban population had risen to 80% (see Table 3-3).

The move to the cities was itself fraught with uncertainty as people found themselves in a new environment for which they were not prepared. The skills they had honed over several generations to survive in the interior did not necessarily serve them in the city where education and a trade were generally prerequisites for finding employment. For those without skills and education, a life in the poorest, most crime-ridden neighborhoods was usually the only option. Work in the informal sector selling

candy on buses or washing cars might be the only type of employment available for people attempting to make the difficult transition from rural to urban existence.

Some families gave up on the urban dream and moved back to rural areas, with many stories about the hardships of trying to survive in the city, but the lure of health care and education were powerful draws that still inspired people to move to the cities. Many families found themselves in the position of making a difficult choice between an increasingly difficult rural poverty and an unfamiliar urban poverty with its own set of uncertainties.

As word of the difficulties of making the transition to an urban existence filtered back to the communities in the interior, many inhabitants decided that flight was not a viable option and that they would have to find solutions that would enable them to remain in their communities while at the same time improving their standard of living. In the following section I describe how the inhabitants of Vila Limeira have formed strategic relationships in order to attempt to resolve the fishing conflicts, production difficulties, and creation of indigenous lands that they perceived as threats to their existence.

Patron Conflicts and the Catholic Church

The relationships between the extended Oliveira family in Vila Limeira and the various patrons of the Seringal Meteripuíá were not the only interactions the Oliveiras had, in spite of the extreme distances and isolation that separated the community from urban areas. The economic downturn for extractive products like rubber significantly weakened the ability of the *seringal* owners to maintain their control of the resources that were the basis of their patronage arrangements. However, at the same time, dramatic social changes were taking place that led their clients to further question these

arrangements. Even as the old patrons were abandoning the area due to the collapse in rubber prices, new actors began to appear to whom people in Vila Limeira could turn for help and information.

The Catholic Church in Lábrea was a key actor in helping to establish the first social movement organizations in the area that would challenge the old patron-client relationships that had become so entrenched after nearly 100 years. The Prelacy of Lábrea was the headquarters for the Catholic Church for a sub-region of the state of Amazonas, consisting of the municipalities of Lábrea, Tapauá, Canutama, and Pauini, and covering a geographic area of 230,642.23 square kilometers. Each municipality had a *sede* or headquarters with a coordinator. In Lábrea there were several religious orders that formed the prelate, including: *Dios es Sano*, *Maristas*, and *Agostianas Recoletas*. At the time this research was conducted there were eight priests and four nuns working in the prelate, with several thousand lay members assisting with a variety of tasks. The Catholic Church was one of the oldest organizations in Lábrea; the Paroquia was first established in 1878, just seven years after Colonel Labre had founded the city (Ferrarini, 1981). The Vatican recognized Lábrea as a prelate in 1925 and the *Agostinianos Recoletos* have run the organization since that time (*Paróquia Nossa Senhora de Nazaré - Lábrea AM - 125 Anos Evangelizando*, 2003).

Christian Base Communities

The first attempts at social movement organization in Lábrea were centered on the formation of *Comunidades Eclesias de Base* or Christian Base Communities (CEBs), which began in the 1970s. CEB formation is an example of the how the Catholic Church shifted to a pro-poor approach to evangelization in the late 1960s (Bruneau, 1986). The CEBs were designed to offset the lack of priests by teaching individuals

who showed leadership qualities in the communities to read and conduct basic sermons and church services (Boff, 1985). The CEBs were a strategy used throughout Brazil by the Catholic Church in response to the tremendous expansion of evangelical churches, and to offset the chronic shortage of priests and nuns (Adriance, 1995). The church realized that preaching alone might not be very successful, and they also incorporated community organization and attempts to improve basic services like health and education (Bruneau, 1986). I was informed that the Prelacy of Lábrea had helped organize 215 CEBs along the Purus between 1975 and 1982. The CEB program came at a crucial time when patrons were abandoning the *seringais* and when former rubber tappers were beginning to cluster in riverine villages instead of spread out *colocações*. In many ways the CEBs appear to have been one of the first seeds of organization in these communities. One of the lasting results of the CEB program was the formation of community leaders who in many ways began to serve as brokers between the newly forming communities and the outside world.

Although the inhabitants of Vila Limeira remembered the organization of CEBs and the work of priests in helping communities, they had become an Evangelical community around 1997, and perhaps for this reason they did not speak much about the formation of a CEB in their community. Religious affiliation appeared to have an effect on the contact that communities had with different religious groups. It is understandable that when allocating extremely scarce resources organizations tend to prioritize the communities that are more likely to be receptive to their message. For this reason there was a tendency in some cases for Evangelical organizations to focus on Evangelical

communities, and for Catholic organizations to prioritize Catholic communities when they traveled to the interior.

Rural Workers' Union

At the same time that the Catholic Church in Lábrea was inspiring organization at the community level, they were also building links between the inhabitants of riverine villages and wider peasant movements in Brazil. Rural Workers' Unions became one of the most important avenues for peasant organization in the 1970s and 1980s in Brazil. These organizations were set up to help peasants in their struggles for land and workers' rights.

I was told that in Lábrea the main motivation for the formation of the *sindicato* was the constant struggle between rubber tappers and patrons on the *seringais*. Tappers felt that they were being cheated on the debt ledgers and in the prices that they paid for supplies. They felt that it was unjust that they could be thrown off their production area if they sold to someone other than the patron. I learned that the priests with their new pro-poor approach to evangelization increasingly took the side of the tappers in this struggle and felt it was their duty to help the tappers receive the rights as workers they were due under Brazilian labor laws. A former member of the union directory informed me that in 1978 an influential priest decided to help organize a rural workers' union in Lábrea and began the process of holding meetings about the concept. Meetings were held and contacts were made with state level organizations like FETAGRE and national organizations like CONTAG, who sent individuals to hold meetings to discuss the creation of the union. The *Sindicato de Trabalhadores Rurais de Lábrea* was legalized in November 1979.

I learned that the stevedores who loaded and unloaded the ships that arrived in the port of Lábrea were also interested in this type of organization and there was a movement to form the *Sindicato dos Estivadores* at the same time. The Stevedores Union actually began to organize first, but never really picked up momentum and quickly faded. I was told that the prelacy also attempted to help form an *Associação de Lavadeiras* or Washerwomen's Association to help these chronically underpaid domestics obtain a just wage for their work.

The formation of the rural workers' union meant that tappers now had an organization that they could go to for help with injustices on the *seringais*, and from 1979 through the mid-1980s the union had a significant impact on the patron-client relationships in Lábrea. I was told that union leaders would review tappers' debt ledgers to determine if they were being cheated and would help them obtain legal counsel in the event that a patron was trying to throw them off the *seringal*. The leadership of the union was connected with other unions in the area through regional meetings with FETAGRE at the state level and with national organizations like CONTAG. I was informed that at the time the union was formed the only other organizations that tappers could turn to for help were the Prelacy and the CDH – *Comissão de Direitos Humanos* (Human Rights Commission), an organization that existed for a time in Lábrea but was long-since defunct by the time this research was conducted. The union had approximately 300 to 500 paying members at the height of its power. In the late 1980s the directorate of the union changed and the new president took it in a different direction by making a pact with the municipality, in effect turning the

union into a *pelego*² union that no longer looked to challenge the imbalances of power that existed between landowners and workers.

The Rural Workers' Union of Lábrea still existed in 2008-2009, but it was no longer considered to be a strong social movement organization when this research project was carried out. Its main function had become assisting individuals to obtain the necessary paperwork to receive their retirement benefits as agriculturalists, and to access other government benefit programs. In order to receive retirement benefits as agriculturalists from the *Instituto Nacional de Seguro Social* (INSS) individuals had to present a series of documents proving that they had worked as small farmers. Proof of membership in a Rural Workers' Union was an important element of this bureaucratic process.

Individuals were permitted to apply for these benefits, which consisted of a monthly stipend of 415 reais per month, at 55 years old (women) and 60 years old (men).

People also sought out the Workers' Union to obtain paperwork to access *auxílio de maternidade* (maternity benefits) and *auxílio de doença* (disability benefits). When this research was conducted the union had approximately 3,300 members who were supposed to pay a monthly membership fee. The fee had been 7 or 8 reais per month, but at the time research was conducted the fee had been dropped to 2 reais per month to try to convince members to pay their dues. The money from these fees was sent to the FETAGRE and CONTAG headquarters, which would return approximately 5% of the money for the operational costs of the union in Lábrea. The office was in a state of disrepair and had extremely limited staff and equipment to conduct its business. The

² A *pelego* union is one in which the officials have been coopted or coerced to favor rich landowners. *Pelego* means "sheepskin" and this term is similar to the expression "sheep in wolf's clothing" (Adriance, 1995).

president of the union in 2008-2009 informed me that it was now very rare for individuals to seek out the union to resolve problems with patrons and to resolve other labor conflicts. He explained that people generally went to other social movement organizations, like the Pastoral Land Commission, to try to settle the types of problems that the union had once helped resolve. The main reason that people sought out the Rural Workers' Union was to obtain paperwork to access government benefits.

Due to its location at the extreme western end of the municipality, Vila Limeira was not often visited by Rural Workers' Union of Lábrea. The union, like most of the social movement and even government agencies was chronically short of the financial means to make long journeys into the interior to visit communities. However, inhabitants of Vila Limeira did remember that around 1988 the *Sindicato de Trabalhadores Rurais de Pauini*, which is much closer despite being in a different municipality, began to come to the community to help them get organized. The union helped them in their struggles with the patrons, who were still attempting to charge rent, as well as with fishermen and loggers from outside the community.

One of the most important outcomes of the formation of the CEBs and Rural Workers' Union was the diffusion of information regarding peoples' land tenure and labor rights. The inhabitants of Vila Limeira, and countless other communities on the now defunct *seringais*, were shocked to find out that in many cases they were being charged rent for occupying land that their patron claimed was his but was not included in any official land title. As previously mentioned, when patrons lose control of a key resource, particularly land, the "one patron" rule becomes more difficult to enforce, which often leads to a change in social structure (Martin, 2009). When riverine

inhabitants realized that the patrons often had no legal authority to charge rent or determine the way they used resources, community inhabitants became emboldened to challenge the longstanding patron-client relationships.

Pastoral Land Commission

The creation of the *Comissão Pastoral da Terra* or Pastoral Land Commission (CPT) in Lábrea was another very important result of the initiative of Catholic priests and lay members in helping communities in the interior fight for their rights. CPT was established in Brazil in June 1975 during a meeting of the *Pastoral da Amazonia* convened by the *Conferência Nacional dos Bispos do Brasil* or National Conference of the Bishops of Brazil (CNBB) (*O nascimento da CPT*, 2010). The organization was created in response to the land conflicts that were worsening in the Amazon in the 1970s and focused on helping *posseiros*³ that were being subjected to violent expulsion and unjust working conditions (*O nascimento da CPT*, 2010).

I was informed that the CPT office was established in Lábrea soon after the creation of the Rural Workers' Union. In part it was established to assist the union, which had begun to lose its effectiveness as a force of social change. When the CPT arrived in Lábrea the BR-230 Transamazon Highway was also arriving; it reached the city in September 1976 (Ferrarini, 1981). However, the arrival of the road did not lead to the huge land conflicts that characterized the building of the Transamazon in Pará and other parts of the Amazon (Schmink & Wood, 1992). Instead, the CPT office in Lábrea dealt mainly with conflicts between patrons and clients, riverine and indigenous peoples, and between riverine communities over shared resources. With the economic

³ *Posseiros* were typically poor farmers who made claims to unoccupied land in frontier areas by clearing it, planting crops, and building rudimentary structures.

collapse and abandonment of the *seringais*, CPT increasingly began to try to help resolve conflicts over aquatic resources.

Fishing Conflicts and Social Movements

In response to the persistent conflicts with local and regional fishermen, riverine people went first to local authorities like the municipality, the police, and IBAMA to denounce these problems. Unsatisfied with the general lack of action or capacity to resolve these problems, they next went to groups like the Pastoral Land Commission (CPT) to try to resolve the problem. CPT was faced with the challenge of helping people resolve a variety of different types of conflict over fishing resources. They were asked to help with conflicts: 1) within communities between different households; 2) between different riverine communities; 3) between indigenous and riverine communities; 4) between riverine communities and local fishermen, many of whom had once lived in the communities before moving to the city of Lábrea; and 5) between riverine communities and large-scale fishermen from Acre and from Manaus.

In response to these community requests to help resolve fishing conflicts, CPT first suggested two programs: 1) the *Lagos de Preservação* or Lake Preservation Program, and 2) the *Agentes Ambientais Voluntários* or Volunteer Environmental Agents. The CPT staff in Lábrea decided to offer these solutions as a result of their interactions with other CPT offices in the state of Amazonas, who were developing these programs to help resolve similar problems in other parts of the state.

The Lake Preservation Movement began in the Prelacy of Tefé in the 1970s in response to fishing conflicts that had arisen with the skyrocketing demand from Manaus, which had seen its population explode with the creation of the Zona Franca de Manaus in 1967 (da Costa, Ramos, & de A. Cunha, 2007). Through the 1970s and

1980s the Lake Preservation program spread to other municipalities in Amazonas including: Parintins, Coari, Itacoatiara, Silves, and Iranduba (da Costa et al., 2007). In 1987 the community of Santa Helena became the first community in Lábrea to participate in the program (da Costa et al., 2007).

The CEBs played a key role in the first experiences with the program in the 1970s and in 1975 CPT became involved (da Costa et al., 2007). In Tefé, where the program began, riverine communities began to form Preservation Committees in which certain community members were charged with monitoring community lakes and preventing predatory fishing operations (da Costa et al., 2007). This led to the creation of the *Agentes Ambientais Comunitários* or Community Environmental Agents, individuals who would receive basic training from governmental environmental agencies on how to monitor the use of the lakes and report predatory fishing activities (da Costa et al., 2007). As a result of the early experiences with the program participants decided that their best way to protect their fishing resources was to create distinct categories based on the type of use and protection required. This included Sanctuary or Breeding Lakes, Maintenance Lakes, and Open Lakes (da Costa et al., 2007). In the 1970s legal provisions began to be adopted at the municipal level to try to regulate fishing activities. In 1997 CPT – Amazonas signed an agreement of cooperation with the Brazilian Environmental Agency IBAMA creating the *Agentes Ambientais Voluntários* or Volunteer Environmental Agent program in which they would train community inhabitants to monitor natural resource use in and around their communities (da Costa et al., 2007). *Acordos de Pesca* or Fishing Accords were formalized with the IBAMA

Instrução Normativa 29/03 that formalized the process of officially designating lakes within the protection categories listed above (da Costa et al., 2007).

When communities like Vila Limeira and others along the Purus and its tributaries came to the Prelacy and CPT in search of help in resolving fishing conflicts, the groups responded by offering the Lake Preservation and Volunteer Environmental Agent programs that they had learned about through their network of contacts in other CPT offices in the region. This is an example of how riverine communities began to seek out other sources of help in the wake of the departure of *seringal* owners, and how the patronage pyramid of the *seringal* system began to change to a multi-hub system in which clients sought help from several brokers and intermediaries.

Indigenous Missionary Council (CIMI)

The policy of the Catholic Church regarding indigenous peoples has also changed over the years; although at certain times they had tried to protect indigenous peoples from being overwhelmed by the social changes associated with colonization, their focus for much of their history was to evangelize these groups and incorporate them into Brazilian society. By the 1970s this approach had changed, and the Catholic Church began to recognize the importance of helping indigenous people to maintain their culture, language, and territory. Indigenous peoples had been pushed off of their lands and incorporated into the extractive economy in Lábrea since Brazilian expansion into the area in the 1850s. The building of large infrastructure projects in the Amazon in the 1970s continued to open up new lands, and indigenous groups continued to face expulsion, death from disease, and cultural disintegration (Davis, 1977; Hemming, 2003). In 1972 the CNBB created the *Conselho Indigenista Missionário* or Indigenous Missionary Council (CIMI) to help indigenous peoples organize and demand their rights

to maintain their cultural integrity and the land and resources they depended on for survival ("CIMI - Quem Somos", 2004). The organization was created as an alternative to the official policy of the Brazilian government at the time, which was to integrate indigenous peoples into the dominant majority culture ("CIMI - Quem Somos", 2004).

The Catholic Church was also fighting on behalf of indigenous people in Lábrea. First, in the 1970s lay members and priests conducted studies regarding the situation of indigenous groups in the area, visiting the indigenous communities, making contact, and collecting basic information. The CIMI office was opened in Lábrea in 1978 and began to help indigenous peoples to organize and demand their rights. A group of indigenous men from Lábrea that had served in the Brazilian military returned in the late 1970s and decided to organize themselves to reclaim lands that they had lost during the expansion of extractive industries in the second half of the 19th century. CIMI began to help these leaders organize and arrange meetings to discuss their problems and think about solutions. One of the solutions that they increasingly came to regard as imperative was the creation of Indigenous Lands in the municipality. Like riverine peoples, indigenous people had no title to the land they occupied and no guarantee that they would not be expelled or lose access to key resources. The creation of indigenous lands would help resolve this problem, and in the late 1970s and early 1980s they began to push for the creation of these areas.

The federal agency in charge of indigenous questions in Brazil, including the creation and management of indigenous lands, is the *Fundação Nacional do Índio* or National Indian Foundation, better known by the acronym FUNAI. This organization replaced the SPI in Brazil in 1968 after a national scandal involving the SPI

administration and an effort to update indigenous policy to include statutes reflecting United Nations and International Labor Organization statements regarding human and minority rights (Wagley, 1977). I was informed that the FUNAI began to work in Lábrea in 1981 in connection with the office in Porto Velho, Rondônia and by 1983 they began to demarcate proposed indigenous lands in Lábrea. The FUNAI office in Lábrea was officially established in 1987.

The efforts by indigenous leaders and CIMI to create an indigenous area along the Pacιά River near the city of Lábrea led to conflicts with the business interests that claimed ownership of productive Brazil nut groves and timber in the proposed indigenous area. Violence ensued as these powerful business interests attempted to eliminate the indigenous leaders that were demanding the creation of the area. There were attempts on indigenous leaders lives, and several family members of one of the key leaders, the Apurinã *tuxuau* or chief Agostinho, were murdered. On April 28, 1985 Sister Cleusa Rody Coelho, a nun from the Augustinian order who had worked off and on in Lábrea since 1954 and had been working with CIMI since 1982 to help organize indigenous communities, went to help mediate the conflict on the Pacιά River (Ferrarini, 2009). In spite of warnings about threats to her safety she went to the indigenous community and was murdered by an assassin named Raimundo Podivem, who was also involved in the murder of Agostinho's wife and one of his sons (*Paróquia Nossa Senhora de Nazaré - Lábrea AM - 125 Anos Evangelizando*, 2003). Podivem died soon after of an illness and the instigators of the murders were never brought to justice, although there is speculation that he was hired by local business owners who wanted to maintain control of timber and Brazil nut groves in the area.

In 1985 the Terra Indígena Caititu was created, and many believed that the creation of the indigenous area was due in large part to the backlash from the murder of sister Cleusa. From this point on a series of indigenous lands were established in Lábrea. CIMI continued to work on indigenous issues in Lábrea, and in addition to helping with land and resource conflicts, they often served as a mediator between government agencies and indigenous communities. The CIMI staff was able to communicate in indigenous languages to a much greater degree than staff from government agencies, and often accompanied government agents on trips to the communities to serve as translators. CIMI agents told me that they felt that another one of their key tasks was to monitor the government agencies, like FUNAI, to make sure that they were doing their work correctly with the communities.

CIMI and CPT were officially considered part of the Prelacy of Lábrea, but they were run at times by lay members, and in many ways they operated with a certain degree of autonomy. CPT had a state level headquarters in Manaus, as well as national offices in Brasilia. CIMI also had regional and national headquarters.

Typically riverine communities like Vila Limeira had little direct contact with CIMI, unless they were at meetings or other events in which social movement groups gathered to support one another. CIMI also had limited resources and had to prioritize the way it used these resources. However, there was significant contact between CIMI, CPT, and other social movement organizations in Lábrea. They would occasionally meet to discuss and try to help resolve conflicts between their constituencies, and often supported one another in their respective efforts. This is an example of the horizontal

links between brokers and intermediaries that can proliferate after the collapse of patronage pyramids (Martin, 2009).

Children's Pastoral – Pastoral da Criança

The *Pastoral da Criança* or Children's Pastoral was created in September 1983 in Florestópolis, Paraná, Brazil to help end the problem of child mortality in Brazil. Dr. Zilda Arns Neumann, a pediatric and sanitary physician, was the founder and president of this organization, a task she had carried out at the request of the CNBB. I was informed that the *Pastoral da Criança* in Lábrea was founded in 1993 by Father Miguel Mohoy, and focused on providing natural "traditional" medicines to poor communities as an alternative to expensive manufactured medicines. The Pastoral da Criança was also part of the Prelacy of Lábrea but with direct links to the organization's headquarters in Curitiba, Paraná, Brazil. They had a program to monitor the nutritional status of children in urban and rural areas and try to provide information on basic hygiene, pre-natal care, and other topics associated with children's health. The *Pastoral da Criança* also served as a channel for donations and some food that was provided by the central office. I was told that in 2008 they sent 1.73 reais for each child weighed in the area. When this research was conducted the *Pastoral da Criança* was trying to increase its presence in the rural riverine communities along the Purus and its tributaries. I learned that lay members, approximately 126 volunteers, did the vast majority of the work done by the *Pastoral da Criança* in Lábrea.

I learned that the Catholic Church in Lábrea has set up a series of support organizations, like the *Pastoral da Criança*, to assist other social groups. These included the *Pastoral da Família*, *Pastoral do Idoso*, *Pastoral do Menor* and the *Centro Esperança*. The *Centro Esperança*, created in 1994, was an organization that

attempted to provide a safe haven for adolescents in Lábrea. They learned a trade: embroidery, sewing, cooking, metal working, woodworking, etc. The 320 young people enrolled in the center also learned discipline and received meals at the *Centro Esperança*. They had to be enrolled in school in order to participate in the center, and participants were chosen to a large degree based on their situation. The main goal of the Center was to target at-risk youth and to keep them off the streets and prevent problems with drugs, crime, prostitution, etc. Demand to participate in this program was high, and I was informed by the priest in charge that if they had the resources they could easily have as many as 2,000 young people participating.

The Marista priests that came to Lábrea in 1967 to improve the educational system continued to play an important role in the town's educational system, although by 2008-2009 most of the schools were run by state and municipal government agencies. The prelacy also had begun a housing program to try to assist destitute families fleeing the interior. They were building simple houses for these families, which they could live in, but did not own, until they were able to find employment and housing.

Networking with State Agencies to Resolve Agricultural Problems

The patron's *barracão* had long been the place where riverine inhabitants had obtained rubber tapping equipment and other implements. With the departure of the patrons and the fall of rubber prices, riverine inhabitants began searching for contacts that could help them obtain the equipment they would need for agriculture and fishing activities. In 1998 the inhabitants of Vila Limeira heard that the state government of Amazonas was providing credit and implements to communities that wanted to engage in agricultural activities. They received word that in order to receive these benefits community members had to be organized into legalized community associations. Many

Brazilian government organizations demanded that communities organize themselves into legally registered associations with a directorate (president, vice-president, secretary, treasurer) in order to receive government benefits. Community leaders from Vila Limeira decided to take action to create a community association to access the government benefits.

Community Leaders

One of the legacies of the CEB program along the Purus was the formation of leaders in many of these communities, who began to take action and attempt to bring benefits and improvements to their communities. With the departure of the patrons and the formation of leaders through programs like the CEBs this dynamic began to change. The CEBs were certainly influential in this process but I was also informed during interviews that many communities had come to the conclusion that they needed representatives to obtain help from the outside world and were forming leaders even in areas where CEBs were not created.

When this research was conducted in 2008-2009 most of the communities along the Purus and its tributaries had some form of democratically elected leader who would represent the community in the outside world. Visitors from social movement groups and government agencies would typically seek out these leaders upon arriving in the community. These leaders were typically the ones who would be invited to represent their communities in meetings in Lábrea and Pauini, and were often expected by other community members to seek out assistance for the community, resolve conflicts within the community, and seek out solutions to many of the larger problems previously mentioned. Since they were generally the ones invited to meetings and sought out by visitors, community leaders became key sources of information for other community

members. In my visits to the communities I witnessed community leaders hold meetings in which they would relay to other community members information they had gathered during their visits to agencies in town. The officials in government agencies, social movements, and local politicians also reinforced the position of community leaders by seeking them out when they wanted to pass information on to communities, secure votes during elections, etc. They obviously knew that this was an effective strategy in reaching a larger number of community inhabitants.

In Figure 5-1 we can see that the community leader has replaced the patron as a source of information and advice. Being invited to all of the meetings and having access to information that the other communities members did not have put these leaders in a “broker” position between community members and the outside world, that had previously been filled by the patrons.

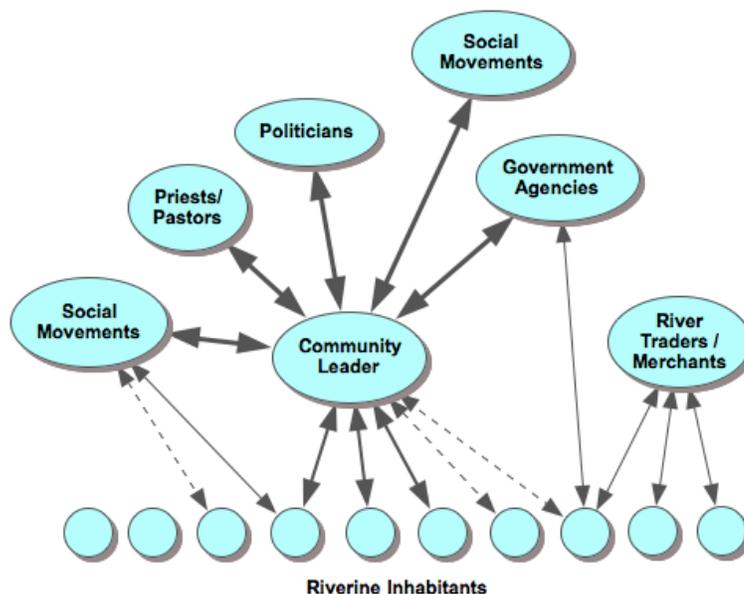


Figure 5-2. Post *Seringal* Networks

However, while the community leaders filled a broker role for information, they had not assumed the role of linking community members to markets and sources of supplies

and credit like the old patrons. Instead, (as I explain further in Chapter 6) community members were most likely to use their relationships with river traders, merchants in town, and government extension agencies to access credit and supplies.

Community leaders in Vila Limeira realized that they would need assistance if they were going to negotiate the bureaucracy of the Brazilian government and set up a community association. They began to turn to existing relationships outside their community and also began to form new relationships with individuals in social movements and government agencies that could help them achieve this goal. Their first stop was to see the *prefeito* or mayor of Pauini.

Municipal Politicians

In the remote towns of the Amazon the city mayor has long been in a position of influence. In much the same way that community leaders had become the link between their village and the outside world, in many ways the mayors of the small towns of the Amazon were important brokers between their towns and the wider world. The legal responsibilities for creating municipal legislation and representing the Brazilian government at the local level made municipal mayors one of the most important channels through which resources from state and federal agencies reached remote towns. The following quote by Darrell Miller regarding Amazon communities in the state of Pará in the 1970s was still very true for towns like Pauini and Lábrea in 2008-2009.

Traditionally, the office of mayor has been extremely important in the Amazon. Given the boom-bust nature of the economy of that region, the municipal budget represents the one continuous and assured source of income although, granted, it is relatively small when compared to more 'developed' communities. In times of economic hardship, having a position or job with the municipal government means that one has an assured cash income to buy foodstuffs and manufactured goods not locally produced, whereas others must turn (or return) to subsistence farming and hunting to feed their families (Miller, 1985).

I would argue that with the collapse of extractivism and the massive rural-urban migration that occurred along the Purus after 1970, the office of *prefeito* became more important than ever. In 2008-2009, jobs in the municipality were highly coveted due to the lack of employment opportunities and were a source of influence for those in charge of the municipality. A mayor was expected to know how bureaucratic procedures, like legally registering a community association, worked and it is therefore no surprise that the community leaders of Vila Limeira began their search for assistance with the mayor of Pauini, the town in closest proximity to their community.

City councilmen and councilwomen, *vereadores* as they are called in Brazil, were also sought out because of their position within the municipal government. Their official tasks, in addition to proposing municipal legislation, were to monitor the work of the mayor (particularly the municipal budget) and to serve as interlocutors between the public and the municipality. Their position within the municipality, proximity to the mayor, and perceived (or real) influence on the allocation of municipal funds meant that *vereadores* were also sought out frequently by communities requesting schools, health posts, and other improvements, or individuals asking for money for food, medicine, and other items. At the time of this research Lábrea had nine *vereadores*, who were elected every four years in municipal elections. The *vereadores* had weekly meetings in the city council chambers to discuss municipal business, propose legislation, and debate other municipal affairs.

Municipal secretaries were also sought out because of their position within the municipal structure and their potential to provide access to resources and assistance. Municipal secretaries were appointed by the mayor and put in charge of the municipal

efforts in different sectors. At the time of this research Lábrea had municipal secretaries of: 1) Environment, 2) Health, 3) Education, 4) Municipal Administration, 5) Production, 6) Finances, 7) Communication, 8) Social Assistance, 9) Water and Sewers, 10) Sports, and 11) Cabinet Chief. Municipal secretaries were often expected to be the official liaison between state and federal organizations and their municipality. For example, the municipal secretary of the environment in Lábrea was expected to be in contact with officials and agencies at state and federal levels that dealt with environmental issues.

In order to facilitate bureaucratic processes and consolidate the offices of federal, state, and municipal government offices, in 2006 the municipality of Lábrea opened the *Centro Cidadão* or Citizen's Center. This building contained the offices of many of the offices that provided government benefits to the inhabitants of the municipality. In 2008-2009 these offices included: 1) *Bolsa Família* program, 2) Ministry of Employment, 3) Military Services, 4) Identification, 5) CPF, 6) Federal Registry, 7) and some of the services of INSS. Inhabitants of the municipality could visit the Citizen's Center instead of going to offices throughout the town. Officers of the Citizen's Center would periodically accompany other municipal agencies on visits to the interior to help people obtain the citizen documents necessary to conduct almost all official business.

Social Movement and State Agency Networks

When the mayor of Pauini refused to help them because they were not in his jurisdiction, the leaders of Vila Limeira went to the CPT office in Pauini and the *Sindicato de Trabalhadores Rurais de Pauini* to find out what they needed to do to create the association. The *sindicato* had been visiting their community since the late 1980s, helping them to organize, and they learned from the union and CPT that first they would need at least twenty people to form the association. Since the agricultural

program was being managed by IDAM the *Instituto de Desenvolvimento Agropecuário e Florestal Sustentável do Estado do Amazonas* and there was no IDAM office in Pauini at the time, they decided that they would have to make the long trip to Lábrea to obtain the information and assistance they needed to create their association.

IDAM was a key contact for riverine communities when this research was conducted because of the agency's mandate of improving agricultural and livestock production in the state of Amazonas. IDAM was part of the *Secretaria Estadual de Produção* SEPROR and had its headquarters in Manaus and branch offices in all 62 of the municipalities in Amazonas state. The IDAM office in the city of Lábrea was one of two in the municipality, the other being located in Nova California in the southern part of Lábrea, which was accessible from Rondônia and Acre but effectively cut off from the municipal center due to the lack of roads. The IDAM office in Lábrea began as a state branch of the federal government agency known as ACAR, the *Associação de Crédito e Assistência Rural*, which was created in the state of Amazonas in 1966. This organization worked in conjunction with the SUDHEVEA rubber agency office in Lábrea. The SUDHEVEA program was created in 1965 and ended in 1989. ACAR was renamed EMATER and in 1977 the government of Amazonas created the state-level EMATER, *Empresa de Assistência Técnica e Extensão Rural do Estado do Amazonas*, an agency whose work began to reflect the desire of the state government to deemphasize rubber production and emphasize family agriculture and animal husbandry. Finally, in 1993 IDAM, which had been created in 1966 as part of EMATER, replaced EMATER and added social and environmental components to their extension work.

At the time of this research the IDAM office managed a series of key resources important to riverine communities. First, they were in charge of the PRONAF agricultural credit program, which provided low-interest loans and subsidies for family farmers and other producers. The IDAM office also had a program to distribute seeds to family farmers, who often lack seeds in certain years due to storage problems. The IDAM office provided extension for livestock production, including the vaccinations and pest control measures important in tropical areas. Extension agents from IDAM conducted training workshops to help family farmers improve their production techniques so they could get higher prices for their products in agricultural markets. The extension agents and officials in IDAM were much more likely to work directly with community inhabitants than their predecessors in SUDHEVEA, who tended to work mostly with *seringal* owners.

On April 10, 1998 community leaders arranged with the pastor who was working in Vila Limeira to take them in his boat to Lábrea so they could make contact with the IDAM office to obtain assistance in creating the association. In the 1990s many of the inhabitants of Vila Limeira had worked for MANASA, the company that had purchased the land that had been part of the Mariené Indigenous Post that SPI had established on the Seruini River in the 1920s. This timber company had bought lands in the area as part of a reforestation agreement they had with the government. They were required to reforest areas to compensate for their timber extraction elsewhere. On the Seruini they had decided to plant an enormous area with Brazil nut trees, and the inhabitants of Vila Limeira were often hired for this work. The company had installations on the Seruini River that included an Evangelical church, and the pastor began to periodically visit Vila

Limeira in the 1990s. In 1997 the majority of the inhabitants of Vila Limeira converted to Protestantism and eventually built their own *Assembleia de Deus* chapel.

Evangelical Church Networks

Since 1970 there has been an explosion of Evangelical churches in Lábrea, and in Brazil in general (Chesnut, 1997; Stoll, 1990). These churches and the pastors that work in them represented yet another potential source of assistance that the inhabitants of riverine villages often turned to in times of need. At the time of this research there were at least 17 different denominations of Evangelical churches in the city. However, the biggest of these was the *Assembléia de Deus* or Assembly of God. I learned in an interview with church leaders that the Assembly of God was the Evangelical church with the largest presence in Lábrea, with five chapels in the city and eleven more in the interior. Manaus had 530 *Assembléia de Deus* chapels and there were approximately 3,000 in the state of Amazonas.

The evangelical churches had a reputation for being much more conservative in their approach to evangelism than the Catholic priests inspired by Liberation Theology who had been so instrumental in forming the CEBs and the rural workers' unions. The evangelical churches generally did not challenge social imbalances or look to change social hierarchies. However, pastors were often involved in other types of community development projects, and the pastor in Vila Limeira actively supported their attempts to form their community association. Ireland (1993) explains this by making a distinction between "church crentes" and "sect crentes." "Church crentes" were evangelicals who depended on the church hierarchy and depended on them to take action in their benefit, while "sect crentes" believed in individual faith and were more likely to take individual action without deferring to the church hierarchy (Ireland, 1993). The activities of the

pastors and their followers who actively challenged the status quo and engaged in social movement activities would seem to dispute the notion that evangelicals are not as likely as Catholics to engage in activities that address social imbalances; at least in Lábrea there were a good number of evangelicals who fit into the “sect crente” category.

With the help of their pastor, the inhabitants of Vila Limeira made the trip to Lábrea and went to the IDAM office to begin the process of formalizing their community association, the *Associação dos Produtores Agro-Extrativistas de Vila Limeira* (APAVIL). The IDAM office, in addition to providing important resources like agricultural credit and seeds, also helped rural inhabitants with government paperwork. In the 1990s the state government began to require that many official benefit programs be channeled through legally registered community associations. Although the idea of community organization dated back to the CEBs, now that it had become a government requirement to access resources, communities had more incentive to organize in this manner. The CPT office was also actively involved in helping communities to form these associations. The first community associations in Lábrea were legalized in the late 1990s, around the same time that the inhabitants of Vila Limeira were forming theirs. IDAM was actively helping other communities to form associations in the municipality, and at the time of this research there were approximately twenty community associations. Figure 5-4 below shows the networks that were constructed by leaders in Vila Limeira to create their community association.

Accessing Resources through Community Associations

Once their association was created, the inhabitants of Vila Limeira received machinery and equipment to plant and process sugar cane from the state government. The elder Oliveira had experience producing sugar-based products, like *rapadura* and

cachaça, from his youth in the Brazilian Northeast. Vila Limeira is one of the few communities in the area with significant amounts of *terra firme* uplands near their community and they rapidly cleared forest behind the community and began planting sugar cane. Their production expanded rapidly and they formed a relationship with buyers from Coca-Cola for the sugar they produced. However, technical problems with their sugar mill and a lack of replacement parts shut down their sugar operation.

I was informed that the director of IDAM also convinced them to participate in a coffee project in which they would take out government loans to buy seeds, implements, and fertilizers to produce coffee commercially. Unfortunately, this program was not based on economic or marketing studies and the inhabitants found themselves unable to sell their coffee crop and unable to pay back the loans for the program, making them ineligible for more government loans until these debts were paid. By 2009 the failure of these two agricultural programs led the people of Vila Limeira to once again rely on manioc flour and Brazil nut production as their main sources of income. Their relationship with IDAM had resulted in their participation in workshops on how to improve the quality of their manioc flour, which did enable them to get better prices for it on the market.

In spite of the setbacks in the development projects they tried, the people of Vila Limeira had developed a community association to organize their activities, and their leaders formed a series of relationships with social movements and government agencies that helped them access resources to benefit their community.

At this point we leave Vila Limeira and pick up the story of two more communities, which are indicative of how riverine communities responded to the collapse of extractivism and the changing nature of patron-client relationships in Lábrea.

Vila Vitória

Along the Ituxi River, one of the major tributaries of the Purus, a similar story of community organization in response was playing out. The Ituxi River was also a major rubber producing area that had been explored by Colonel Labre, first as a potential route to the Madeira River and later because of the river's rich rubber resources. The Ituxi had a different resource base than the Purus, which has impacted the human occupation patterns over the years. The Ituxi, a black water river, did not have the rich sediment load that made the beaches of the Purus so good for agriculture. The beaches of the Ituxi were also much smaller and exposed for shorter periods of time than those of the Purus. On the other hand the Ituxi had more areas of *terra firme* uplands closer to the main channel than the Purus. The Ituxi was known as an area rich in Brazil nuts, which had long been an important activity in the rainy season when rubber could not be tapped.

The Ituxi also passed through various boom bust phases of resource use over the years in response to changing market demands. Although rubber was the mainstay of the inhabitants' production activities, they also combined rubber production with: providing firewood for steamships, Brazil nuts, animal pelts, and fishing. In the 1970s there was a sorva boom on the Ituxi River and its tributaries that employed a number of the families that had once tapped rubber in the area. Sorva is the latex derived from the sorva tree (*Couma sp.*) and was once used as a natural base for chewing gum. Amazonas state was the number one supplier of Brazilian sorva, and 1976 was Brazil's

peak year of production, with production reaching just over 6,000 tons (Coppen, 1995). For many years the sorva trees were felled in order to extract the latex, which depleted the resource base and forced *sorveiros* further and further into the forests to collect the latex. The Siriquiqui River, a tributary of the Ituxi, was the epicenter of sorva production, while the Cuerequete and Punicici Rivers, also tributaries of the Ituxi, were known for their Brazil nut groves. Near the end of the sorva boom cycle a new technique of using steel spurs and a rope to climb the sorva trees and score the bark using a special sorva tapping tool was developed to save the trees from destruction. The sorva business, like most of the extractive activities, began to collapse in the early-1990s and by 1992 Brazil's production had dropped to 500 tons (Coppen, 1995). By the time this research was conducted no one was producing sorva on the Ituxi. Copaiba oil was a product that many families extracted on the Ituxi, but as previously mentioned the fluctuations in the market for this oil and difficulties in providing a quality product that merchants would buy complicated inhabitants' ability to continue to engage in this activity.

At the time this research was conducted, the inhabitants of the Ituxi were trying to eek out a living with Brazil nuts, manioc flour production, and timber extraction. Due to the lack of productive beaches, the inhabitants of the Ituxi were limited to the more labor intensive *terra firme* upland farming that required them to clear either secondary *capoeira* forests or primary forests in order to plant manioc. The Brazil nut groves were a contested resource, and due to their distance from the markets in Lábrea, implied high transportation costs. Timber extraction on the Ituxi was complicated by the extreme difficulties small-scale loggers faced in accessing the government permits and

management plans necessary to engage in legal timber extraction. Most inhabitants were forced to log illegally, and ran the risk of being fined as they brought planks into Lábrea to sell to furniture makers.

Interactions between patrons and clients appeared to have been a little different on the Ituxi than on the Purus. The Ituxi did not have as many *barracões* lining its banks as the Purus. Instead, there was a large *barracão* on the Purus at the point where the Ituxi drains into the Purus, known as Boca do Ituxi. Then further up the river was a large *barracão* at the confluence of the Iquiry and Ituxi Rivers, known as the Fortaleza do Iquiry. This was once a large *seringal*, and had rubber storage warehouses made of iron and cement that were still standing at the time this research was conducted. In between these two large *barracões* were several small *barracões*, but for many years patrons that came periodically in boats supplied the tappers on the Ituxi in exchange for forest products.

The collapse of extractive industries impacted the Ituxi much more than the Purus in terms of the out-migration of the population. Inhabitants informed me that in the fifteen years before I began research there in 2008, between 50% and 75% percent of the population of the Ituxi had abandoned the area, moved to Lábrea, and then moved on to Porto Velho and Manaus. In addition to the higher rate of out-migration to the cities than the Purus, it was much more common for the inhabitants of the Ituxi to live most of the year in the city and return to the Ituxi for part of the year for the Brazil nut harvest or to plant, tend, and harvest their manioc plots. Fishing became even more important for communities on the Ituxi in the wake of the collapse of rubber and sorva prices. However, the fishing resources on the river were not as productive as the Purus

and there were fewer lakes. The inhabitants of the Ituxi also had similar types of conflict over these resources: conflicts existed within communities, between communities, and between communities and fishermen from urban areas. Similar to the situation on the Purus, the uncertainty regarding resource ownership complicated these situations. The migration of some families to the city and their continued use of resources in the area put them into conflict with families that had stayed on the river. The use of Brazil nut groves and timber extraction faced the same complications.

The extra distances from the city of Lábrea, and the smaller population, in many instances meant that the Ituxi received many fewer visits from social movement groups, government agencies, and religious groups than the Purus. For example, relatively sparsely populated tributaries like the Ituxi were often not included in projects like the CEB program, because the high cost of fuel meant that it made more sense to focus on the heavily populated Purus for these types of programs. Inhabitants told me that between 1980 and 2003 the Catholic Church had an extremely limited presence on the Ituxi. The collapse of extractive industries caused most of the patrons to abandon the area, and when this research was carried out even the river traders were visiting less and less, making it more and more difficult for the inhabitants to obtain needed supplies. The proliferation of *rabeta* motors had offset this problem to some degree, enabling inhabitants to make the trip to town to buy and sell, but fuel costs were still high and their small canoes did not enable them to take large quantities of their products to sell.

In the 1990s when this final collapse of extractivism was taking place there were still no schools on the Ituxi and very limited health facilities. Basic health posts existed

periodically during the mandates of certain mayors; even these had few medical supplies and no trained health care providers.

Some of the families interviewed on the Ituxi had inhabited their communities for at least three generations. One such community was Floresta, located near the confluence of the Ituxi and the Punicici Rivers. The history of this community is similar to many of the communities in the interior of Lábrea. The families traced back to the arrival of men from the Northeast of Brazil that came as part of the various waves of migration to the area. In the case of Vila Limeira this occurred during the 1940s and in the case of Floresta the formation of the community dates back to the arrival of Barros Maciel in the 1910s. Barros Maciel came to the area drawn by the rubber industry like so many others, but he decided that growing sugarcane and producing *cachaça* was the best strategy for establishing a presence along the Ituxi. In addition he actively explored the Brazil nut groves on the Punicici River and was involved in rubber tapping. Barros Maciel was involved in the process of incorporating local indigenous groups into the extractive economy. Although the Ituxi had been explored and colonized in the 1870s Barros Maciel's descendants tell that there were still indigenous groups living in the area when he arrived. He is said to have helped pacify several of these groups along the Ituxi and Punicici Rivers in order to build a labor force for his activities. As in other parts of the Amazon the indigenous peoples of the Ituxi and tributaries like the Punicici did not fare well as a result of this contact, dying of diseases or being forcibly assimilated into the extractive industries.

Barros Maciel's descendants engaged in changing livelihood strategies like so many other riverine communities, trading whatever products had market value for the

much needed supplies that had to be brought from urban centers. Rubber was the mainstay for many years, but they also tapped sorva, engaged in the pelt trade hunting alligators in the nearby lakes, fished, hunted, and collected Brazil nuts. With the collapse of extractivism in the 1990s the family began to move to Lábrea so that their children could get an education. However, after three generations on the land the Barros Maciel family felt a deep attachment to the land and resources and maintained a presence in Floresta. Similar to the case of Vila Limeira, the inhabitants of Floresta did not have a land title that was considered valid by the government. Titles that had been created during the first rubber boom in many cases still existed but had been transferred, divided, and subdivided so many times that it was difficult to determine who owned what. In many cases a title had been divided or transferred to a new owner but had not been properly registered or the land taxes had not been paid. The inhabitants of Floresta, like most of the villages on the Ituxi, were left trying to depend on simple possession rights to defend their claims. Unlike the Purus, inhabitants of the Ituxi did not appear to have had to pay rent on their rubber trails to the same degree. Patron-client relationships certainly existed, but it appears that these relationships were mostly limited to the exchange of forest products for supplies and were less likely to include the payment of rent.

In contrast to Vila Limeira on the Purus, the social organization that was in full bloom on the Ituxi when this research was conducted was due to the presence of an outsider that arrived in the area in 1995. Pastor Antonio Vasconcellos de Souza was himself born on the Purus and his family, like so many others, had arrived from Ceará, drawn by the lure of the first rubber boom. Antonio grew up on a *seringal* on the Purus

and then moved to Lábrea when his family decided to leave the interior. Like so many others he found the transition difficult. He fished and worked other jobs while taking advantage of the educational opportunities available in Lábrea at the time. Antonio had been involved in the Catholic Church, but eventually decided to convert to evangelism, like so many inhabitants in Lábrea. He was invited to study to become a pastor and began the theological training that would enable him to engage in this profession. Having completed his training, Pastor Antonio was assigned to work on the Ituxi River in 1995. He replaced another pastor who could no longer stand the constant bouts of malaria that he was suffering on the Ituxi. Pastor Antonio was shocked by the disorganized nature of the communities he encountered on the Ituxi, where domestic violence and alcoholism were common. The total lack of education and health facilities also alarmed him.

Pastor Antonio felt that the best way to bring help to the people on the Ituxi was to engage in politics and run for the city council. In 1997 he decided to run for the city council, investing his savings in the campaign. He was unaware of the necessity to have the official backing of a political party and by the time he realized this all the parties had given their support to other candidates. He had invested all his savings in the campaign and now had no hope of being elected.

Similar to the case of Vila Limeira the word was in the air that the government was offering implements and projects for communities organized in associations. Pastor Antonio saw this as an opportunity to bring improvements to the Ituxi. He had written a letter describing the situation on the Ituxi and the hardships of the inhabitants but had no idea to whom he could send the letter. One evening he was asked to preach at his

church, the *Assembléia de Deus*, and he decided to include the hardships of the inhabitants of the Ituxi in his sermon. When he concluded, a man that he had not recognized approached him, interested in discussing his sermon. The man turned out to be the newly arrived director of IDAM, and was actively looking to help communities organize associations and access government benefits. Pastor Antonio gave him the letter and the IDAM director began to help him organize the communities on the Ituxi.

Pastor Antonio gathered 32 inhabitants on the Ituxi, who became founding members of APADRIT, the *Associação dos Produtores Agro-extrativistas Assembléia de Deus do Rio Ituxi*. Pastor Antonio moved to an old rubber tapping *colocação* on the Ituxi called Baú and renamed it Vila Vitória. Pastor Antonio also had a relationship with the mayor of Lábrea and was put in charge of an education program on the Ituxi that led to the building of several schools, at which Pastor Antonio taught. As in the case of Vila Limeira, Pastor Antonio actively sought out relationships with individuals in other social groups as a way of accessing needed resources for the communities of the Ituxi. He used these bridging ties, like the one with the director of IDAM, to access information and other resources that the inhabitants of the Ituxi did not have within their kin and community networks. He was also organizing the communities of the Ituxi to form the association. This is an example of bonding ties. Pastor Antonio became a key broker between the community members and the government through this relationship with the director of IDAM.

APADRIT was legalized in 1997, and as a result of their participation in the association, several communities on the Ituxi received farming implements and motors from the government. The director of IDAM also convinced them to participate in the

coffee project, which was even more of a disaster than on the Purus. The participants on the Ituxi did not receive proper instruction about applying the chemical fertilizers that had to be purchased with the coffee project, and most of the coffee died. The families that participated on the Ituxi, like those in Vila Limeira were left in debt as a result of this program.

Problems and Challenges

The families on the Ituxi faced similar problems to those of the Purus in the 1990s: a collapsing extractive economy, the difficult transition to agriculture and fishing, and conflicts over key resources. Several indigenous areas were created at the mouth of the Ituxi, but the pressure near Floresta and Vila Vitória was not as acute as on the Purus around Vila Limeira. In 1997 the director of IDAM first mentioned to Pastor Antonio the idea of creating an extractive reserve. They had several meetings in which the benefits of the extractive reserve model were explained. In these meetings it was explained that in the same way that organizing and creating the community association was a way to facilitate the arrival of agricultural assistance, the RESEX was another way to organize and bring basic services to the area. In 1997 the IDAM director helped Pastor Antonio write a letter requesting the creation of an extractive reserve on the Ituxi. This letter may not have found the right office or the right individual, but apparently Pastor Antonio received no response regarding his request.

Around the time that Pastor Antonio and several communities on the Ituxi were forming their association and making connections to try to bring basic services to the Ituxi, a new threat was growing that would eventually put their continued existence on the river in jeopardy. The headwaters of the Ituxi and its tributaries come from Acre and from the southern part of the municipality of Lábrea, which is precisely the area that in

the 1990s was rapidly being colonized by ranchers and land speculators from Eastern Acre and Rondônia. Many of these *grileiros* bought the *posse* rights of riverine inhabitants on the upper courses of the tributaries of the Ituxi, and rapidly colonized these areas in the late 1990 and 2000s. This unplanned and often illegal colonization led to conflict because many of the most productive Brazil nut groves in the Ituxi watershed were on the uplands near the headwaters and all along the courses of the Punicici and Cuerequetê Rivers. Brazil nut collection was one of the last viable economic alternatives for the inhabitants of the Ituxi; even former inhabitants that had moved to Lábrea continued to depend on this activity as a key source of income, and the destruction of these groves or loss of access to them represented a major threat to the inhabitants of the area.

If we compare the Vila Limeira with the two communities on the Ituxi, Floresta and Vila Vitória, we see that they were facing common problems. Collapse of extractivism, difficult transition to agriculture and fishing, land tenure uncertainty, internal and external conflict over key resources, a history of patron-client relationships, exclusion from formal credit, problems of seasonal resource production, geographic isolation, and a general lack of basic services.

In both cases we see the importance of their connections and contacts with outside groups in the process of trying to overcome these problems. Organizations associated with the Catholic Church and later government agencies and evangelical church movements played key roles in helping the communities to organize and reach out to obtain resources that they did not have access to within their kin and community networks. These early contacts helped them get organized into associations and

helped them access credits, agricultural improvement programs, and some basic services. However, the land tenure problem had not been resolved and the resource conflicts continued in spite of attempts to do the Lake Protection and Environment Volunteers programs. In the late 1990s the inhabitants of Vila Limiera, Floresta, and Vila Vitória began the process of demanding extractive reserves in the effort to resolve their land tenure problems, economic woes, and lack of access to basic services. The process in which they engaged reveals again how the patronage pyramids established during the rubber boom were increasingly replaced by multi-hub social structures in which government agencies, religious organizations, and social movements played increasingly important roles as brokers and intermediaries.

Extractive Reserves

By the late 1990s the inhabitants of Vila Limeira had stopped paying rent to the old patrons, had formed their community association, and had obtained implements in the effort to make the transition from extractivism to a combination of agriculture and extractivism. But they still faced extreme uncertainty due to the land tenure problems they faced. Indigenous reserves had been created all around them and they were being threatened with the creation of an indigenous area that would push them off their land. Their lack of land title also prevented them from defending the resources they depended on from fishermen, loggers, and other resource users from outside the community. In addition, the community was lacking even the most basic health services and education. They decided to once again seek information and assistance from their network of contacts and continue to build this network to try to solve their problems.

Vila Limeira and the Médio Purus Extractive Reserve

By the end of the 1990s the inhabitants of Vila Limeira heard rumors that another Indigenous Land was going to be created on the Seruini River, and they felt that they were at a critical point and would have to either resolve their land tenure problem or be pushed off the land. Their first step was to turn to the director of IDAM who had helped them so much with the formation of their community association. In 1999 he suggested that they speak to INCRA, the federal agency in charge of agrarian reform. The leaders of Vila Limeira went to the INCRA office and began to inquire about the possibilities of legalizing their land claims. They were informed that it would not be possible to create individual plots because there were private lands in the area with legitimate titles. A large parcel of land known as the Gleba Mapuá had a legitimate title that would have to be dealt with. This parcel of land was part of the old Seringal Meteripuá that had been sold when Edmar Castelo Branco, the last patron that claimed to own the area, moved to Manaus. The new owners never came to claim the land or work it, but the INCRA office said there was a valid title for the land that had to be respected. The second option that INCRA had was to create an *assentamento* or agrarian reform settlement in which each family would receive a lot of a certain size. The inhabitants of Vila Limeira began the bureaucratic process of officially requesting an *assentamento*. The bureaucratic process was extremely slow and the leaders in Vila Limeira decided that they could not wait and should look into options to resolve their land tenure problem.

In 2000 one of the leaders of Vila Limeira heard that a meeting was going to be held in Pauini about extractive reserves, another land reform program that could be a solution to the community's problems. This meeting included representatives of the National Council of Rubber Tappers, the *Ministério do Meio Ambiente*, and the Workers'

Union of Pauini. These representatives explained the extractive reserve concept to the leaders and began to respond to questions about the steps the community would need to take to begin the process of creating an extractive reserve. On August 17, 2000 they sent a letter to the *Coordenadoria de Agroextrativismo* to request more information about the steps they would need to take request a reserve, and one month later on September 18, 2000 they sent their first official letter to CNPT in Brasília in the name of their community association, requesting that a study be done to determine the possibilities of creating an extractive reserve. They turned to their contact in IDAM to help them draft the official letters and paperwork petitioning the creation of the extractive reserve.

At the same the IDAM office in Lábrea was helping Pastor Antonio and the inhabitants of the Ituxi to request an extractive reserve in the name of their association, they were helping another community on the Purus, Vila Acimã, to send a request in the name of their community association. The inhabitants of Vila Acimã were also organizing their activities with the help of a Pastor from the *Assembléia de Deus*. These letters were sent separately, each community requesting its own reserve.

The inhabitants of Vila Limeira requested that the 23,000-hectare Gleba Mapuá be expropriated and turned into an extractive reserve to benefit the 19 families in the community. On September 19, 2000 they received a letter informing them that the IBAMA office in Brasília had sent a letter to the CNPT office in Manaus requesting the completion of a study to determine if the conditions existed to create an extractive reserve in the area. The CNPT office in Manaus informed the inhabitants that the number of families that would be benefited within the Gleba Mapuá was insufficient to

warrant the creation of an extractive reserve. So they decided to add the neighboring communities of Vila Dedé (20 families), Praia da Conceição (15 families), Meteripuíá (30 families), and Santa Fé (70 families). Eventually the leaders were informed that the extractive reserve would have to benefit at least 500 families in order to be created, forcing them to expand and include yet more communities.

These neighboring communities in some cases included family and friends, but in all cases the inhabitants faced the same types of threats: creation of indigenous lands, the same lack of basic services, land tenure and resource insecurity, conflicts with outside resource users, and a history of being enmeshed in patron-client relationships in their production activities. The grouping of these communities is an example of “bonding ties” “expressive actions” in which people of the same social group come together to defend resources (Lin, 2001b). However, it is interesting to note that this “bonding activity” was done in response to the demands of the government agencies for creating the reserve, and not solely based on the initiative of the communities or their leaders. These types of horizontal linkages are more common in the multi-hub, broker-dominated social structures that replace patronage pyramids (Martin, 2009).

I learned that in 2001 the coordinator of the CNPT office in Manaus visited Lábrea to conduct a preliminary study and mapping exercise to determine the possibilities of creating the extractive reserve. This visit included meetings designed to involve more communities in the process of creating the proposed extractive reserve. In 2001 CPT became directly involved in the process of requesting the reserves in Lábrea. In a regional meeting, CPT members from Lábrea heard from CPT members in other parts of the state about Extractive Reserves and how they could be used as a way to protect

traditional peoples, stabilize land tenure claims, and mediate conflict. The Lake Preservation and Volunteer Environmental Agents programs had very modest impacts on the conflicts that were taking place, and CPT staff began to suggest Extractive Reserves as a solution when community leaders came to them for help in resolving resource conflicts. CPT leaders had heard about the extractive reserve model through the same network of contacts that had passed on the word about the Lake Preservation and Volunteer Environmental Agents programs. They held a meeting in 2001 in which they brought in experts to inform more communities about the extractive reserves and how they worked. After this meeting the original three extractive reserve requests were combined into one large request that would include a huge area encompassing much of the Purus between Pauini and Lábrea as well as tributaries like the Rio Canaã. This combined extractive reserve request totaled 1,450,000 ha.

What had begun as two individual community requests (Vila Limeira and Vila Acimã) for extractive reserves on the Purus had expanded to encompass more than 90 communities, while on the Ituxi the request submitted by Vila Vitória had expanded to include another 11 communities. Community members were forming “bridging ties” to organizations outside their communities to try to resolve their local problems at the same time they were forming “bonding ties” between communities in response to government guidelines. This process required first a set of “bonding ties” at the community level, forming the associations, but then as the size of the area for the proposed extractive reserve increased it required “bonding ties” between more and more communities that had similar general problems but often very specific needs and internal social dynamics. This is another example of the horizontal networks that often

form when patronage triangles change into multi-hub broker-driven networks (Martin, 2009).

One problem that arose with the expansion of the extractive reserve boundaries was the dissemination of information to all of the communities that had been included in the reserve. In most cases, like the *Encontro dos Ribeirinhos*, community leaders were invited to participate in the event in Lábrea and were expected to return to their community and relay the concept of the reserves, which is often presented in complicated technical jargon, to the other members of their communities. This led to a great deal of confusion about what the extractive reserve would mean in the daily lives of the inhabitants. This was complicated by the fact that individuals who stood to lose from the creation of the extractive reserves had begun to tell people that the reserves would be a national park that they could no longer live in or that they would be expelled and the land would be sold to foreigners.

I learned that at the same time that they were actively pursuing the extractive reserves, the inhabitants of Vila Limeira still had their official request for an INCRA settlement pending. In 2001 INCRA said it would be possible to create an *assentamento*, but the INCRA office in Lábrea was in a transition phase and did not have a coordinator, so the request was shelved. In 2002 the new coordinator in Lábrea reactivated the request. In 2004 Zé Maria went to the INCRA superintendent in Manaus to talk about their request, and in May-June 2005 they sent technicians to do a study and census of the families in Vila Limeira and Vila Dedé, which were the main communities in the request. Both communities were at least partially inside the area titled to the owners of the old Seringal Materipuá. INCRA's policy for creating

assentamentos on private lands was to wait until the expropriation process was complete. The inhabitants of Vila Limeira knew that this could potentially take years so they decided to focus on the extractive reserve request instead. The extractive reserve legislation, on the other hand, did not require that land titles be expropriated before the area was created. The government could create the extractive reserve first and then attempt to indemnify owners with legitimate titles later.

This is an example of the fluid and ever changing nature of the networks of the community leaders in Vila Limeira. First they had gone to an initial group of government agencies and social movements to obtain information about forming their association in order to access government resources. Next they went to INCRA to find out about creating an *assentamento* and to IBAMA to find out about creating an extractive reserve. They were essentially using whichever brokers and intermediaries would bring the desired result of resolving their land tenure problems. When the *assentamento* idea proved too complicated, they emphasized their interactions with IBAMA and focused on creating the extractive reserve.

The leaders in Vila Limeira, Floresta, and Vila Vitória also had to adapt their networks to the changing realities within the organizations they were working with. In 2002 the coordinator of CNPT/IBAMA in Manaus changed positions and was replaced. The new coordinator went to Lábrea to continue the process of creating the extractive reserves in 2003. In 2003 this new coordinator took another job and was replaced. The changes in IBAMA staff caused the extractive reserve proposal to be shelved and forced the leaders in the communities to seek out relationships with the newly appointed coordinators.

During this phase an association was created that was supposed to represent inhabitants of the Purus and Ituxi Rivers, called the *Associação dos Produtores da Reserva Extrativista de Lábrea* (APREMP). This was a provisional association that they set up to do the petition that never existed in fact. In 2003-2005 CPT and the other social movement organizations, together with IBAMA organized a leadership course for the community leaders, as a way of once again passing on information about the extractive reserve concept to community inhabitants.

In addition to the changes in IBAMA personnel, the community leaders had to adapt to the changing landscape of social movement organizations and government agencies in Lábrea. In 2003 the IDAM director that had been so active in helping the communities to form their associations and complete the paperwork for the extractive reserves was replaced, and the new director had a different focus for the agency. The IBAMA officials in Lábrea also changed periodically, forcing the community leaders to build new relationships. In 2003 the IBAMA office in Lábrea began to actively participate in petitioning the creation of the extractive reserves. Around the same time a *Conselho Nacional dos Seringueiros* (CNS) office was opened in Lábrea as well as a *Grupo de Trabalho Amazonico* (GTA) office. CNS, the official rubber tappers' social movement, grew out of the rubber tapper organization in the 1970s and 1980s in the nearby state of Acre (Allegretti, 2002). The extractive reserve model grew out of interactions between rubber tapper leaders like Chico Mendes, government officials, Brazilian academics, and international environmental organizations (Allegretti, 2002). By 2009 the extractive reserve model was the solution that CNS promoted and championed as a solution to the resource conflicts, land tenure problems, and lack of

basic services facing extractivist communities throughout the Amazon. The model had even spread to areas along the coast, far from the Amazon realities that had generated it.

GTA was created in 1990 as part of the PPG-7 program to serve as a liaison between community associations in the Amazon and government agencies. GTA links the associations together at the local level and is supposed to help them access funding opportunities with donors and government agencies. GTA was also actively championing the creation of extractive reserves as a solution to the types of community problems facing Vila Limeira, Floresta, and Vila Vitória.

In 2004 IBAMA conducted socioeconomic studies along the Ituxi and Purus Rivers to determine which natural resources the communities within the proposed extractive reserves depended upon. One of the results of the socioeconomic studies was the realization that the resource use patterns on the Purus and Ituxi Rivers were different, and it would be extremely difficult to manage an extractive reserve that covered such a huge area. In August 2005 the decision was made to separate the proposal into two, one for the Médio Purus Extractive Reserve and one for the Ituxi Extractive Reserve.

In addition to dividing the proposal into two, at this time several large portions were removed from the original limits because they overlapped with the area of the proposed Iquiri National Forest and a study area for another Indigenous area on the Mamoria River. Finally, a third section that had been included in the original proposal was removed after a participatory mapping meeting with groups in Lábrea that would potentially be impacted by the creation of the reserves. The *Colônia de Pescadores* in

Lábrea requested that a portion of the reserve close to Lábrea be removed so that it would not interfere with their commercial fishing activities.

Between 2005 and 2007 there were several meetings in which community leaders, social movement coordinators, and government officials discussed the limits of the extractive reserves. In 2005 the Ituxi Extractive Reserve was enlarged to include Brazil nut groves upon which families along the river depended. In addition to the meetings involving the community leaders, government officials working on the petitions met with each other and with supervisors in Brasília. These officials then had the challenge of relaying decisions made in Brasília and Manaus to individual community inhabitants in the reserves.

I learned that the creation of the extractive reserves had to pass through the government bureaucracy up to the Casa Civil, the president of Brazil's cabinet of ministries. Negotiations and meetings were held in which the different government ministries gave their input on the creation of the reserve. The ministries of mining and energy and the ministry of transportation questioned the creation of the reserve; the Ituxi River has several waterfalls that were considered to have hydroelectric potential. The mayor of Lábrea at the time did not support the reserve, and campaigned within his political network to have the petition scrapped. Finally, on May 8, 2008, President Lula Ignácio da Silva signed the decree creating the Médio Purus Extractive Reserve, which had began years earlier in Vila Limeira and now included more than 90 communities. The potential of hydroelectric generation on the Ituxi River delayed the creation of the Ituxi Extractive Reserve until June 2008.

Network Interactions

Government agencies with an interest in creating extractive reserves and other sustainable development reserves reached out to social movement groups at regional and local levels. These groups had closer, more daily relationships to the local communities that actually lived in the areas in question. Typically the people who worked in the government agencies were based in cities like Manaus and Brasília, although there were often a couple of people working at the local level also. But even the government people working at the local level often turned to the social movement groups for assistance in working with the communities. In Lábrea locals who were either from the communities or had very strong relationships with the people who lived there staffed many of the social movement groups. They could “speak the language” of the people living in the communities and therefore they filled an important role as intermediaries or “brokers” between government agencies and the people in the communities. The people who worked in the local social movement groups lived almost exclusively in Lábrea. The people in the local social movement groups had strong relationships and relatively constant contact with community leaders from the interior. The community leaders acted as “brokers” between the social movements and government agencies, and the community inhabitants. They attended all the meetings and workshops, and were supposed to return to the communities and inform the others about what had happened.

Social Movement Networks

Community leaders filled a broker role not only for the community inhabitants, but also for government officials and social movement leaders who wanted to pass information to community inhabitants. The government officials and social movement

leaders also had goals and objectives and their relationships with community leaders helped them reach out to a larger mass of inhabitants.

Being a broker confers a certain degree of responsibility and power. Leaders controlled information and were conduits that enabled inhabitants to access resources outside their communities. However, with this responsibility and power can come great risk. Powerful forces wanted access to resources in the reserves and they also knew who community leaders and social movement actors were, and they realized that eliminating these leaders could disrupt these activities. This meant that while being a community leader conferred prestige and power, it could also bring great risk. In addition, community leaders often had to travel to meetings in town and had less time to be with their families, plant their crops, and engage in other economic activities.

Traditional Patron-Client Networks vs. Community Leader Networks

As mentioned in Chapter 3, traditional patron-client relationships in Lábrea were based on the control of key resources and revolved around a series of exchange expectations between patrons and clients. In 2008-2009 riverine inhabitants continued to engage in modified versions of these relationships, particularly in their access to markets. River traders and storeowners in Lábrea had replaced the *seringal* owners and these “new” patrons had less control of the resource base than the *seringal* owners had once maintained. They had less control over their clients, who often engaged in relationships with more than one patron. However, these patrons typically offered less in the way of services, less credit, shorter periods to repay loans, less variety in the kinds of supplies, etc. With the collapse of the “traditional” patron networks, community inhabitants had formed multi-hub social networks with newly arrived social movement organizations, government agencies, and other actors.

These new relationships had mutually beneficial tendencies, and the influence of the two groups depended upon where they were interacting. For example, government officials and social movement coordinators deferred to community leaders when they were visiting the communities. In these instances the community leaders had more influence because: they knew the area, the officials needed them as “guides,” and the community leaders could vouch for them and validate their presence in the community. Officials also realized that community leaders were important multipliers of information in the community and were therefore the best available conduit to spread their messages to as many community inhabitants as possible.

The reverse was also true in these relationships; in urban settings the influence of the social movement coordinators and government officials was more pronounced. Their positions enabled them to access resources that the community leaders did not have at their disposal. They were able to plug community leaders into their own institutional networks and introduce them to people they would not otherwise meet. In essence the social movement coordinators and government officials became “guides” for community leaders, shepherding them through the bureaucracies in much the same way that the community leaders had been their “guides” in the communities.

Chapter Summary

The case studies in this chapter show how social structures in Lábrea, based on the patron-client relationships that were institutionalized during the rubber boom, changed dramatically between the 1940s and the 2000s. As we can see in Figure 5-3⁴ below, supplies once came to the *seringal* through the owner’s contacts with merchant

⁴ This figure was inspired by the patronage pyramid figures in (Martin, 2009).

houses, who in turn often had ties to large banks. This is an example of a patronage pyramid, in which a patron uses his influence to maintain control of a series of clients (Martin, 2009).

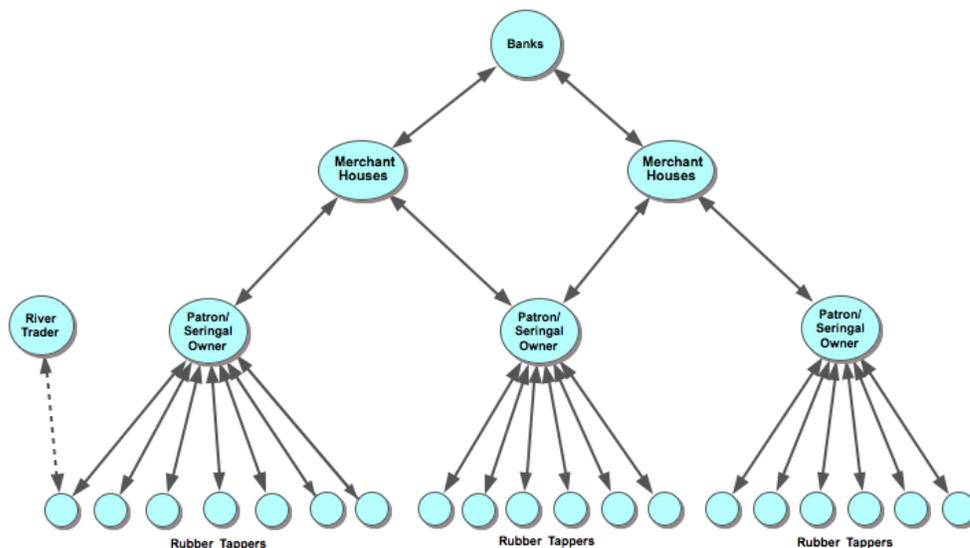


Figure 5-3 *Seringal* Patronage Triangle

Seringal owner patrons were able to keep their tapper clients by providing supplies on credit on an exclusive basis. In the event that the tapper sold rubber to someone else, such as a river trader, the patron threatened to invoke sanctions, such as restricting credit or evicting the tapper and his family from the *seringal*. Priests, government agents, politicians, and others respected the *seringal* hierarchy and would seek out the *patrão* upon arriving at the *seringal*.

Economic collapse, particularly the decline of the rubber industry, made it difficult for *seringal* owners to provide supplies on credit and they were unable to maintain their land tenure claims. Patrons could no longer maintain exclusive exchange with their clients because they could not provide credit and could not threaten to evict them from

the land. They were no longer able to enforce the “one patron” rule, which is considered a key element of maintaining patronage pyramids (Martin, 2009).

A new multi-hub structure began to emerge in which community inhabitants began to seek out a myriad of actors to obtain resources and services. Figure 5-4 below shows my impression of how social networks were changing into more multi-hub structures in which community leaders began to assume key roles as brokers between the village inhabitants and the outside world.

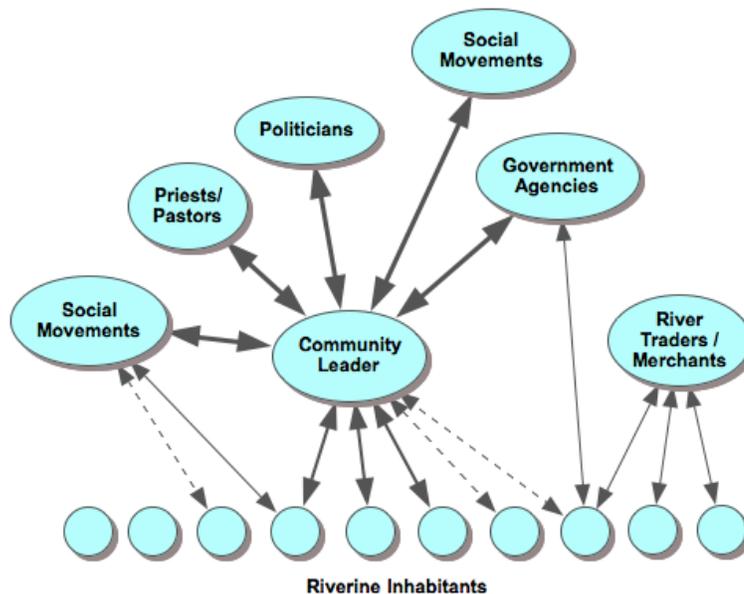


Figure 5-4 Post-*Seringal* Multi-Hub Network

As Martin (2009) has pointed out, although a multi-hub network may be more egalitarian, it may take more effort to access resources through many patrons than through one. Finding one patron who can provide the same resources and services may be more efficient, which may explain why patronage pyramids can persist or resurface (Martin, 2009). Therefore, although the patronage associated with the

seringal system appears to have disappeared, patronage in the area has not disappeared and new patronage pyramids form.

In Chapter 6 I present the results of a survey designed to determine which of the “new” actors were providing resources and what the perceptions of riverine inhabitants were regarding their propensity to provide assistance. The results of this survey show how riverine inhabitants’ networks changed to multi-hub networks in which they no longer depended on a single patron.

CHAPTER 6 NEW SOCIAL NETWORKS AND THE DISTRIBUTION OF SOCIAL CAPITAL

The community we are discussing is a poor one in which only limited resources are produced locally. The 'extras' that make life more satisfying, as we shall see, are obtained from outside the local community. The means of obtaining them are the exchanges that are the basis of relationships of patronage and clientage (Greenfield, 1979).

Although the quote above describes a community in a rural area of the state of Minas Gerais in the 1970s, in many ways it is a perfect description of the situation of isolated villages along the Purus and Ituxi Rivers in the municipality of Lábrea in 2008-2009. In these villages, “traditional” patrons had once supplied the “extras” from outside the community as part of the patron-client exchanges upon which the *aviamento* credit system was based. Beginning in the 1970s and 1980s economic changes made it increasingly difficult for “traditional” patrons to supply the “extras” and “new” actors began to arrive, providing new channels through which vital resources could be accessed. My attempts to determine how social networks in Lábrea had changed over time, and how these changes had impacted the ability of riverine inhabitants to access resources and services, were inspired and guided by the following questions:

1. Who were the actors that made up the “new” social networks of riverine inhabitants in Lábrea?
2. What were the resources that the actors in these “new” networks had at their disposal?
3. How likely were the actors to provide riverine inhabitants with access to these resources?
4. What characteristics best explain the ability of some riverine to more successfully use their social networks than others?
5. Which of the providers of resources did the inhabitants consider to be “patrons?”

As described in the previous chapter, in villages in the interior of Lábrea some inhabitants were more successful than others at obtaining the “extras” through the “new” networks that arose in the wake of the changes in the “traditional” patron-client system. In Chapter 5 I presented information about how community leaders used their social networking and social capital building abilities to try to overcome a series of challenges and hardships. These leaders were able in some instances to use their social capital to bring “extras” into their communities and thus strengthen their own position within the community. I decided to test my observations about the changes in riverine inhabitants’ social networks by collecting network data from a sample of inhabitants and running statistical tests to determine: 1) whether or not network variability was associated with having more information about extractive reserves and / or having more wealth, and 2) which personal characteristics best predicted social network extensity among riverine inhabitants.

In this chapter I describe the methods I used to collect network data, the statistical tests that I ran to test my hypotheses, and the results of these analyses. In addition to measuring respondents’ social capital by quantifying who they knew, and what resources they accessed from people in their networks, this survey was designed to determine what kinds of social networks (if any) had replaced the “traditional” patron-dominated social networks described in Chapter 2.

Social Capital and Patronage

Social capital has been described in several ways. The definition used in this dissertation equates social capital with the resources embedded in social relations and social networks (Bourdieu, 1986; Lin, 1982, 2001b). People use social capital to: (1) access economic resources (loans, investment tips, protected markets), (2) increase

their cultural and human capital through contact with experts, and (3) obtain valued credentials through affiliations with institutions (Portes, 1998). An important distinction that can be made in understanding a person's social capital is between "access" and "use." "Access" refers to the resources that are available in their social network, and "use" refers to the specific actions they engage in to mobilize those resources and achieve objectives (Lin, 2001a; , 2001b). Lin (2001b) suggested that these actions to mobilize social capital can be divided into two types: 1) *instrumental* actions (gaining resources); and 2) *expressive* actions (maintaining resources). Finding a better job or house are examples of *instrumental* actions while personal support and the sharing of sentiments are examples of *expressive* actions (Lin, 2001b). When analyzing the individuals in a network and the resources they control, there are three important elements to consider: 1) the number of individuals in the network who are prepared to help, b) the extent to which they are prepared to help (the strength of the tie), and 3) what accessible resources they control (Flap & Boxman, 2001).

Two key social capital concepts underlie my analysis of the "new" social networks that have replaced "traditional" patron-client relationships in Lábrea: (1) network tie strength and extensity, and (2) embeddedness.

Tie Strength and Extensity

Granovetter (1973; , 1983) hypothesized that because strong ties require time to build, and usually imply that people are similar, weak ties must therefore link people with fewer similarities, such as those of different social classes. These ties across social strata, called "bridging ties," are more likely to enable people to access information and resources that their strong ties would not be able to provide (Granovetter, 1973; , 1983).

The relationships between “traditional” patrons and rubber tapper “clients” may have fluctuated between “strong” and “weak” depending on the circumstances. However, as pointed out in the tables in Chapter 3, the patrons controlled access to credit, markets, and often maintained control of the resource base. Rubber tappers and other extractivists depended on patrons who were wealthier, better connected, and had more access to vital resources. Clients and patrons may have had many similarities such as their place of origin (Northeastern Brazil), and religious beliefs, but they were differentiated by their social position and access to and control of resources.

I consider many of the “new” relationships that have emerged in the collapse of “traditional” patron-client relationships to be examples of “weak” ties. Individuals in the social movement and government agencies with whom riverine people began to interact had much higher levels of education, were wealthier, and had much greater access to information and other key resources than the inhabitants of the riverine villages. This is an example of how “weak,” “bridging” ties to individuals in other social groups can facilitate *instrumental* actions that enable people to obtain resources that are unavailable in their own social group.

Lin has hypothesized that the “extensity” of network ties may be more important than their strength (Lin, 1999). Among isolated Amazonian peasants in Lábrea, the extensity of personal networks ties was expected to be one of the most important dimensions distinguishing the access that individuals had to social capital.

In addition to the “traditional” patrons who formerly dominated the social interactions of the inhabitants of riverine communities, individuals now had the opportunity to engage in “new” relationships with individuals from expanding

government agencies, social movement groups, religious organizations, and other groups. In fact, one possible outcome when a system based on highly multiplex patron-client relationships begins to change is that clients will have to develop a more diffuse network of relationships with a greater number of patrons to obtain the resources previously provided by a single patron (Boissevain, 1977; C. Escobar, 1994; J. C. Scott & Kerkvliet, 1973; Theobald, 1983, 1992). Clients may have been in a position in which they had to increase the “extensity” of their networks in order to access the resources that had previously been provided by one patron. If the “extensity” of network ties was indeed more important than the “strength” of the ties, then riverine inhabitants with more ties to these “new” groups and organizations should have had more access to information, wealth, and other resources.

Embeddedness

The concept of embeddedness is used to show where a person or resource is located within a network. In his work on “structural holes,” Burt (1992; , 2004) focused on the location of individuals within a network as a key indicator of social capital. Building on Granovetter’s work on network ties, Burt (1992; , 2004) described how people who fill “structural holes” link isolated social networks and serve as “bridging ties” that facilitate the exchange of information and resources between networks.

A second application of the embeddedness concept is to focus on the location of resources within a network. Social resource theory points to wealth, power, and status as the most valued resources in many societies (Lin, 1982). Therefore, social capital can be measured by the amount or variety of these resources that people with whom one has network ties have at their disposal (Lin, 2001a). The variety and location of resources embedded in the personal networks of isolated riverine inhabitants of the

Brazilian Amazon indicate what kinds of social capital they have and how they use it. It is important to consider that, just because resources are embedded in an individual's network, does not mean that they will have uniform access to them. It is important to have an indicator that measures the availability of the different resources (van der Gaag & Snijders, 2005).

“Societies vary in how resources are distributed in stratification hierarchies, in how social networks connect different parts of hierarchies, and in the cultural and political rules governing how networks may be used to access resources” (Lin & Erickson, 2008). I would add that within societies, the political rules governing how networks may be used to access resources, and who controls these resources, change over time.

One of the keys to understanding how resource control and patron-client relationships had changed in Lábrea was to identify not only what kind of “new” social networks had replaced “traditional” patron-client ties, but also to determine: 1) what resources were embedded in these “new” networks, and 2) which “new” relationships the inhabitants of riverine villages depended upon to access these resources.

Over the past few years several research methods have been developed to measure social capital and social networks. In order to answer the questions presented at the beginning of this chapter, I employed the position generator and resource generator data collection methods. I used a modified version of the position generator method to determine with what groups and organizations riverine communities had contact, the frequency of the contact, and the resources they accessed through these relationships. The flexibility of the position generator method enabled me to include questions about respondents' understanding of the word “patron”. I used a modified

version of the resource generator method with a small sample of individuals to further explore the relationships that riverine inhabitants used to access a specific set of resources and to determine which of the providers of these resources they considered to be “patrons.”

Position Generators

In order to measure and analyze the relationships that a sample of riverine community inhabitants had with groups such as social movement organizations, government agencies, religious entities, politicians, and merchants, I decided to use a modified version of the position generator data collection method (Lin & Dumin, 1986). The position-generator method consists of asking a respondent a series of questions about “a sample of structural positions that are salient in a society” and their contact with individuals in those positions (Lin, 2001b).

There are several ways to measure the respondents’ social capital based on their answers to these questions. The first method is based on the “prestige” of the different occupations in the society. It is assumed that people in occupations of higher prestige have more access to *instrumentally* useful resources (income, education, authority) than individuals in occupations of lower prestige (Lin & Erickson, 2008). However, people in a network that are not engaged in occupations of high prestige can offer valuable social capital for *expressive* actions: attention, emotional support, love, and other resources contained in their human and social capital (van der Gaag, Snijders, & Flap, 2008). This means that the position-generator method has proven most useful for measuring *instrumental* actions of social capital, while other methods are better suited for measuring *expressive* actions of social capital (van der Gaag et al., 2008).

In a position-generator interview respondents are asked questions about their relationships with individuals in a series of occupations; indices of occupational status rankings are used to weight the different occupations (ex. lawyers have a higher ranking than cashiers); the respondents' interactions with individuals in the different occupations are then added up; and the weighted scale provides a final score. A higher score indicates that the respondent has more interactions with individuals engaged in occupations of high socioeconomic status and/or prestige. The method is based on the premise that individuals in occupations of higher socioeconomic status and prestige have more access to instrumental resources, and therefore the more of these individuals with whom a person interacts, the more resources they have at their disposal (Lin & Erickson, 2008). If social capital is a measure of resources embedded in social networks, then the more people engaged in high status occupations with whom you interact, the more social capital you have at your disposal.

There are several indices used to measure occupational status and prestige. The International Socioeconomic Index (ISEI) is a measure of socioeconomic status and there are several measures of occupational prestige, depending on the country in question. The ISEI provides a ranking of occupations based on human resources and economic rewards, while occupational prestige rankings may better reflect a range of social rewards associated with certain occupations (Ganzeboom & Treiman, 2003; van der Gaag et al., 2008).

Position Generator Measurement

Several deductive measures are used to determine position-generator scores: 1) highest *accessed prestige*; 2) range *in accessed prestige*; and 3) number of different positions accessed (van der Gaag et al., 2008). Highest accessed prestige is a

measure of the scores of the highest ranked occupations in an individual's network; range in accessed prestige is the difference between the highest and lowest accessed prestige; and the number of different positions accessed is the total number of occupations in which the respondent knows someone (van der Gaag et al., 2008). Highest accessed prestige is based on the notion that the more people in high status occupations you know, the more access to resources, and thus social capital, you have at your disposal (Lin, 2001b; van der Gaag et al., 2008). Range in accessed prestige and number of different positions accessed are based on the notion that the more differentiation in relationships and resources in a network the more social capital is available (van der Gaag et al., 2008). This is a measure based on the idea that the "extensity" of the network determines the amount of access to resources, and thus social capital, an individual has at their disposal. Average accessed prestige and total accessed prestige are two additional measures of position-generator scores (van der Gaag et al., 2008). There are also measurements for position-generators developed using a more inductive approach.

Using the Position Generator

The nature of my research site – extremely isolated riverine villages in the Brazilian Amazon – as well as the nature of the livelihoods of the inhabitants of these villages led me to adapt the position generator method to this distinct set of circumstances. Measures of occupational prestige developed for other locations simply would not have provided an accurate measure of the importance of the different actors in the social networks of riverine inhabitants in remote parts of the Amazon. Enns, et al. (2008) also developed a modified position generator questionnaire when conducting social capital research in remote communities in British Columbia, Canada. They

decided that using a preformulated list of professions would not accurately measure social capital in communities where groups and organizations specific to the local context (like indigenous leaders and tribal organizations) could potentially represent important contacts within inhabitants' social networks (Enns et al., 2008). Like Enns and her colleagues, I decided that the best way to accurately determine what inhabitants' networks looked like was to inductively build a questionnaire based on the groups and organizations that existed in Lábrea at the time the research was conducted.

Producing the Position Generator Alter List

The history of the creation of the two extractive reserves presented in Chapter 5 reveals that in spite of the relatively small size and remote location of the town of Lábrea, there were many potential contacts within the social networks of riverine inhabitants living in the municipality. I combined my interest in the changing nature of patron-client ties, with analysis of the interactions implied by the creation of extractive reserves, to develop the list of possible contacts to include in my questionnaires.

During preliminary research I received a series of reports and other documents associated with the process of creating the reserves in Lábrea from a government official who was involved in creating the reserves. Among these documents were letters sent by social movement groups in Lábrea to the Governor of Amazonas and CNPT, urging them to create the two extractive reserves. One of the criticisms of some groups opposed to extractive reserves was that they were the product of NGO and social movement meddling, usually as a result of international aspirations to control the Brazilian Amazon, and did not necessarily represent the will of the people who actually lived in these areas. I began my list of position generator alters with this group of

organizations to see what kind of relationships existed between the inhabitants of the communities and the social movement groups that wrote letters demanding the creation of the extractive reserves.

The following groups wrote letters in 2007 demanding the creation of the extractive reserves in Lábrea:

1. Association of the Agroextractive Producers of the Assembly of God of the Ituxi River (APADRIT);
2. Association of the Agroextractive Producers of the Middle Purus (ATAMP);
3. National Council of Rubber Tappers – Middle Purus Region (CNS);
4. Pastoral Land Commission / Prelacy of Lábrea (CPT);
5. Network of the Amazon Working Group Middle Purus Region (GTA);
6. Assembly of God Lábrea (IEADLAM);
7. Peasant Womens' Movement (MMC);
8. Organization of the Indigenous Peoples of the Middle Purus (OPIMP);
9. Prelacy of Lábrea;
10. Rural Workers' Union of Lábrea.

The organizations that wrote these letters were only a subset of all of the organizations that existed in Lábrea in 2008-2009. In order to compile as complete a list as possible of the groups and organizations with which riverine inhabitants could have had contact, I conducted free-lists with several social movement coordinators. The results of these free-lists were a list of forty-four groups and organizations comprised of federal, state, and municipal government agencies, social movement groups, religious organizations, basic service providers, and traditional actors such as river traders. A list of the groups and organizations is presented in Appendix Table A-1. Developing this list of groups and organizations enabled me to begin to answer the first

of the research questions presented at the beginning of this chapter. Who were the actors that made up the “new” social networks of riverine inhabitants in Lábrea? I found out later that in spite of having vetted the list with social movement leaders, there were in fact several more groups and organizations, particularly community associations, that were not included in my original list. However, the forty-four alters provided a list that was representative of the groups and organizations with which riverine inhabitants in and around Lábrea could have interacted.

The list of forty-four potential contacts increased the length of the interviews, but I believed it was necessary to address my research question. Due to the number of potential contacts, I was forced to condense some groups. Instead of having seventeen different cards for the seventeen different Evangelical churches in Lábrea, I simply asked people about their interactions with “Pastors.” Instead of asking respondents about their interactions with the nine different municipal secretaries I asked about their interactions with the general term *secretário municipal*. When they said that they had had contact with a municipal secretary I asked follow up questions to determine which secretary: 1) Health, 2) Education, 3) Production, etc. Given the length of these interviews I saw no other way to create the list of potential contacts.

Sampling

The Médio Purus and Ituxi Extractive Reserves consisted of more than one hundred communities spread out over hundreds of kilometers. Aside from the fluvial access provided by the two river systems, there was no way to reach the communities in these reserves. The communities were not on an electric grid, and only three of the more than one hundred communities had a telephone. Several of the communities had old CB radios linked to a system in Lábrea, which was inoperable much of the time. The

population data gathered by social movement organizations was very basic and usually out of date.

In order to capture the maximum of variability in the sample population, I employed a purposive sampling strategy (Bernard, 2006). My plan was to select four communities in each reserve and one outside the reserves in which to conduct my research. I had originally planned to make livelihood strategies my main selection criteria. My plan was to select: (1) a rubber tapper community, (2) a community in which Brazil nuts were the main economic activity, and (3) a community in which agriculture was the principle source of income.

I quickly learned that this strategy did not reflect the current socioeconomic reality of the area and that I would have to take a different approach to community selection. Agriculture was the main economic activity for virtually all of the communities inside (and outside) the extractive reserves. Extractive activities, particularly Brazil nut collection, still existed but were secondary and tertiary economic activities for most communities. There were no communities that depended solely upon one economic activity; as I showed in Figures 4-1, 4-2, and 4-3 in Chapter 4, individuals engaged in different activities throughout the year.

Upon learning this, I decided to select communities based on: 1) geographic distance from urban areas; 2) participation in Extractive Reserve and social movement activities; and 3) location inside or outside the reserves. I posited that geographic distance from urban centers would limit inhabitants' interactions with social movement and government agency personnel, in addition to limiting their access to market options,

and therefore limit them to the patron-client ties that characterized extractive production in Lábrea for so long.

I learned that leaders from two communities in the Médio Purus Extractive Reserve and two communities in the Rio Ituxi Extractive Reserve had been the driving force behind the demands to create the reserves. These leaders had actively pursued the creation of the reserves over a period of ten years, and I wanted to see how the social networks of inhabitants of those communities would differ from those of inhabitants of communities with a less active role in this process. Finally, I noticed that the social movement organizations and government officials involved in the creation of the reserves targeted the communities located in the reserves to participate in meetings and activities. By conducting interviews in some communities outside the reserves I would be able to see how (or if) the social relations of their inhabitants differed from those of people living in the reserves.

I attended a meeting in Lábrea in April 2008 in which many of the leaders of the communities in the two extractive reserves were present. I introduced myself to the group, explained my proposal, and inquired about the possibility of visiting their communities. This was an excellent opportunity to make contacts with individuals in the communities, and it helped me to get my interviews underway. I was also able to meet social movement leaders. Before the meeting I visited several communities along the Ituxi River when a boat was sent to pick up the participants who attended the meeting, and I was able to visit several communities along the Purus River when another boat was sent to drop participants off after the meeting.

My plan was to begin my social network interviews in the communities along the Ituxi, conduct the interviews in the four communities I had selected, and then move on to the Purus. I began with the community of Floresta, one of those most heavily involved in the creation of the reserve, where I spent about two weeks. During this visit I also did a few interviews in Vila Vitória, the community that had pushed the hardest for the reserve on the Ituxi. On this same trip, I visited Cachoeira Vai e Volta, one of the most remote communities (310 km by river from Lábrea) in the reserve that is located on the Siriquiqui River, a tributary of the Ituxi. Unfortunately, during my visit in Floresta I contracted malaria, which would eventually force me to change my sampling strategy for the Ituxi. After a month of recuperation and treatment, I returned to the Ituxi to try to get the rest of the interviews from the other communities to complete my sample. I contracted malaria again and was advised by physicians that I should not visit the area again until I had completely recovered, if at all. At this point I had only fifteen or so interviews from the Ituxi, and I had hoped to get at least thirty. Residents of the Ituxi often went to Lábrea to buy supplies, visit family, etc., which allowed me to set up interviews with them when they were in town. This meant that I could no longer completely control from which communities I could obtain respondents. I had to take what I could get, which means I have a sample that includes respondents from eleven different communities in the Ituxi Extractive Reserve instead of the four on which I had originally planned.

I was able to get respondents from communities involved in the creation of the extractive reserves, others who were not involved in this process, and others from remote parts of the reserve. I was able to achieve many sampling goals, although the

sample was not exactly what I had originally planned. I had to change from a purposive strategy to one that included snowball sampling techniques (Goodman, 1961) in which I would ask people from the Ituxi if there were other residents in town and if they could help me set up interviews with them. I conducted thirty-two position generator interviews from eleven different communities on the Ituxi.

On the Purus River I was able to follow my sampling strategy for the social network interviews as I had originally planned. I was able to select communities that fit my sampling criteria: 1) inside the reserve; 2) outside the reserve; 3) involved in the creation of the extractive reserve; 4) not involved in the creation of the reserve, and 5) geographically isolated. Even though I had decided that livelihood was not a good selection criterion, I was able to select a community on the Purus in which a significant number of men still tapped rubber. In addition to the four communities where I spent a significant amount of time conducting interviews: 1) Vila Limeira; 2) Bela Rosa; 3) Praia do Buraco; and 4) Santa Rosa, I was able to stop in several other communities to conduct interviews. On the Purus River I conducted sixty-four position generator interviews from fifteen different communities. The following is a breakdown of my social network interview sample.

Sample of Community Inhabitant Social Network Rating Interviews

- Rio Purus (Lives inside Resex) = 42
- Rio Purus (Lives outside Resex but involved in Resex meetings) = 12
- Rio Purus (Lives outside Resex no meetings) = 10
- Rio Ituxi (Lives inside Resex) = 29
- Rio Ituxi (Lives outside Resex but involved in meetings) = 3
- Total number of social network interviews = **96**

Conducting the Position Generator Interviews

The following is a description of how I conducted these interviews and my observations regarding how people responded to my questions. First, I made a set of flash cards with the names and acronyms of the groups, agencies, and social movements on my position generator alter list. It was important to include both the full name of the organization and the acronym because some organizations were known more by the acronym than the full official name. I coded the cards with numbers so that I could rapidly write down how respondents grouped them.

First, I introduced myself to the respondents and explained my reasons for wanting to conduct an interview with them. I let them know that I was interested in understanding the changes that had occurred in the lives of people living in the interior of Lábrea over the past fifty years and that I would like to ask them some questions about the contacts they have with a series of groups and organizations. I used my IRB script and often had to explain in more detail that the interview was not an exam and that I was only interested in their personal experiences. Many people were nervous when I asked to do the interviews, and this seemed to calm them.

Respondent Characteristics

Respondents were asked a series of basic questions to provide data that would enable me to run tests to see if certain characteristics were independent variables that explain the composition of their social networks. These questions included 1) Age, 2) Sex, 3) Religion, 4) Education, 5) Livelihood, 6) Community, 7) Years lived in the community, and 8) Number of times traveled to Lábrea per year. For respondents in communities on the western side of the municipality of Lábrea, I also asked how many times per year they went to Pauini, which was the town closest to many of those

communities. In addition I noted whether or not the individual was a community leader, the location of their community (inside or outside reserve), and the river on which their community was located. Since most of the respondents had livelihood strategies that varied from one season to another and were usually based on more than one activity, I asked them which production activity provided the most income for them over the past year.

Position Generator Questions

Then I used the forty-four flash cards with the names of the different groups on my list of position generator contacts, and an interview script, to ask respondents questions regarding their social networks. Respondents were asked: 1) If they had heard of the group (yes/no), 2) to rate the group's power (powerful, regular, weak), 3) whether or not they had had contact with people from the group in their village, in the city, or anywhere else (yes/no), 4) whether or not they had spoken to someone from the group in their village (yes/no), and 5) the amount of assistance the group provides them (a lot, a little, none). Follow-up questions were asked (particularly for questions 4 and 5) to find out how often the group visited their community and what kind of help they provided. When people said they had contact with a patron or river trader, I asked them who that person was, what they did, and where they lived.

This constrained pile sort method of using flash cards to ask questions about relationships worked very well. However, there were some difficulties. For example the low literacy rates of many of the respondents meant that I could not let them control the interview as much as I would have liked. I had to read the name on each card to them as I asked the question instead of giving them the cards and letting them sort them and put them into piles. This increased the length of the interviews and the burden on the

interviewer. In other research projects in areas with low literacy rates, pictures have been used to create flash cards that respondents can handle and group. This can be particularly successful when researchers are asking questions about things like fruits, fish, and animals. I thought that perhaps the logos of the organizations could be used on the cards, but this would really be testing respondents' ability to recognize logos and not necessarily measure their ability to recognize the organizations or groups. The fact that many of the groups had no logo or symbol compounded the problem. I could think of no other way to conduct the interview except to read each card to the respondents and put them in the piles myself, according to their answers.

Question #1 Recognition, was designed to find out which of the organizations people recognized and which they did not. I simply told people that I would read the name on the card, and I wanted them to tell me if they had heard of the group or not. When I began the interviews I thought that respondents would not have heard of many of these organizations, and I was surprised by how many of them most people had heard of. People seemed to understand this question quite easily. Many people were nervous when I started these questions and then relaxed as we went along. Most of the respondents were highly conscious of their lack of formal education and did not want to be embarrassed or feel stupid because they could not answer some of the questions. I did my best to explain that there were no "wrong" answers and that I only wanted to understand their personal experiences. I got the feeling that in some cases respondents may have said that they had heard of an organization when they had not. In these cases I tried to ask follow up questions about the organization to determine if they had heard about it or were confusing it with something else. There were some

organization names that people confused with other groups and organizations, which may have affected their answers to this question.

Before continuing on to the Question #2 Power, I separated out the cards of the organizations that the respondents did not recognize. Question #2 was included to try to understand which of the groups and organizations respondents felt were the most powerful. In other studies that employ the Position Generator method “prestige” is a key variable that is used to determine where alters fit in a social structure relative to the position of the respondent (van der Gaag et al., 2008). However, since my goal was to ascertain the changing nature of patron-client ties as well as understand peoples’ social capital I felt that “power” would be a more appropriate metric for my study.

I told the respondents that I would read the cards to them again and that I wanted them to tell me if the organization or group was: “Powerful,” “Regular,” or “Weak.” Ideally the scale for this question should have been “Very strong,” “Strong,” or “Weak” and in future studies I would not use the scale that I used here. Although I would change the scale in future studies, I feel that what made this question difficult for respondents was the diversity of organizations and groups on my list of potential contacts. For example, I noticed several times during interviews that respondents would change their use of “power” depending on the organization they were asked about. For example, respondents seemed to rate groups like the Army and Federal Police as powerful because they are armed and have a license to use force while for other groups they changed their rating of “powerful” to mean “good,” “does their job well,” or “helps us.” The same was true for the “weak” rating option. During the same interview I saw respondents rate organizations as “weak” because they felt they were

“bad,” “powerless,” “do not do their job well,” “do not have enough staff to do their job,” or “do not help us.” In some cases I believe that people used the “regular” category when they were not sure how to rate an organization. In other cases respondents told me that they had heard of the group or organization but did not have enough information about their work to rate them. In future studies, I will attempt to narrow possible interpretations of definitions. It was apparent that respondents rated many organizations as powerful in comparison to their personal powerlessness.

In Question #3 Contact, I asked the respondents about the contact they had with the groups and organizations. I framed this question by asking them if they had spoken with members of the group or organization in town, in their community, or anywhere else. I explained that this contact could have taken place recently or in the past year or two. Depending on their level of comfort I asked follow-up questions for several of the groups. For example, if they said they had contact with a patron, I would ask who their patron was, where he or she lived, and what he or she did for a living. With a shorter list of alters it would have been possible to ask more follow-up questions, but in this case I had to make sure that the interviews were not too long and that I could finish them without taking too much of the respondents’ time. Respondents had no trouble answering this question and were confident in their answers regarding with which groups and organizations they had and had not had contact.

I separated out the cards with which they said they had no contact, and moved on to Question #4 Community Contact, which was asked to determine the amount of contact respondents had with the groups and organizations in their communities. I told respondents that I would read the names on the cards again and that I wanted them to

tell me if they had spoken to someone from that group in their community. I clarified that in this case they would put the cards in the “yes” pile only if someone from the group had visited their community and they had spoken with them there. I felt that quantifying the presence of patrons, social movements, and other actors in the communities would be key to understanding peoples’ ties and how they use them, so I decided to ask follow up questions when respondents put cards in the “yes” pile. I asked them how often per year the members of the group or organization visited their community. People responded both with numerical responses, “they come twice per year,” and with information like “only during harvest season” or “only during political campaigns.” I noted all of this information.

Next I put the cards back together, leaving out only the cards that respondents had not recognized, and went on to my final question regarding groups and organizations. Question #4 Assistance, was designed to elicit responses regarding the amount of assistance that people were receiving from the different groups and organizations. I informed respondents that I would read the names on the cards again, and for each one, I wanted them to tell me if the group or organization helped them “A lot,” “A little,” or “Not at all.” Unlike the question regarding “power” people had no trouble understanding the question and appeared to answer consistently through all the cards. I felt that this question was key to answering my research question, and I decided to, once again, ask follow-up questions for all of the cards that they placed in the “A lot” and “A little” piles. I asked them what kind of help each group provided, and I wrote their responses out as they answered.

Social Capital in Riverine Communities

Producing the alter list that I used in the position generator questionnaire helped me determine with whom riverine inhabitants could potentially form relationships, build social capital, and access essential resources. The data I collected using the questionnaire allowed me to address my remaining research questions.

- What were the resources that the actors in these “new” networks had at their disposal?
- How likely were these actors to provide riverine inhabitants with access to these resources?
- What characteristics best explain the ability of some riverine to more successfully use their social networks than others?
- Which of the providers of these resources did the inhabitants consider to be “patrons?”

Answering these questions would enable me to consider three important elements of riverine inhabitants’ networks: 1) the number of contacts in the network who were prepared to help, b) the extent to which they were prepared to help (the strength of the tie), and 3) what accessible resources they controlled (Flap & Boxman, 2001).

Embedded Resources

As I described in Chapter 3, the riverine inhabitants of Lábrea were once engaged in the *seringal* rubber production system in which essential supplies and other “extras” flowed through a network of intermediaries in a credit-based exchange system. They were often beholden to a *seringal* owner patron who maintained a stock of supplies in his *barracão* trading post that they could access on credit. As I described in Chapter 3, the socio-economic changes that occurred in Lábrea over the past fifty years led to the collapse of this system. “New” contacts had formed and resources were embedded in and flowing through these “new” networks.

A second application of the embeddedness concept is to focus on the location of resources within a network. Social resource theory points to wealth, power, and status as the most valued resources in many societies (Lin, 1982). Therefore, social capital can be measured by the amount or variety of these resources that people with whom one has network ties have at their disposal (Lin, 2001a). The variety and location of resources embedded in the personal networks of isolated riverine inhabitants of the Brazilian Amazon indicates what kinds of social capital they had and how they used it.

As mentioned in Chapter 2, some researchers believe that when “traditional” patron-client relationships dissolve, clients may have to form networks in which several patrons are used to access resources that were once controlled by a single patron (Boissevain, 1977; C. Escobar, 1994; J. C. Scott & Kerkvliet, 1973; Theobald, 1983, 1992). Determining which resources were embedded in the networks of riverine inhabitants would help me to understand if riverine inhabitants were in fact replacing the dyadic multiplex patron-client relationships associated with the *seringal* system with a more diffuse set of relationships in which they accessed resources through a multitude of patrons.

As I mentioned previously, during the position generator interviews I asked respondents whether each group and organization helped them: 1) A lot, 2) a little, or 3) not at all. When respondents answered “a lot” or “a little” I asked what kind of assistance they provided. This open-ended follow-up question enabled me to collect data about the resources that were embedded in respondents’ networks and which groups and organizations provided the resources. Often respondents listed more than one kind of assistance for each group or organization. For example, one respondent

said that priests provided Information, Supplies, and Religious Services. In order to process this information I first grouped similar responses into thirteen categories.

- Credit
- Supplies
- Market Access
- Health
- Education
- Jobs
- Transportation
- Information / Advice
- Documents
- Programs
- Protection
- Religious Services
- Extractive Reserve

Next, I added up all the responses for each category. Finally, I calculated the percentage of each resource category that was provided by each group and organization on the position generator contact list. The results are presented Appendix Tables A-5 through A-8. In the table the types of assistance are listed on the X-axis and the groups and organizations are listed on the Y-axis. At the bottom of the table is the total number of responses for each type of assistance. In the cells I have placed the percentage of the responses associated with each group / organization. For example, of the 71 responses in the Credit category, 23% were provided by a “patron”.

Embedded Resource Results

The results presented here show that riverine inhabitants were building networks in which a wide variety of contacts were important for accessing resources. This would appear to support those authors (Boissevain, 1977; C. Escobar, 1994; J. C. Scott & Kerkvliet, 1973; Theobald, 1983, 1992) who observed that one of the possible outcomes when “traditional” dyadic patron-client ties change is that they will be replaced by

networks in which a wide variety of actors provide resources that were once controlled and provided by a single patron. For example, in spite of the continued importance of Patrons, River Traders, and Shop Owners as a source of credit, the results show that IDAM, a state agency, had become a key source of credit for many inhabitants. Religious organizations provided respondents with a wide array of resources and services, as did the municipal government, which may be an indication that these groups were more accessible to riverine inhabitants than many of the state and federal agencies. Miller's (1985) observations about the importance of municipal governments as a source of resources for inhabitants of the towns in the interior of the Amazon appear to still be valid based on the results of this analysis. The table shows that these "traditional" patrons were seen almost exclusively as the providers of credit, supplies, and market access, while the other groups and organizations provided a wide variety of resources and services¹. The results also reveal the specialization of some agencies and how this impacted their propensity to provide resources and services to riverine peoples. For example, FUNAI, the federal agency in charge of indigenous affairs in Brazil was not seen as an important source of resources or services by most of the respondents. FUNAI had to prioritize its scarce resources on the provision of services to indigenous peoples and therefore could not or would not assist riverine people in most instances.

The results presented in Appendix Table A-3 appear to corroborate the notion that since the departure of the "traditional" *seringal* owner patrons, many riverine inhabitants

¹ A data collection error caused me to gather incomplete data for the Basic Service Provider groups (Doctor, Dentist, and Teacher), which are therefore underrepresented in their provision of Education and Health in the table in Appendix Table A-3.

had increasingly turned to an ever-increasing number of government agencies, religious organizations, and social movements to access resources and services. Some groups and organizations, particularly the religious organizations and municipal government agencies, provided a wide range of resources and services. The continuous presence of these religious groups and municipal government agencies over a longer period of time may have meant that they had more multiplex interactions with riverine inhabitants. In addition, these two groups were more likely to maintain control of a wider array of resources and services than other groups, such as the social movement groups with extremely limited operating budgets. Federal agencies were more likely to be seen as a source of protection than any other resource. Several of the federal agencies were under funded field offices that had limited resources at their disposal, which may help explain this result. Although the state agency IDAM was seen as a significant source of credit by respondents, it is interesting to note that River Traders, Patrons, and Shop Owners continued to be important sources of credit and supplies for riverine inhabitants.

In summary, the results of the table in Appendix Table A-3 are mixed. They provide evidence that riverine inhabitants had formed relationships with a wide array of groups and organizations in Lábrea and that they were indeed obtaining resources from a variety of contacts. However, it also shows that perhaps in spite of these changes, the older forms of patron-client interaction still existed. In Chapter 4 I discussed why riverine inhabitants might continue to be excluded from formal sources of credit, and this may help explain this result.

Assistance and Tie Strength

It is important to consider that, just because resources are embedded in an individual's network, it does not mean that they will have uniform access to them and

therefore, it is important to have an indicator that the measures the availability of the different resources (van der Gaag & Snijders, 2005). Tie strength is an important measure in social capital and social network analyses and has long provided a challenge for researchers who attempt to measure it (Marsden, 2005; Marsden & Campbell, 1984). The willingness to provide assistance is often equated with the intensity, or tie strength, of a relationship (van der Gaag, 2005). Having determined what types of resources were embedded in riverine inhabitant's networks it was important to address my next research question. How likely were "new" contacts to provide riverine inhabitants with assistance?

I attempted to answer this question by asking respondents to rate the amount of assistance provided by each group and organization. In table 6-1 I present their responses to this question. In the data presented in the table I have combined the Helps a lot and Helps a little responses to simplify and make two categories, Helps and Does not Help².

This table is the aggregated set of all 96 respondents and therefore tends to obscure the differences that would appear if the interviews were separated by geographic location (which river the inhabitant lived on), and other factors. Nevertheless it provides a rough idea of how the riverine inhabitants in the sample viewed the willingness (or capability) of the groups and organizations on the alter list to provide assistance.

Several patterns emerge in the table that can help us to understand the networks of the respondents in the sample. First, respondents appeared to have mixed feelings

² Due to missing data, three of the forty-four groups and organizations (IEB, MMTRL, and UEA) in the contact list were not included this analysis nor the subsequent statistical analyses.

about the “traditional” group of patrons, river traders, and shop owners. Roughly half of the respondents felt that these groups were willing to provide assistance and half did not.

Table 6-1 Likelihood of Providing Assistance

Name	Type	Helps	Does not Help
Patron	Traditional	43.8%	56.3%
River Trader	Traditional	51.6%	48.4%
Shop Owner	Traditional	50%	50%
Prelacy	Religious	44.8%	55.2%
Priest	Religious	65.6%	34.4%
Assembly of God	Religious	35.8%	64.2%
Pastor	Religious	51.6%	48.4%
Mayor	Municipal	56.8%	43.2%
Councilmen	Municipal	44.8%	55.2%
Municipal Sec.	Municipal	49%	51%
Citizen's Center	Municipal	74%	26%
Doctor	Basic Service	88.5%	11.5%
Dentist	Basic Service	78.1%	21.9%
Professor	Basic Service	89.6%	10.4%
IDAM	State	78.1%	21.9%
ADS	State	41.7%	58.3%
ITEAM	State	9.4%	90.6%
SEARP	State	3.1%	96.9%
IBAMA	Federal	56.3%	43.8%
ICMBio	Federal	32.3%	67.7%
INCRA	Federal	43.2%	56.8%
Federal Police	Federal	21.9%	78.1%
Military Police	Federal	35.4%	64.6%
Army	Federal	29.2%	70.8%
FUNASA	Federal	57.3%	42.7%
FUNAI	Federal	10.4%	89.6%
MMA	Federal	34.4%	65.6%
APADRIT	Association	22.9%	77.1%
ATAMP	Association	35.1%	64.9%
APACJG	Association	41.7%	58.3%
ASPACS	Association	37.2%	62.8%
CNS	Social Move.	64.6%	35.4%
CPT	Social Move.	43.8%	56.3%
GTA	Social Move.	47.9%	52.1%
MMC	Social Move.	1%	99%
OPIMP	Social Move.	7.3%	92.7%
Rural Union	Social Move.	30.2%	69.8%
Children's Pastoral	Social Move.	42.7%	57.3%
CIMI	Social Move.	5.2%	94.8%
Grileiro	Other	0%	100%

Respondents felt that the Catholic Prelacy and Assembly of God church organizations were less likely to provide assistance than individual priests and pastors. This was perhaps due to the more constant contact they had with individual priests and pastors than with the leaders of the organizations.

The Citizen's Center was the municipal organization respondents felt was most likely to help them. It is interesting that this organization was in charge of registering inhabitants for *Bolsa Familia* and other government programs. *Bolsa Familia* and other government programs, like retirement benefits, had become a key source of income for many families and it is interesting that respondents felt that the Citizen's Center was one of the organizations most likely to provide assistance.

Respondents felt that the Basic Service Providers group (Doctors, Dentists, and Teachers) was the most likely to help them. Teachers spent six to eight months in the communities during the school year and perhaps their constant presence and the high value that respondents placed on education was part of the reason this group rated so highly. Doctors and dentists had far more sporadic contact, but also provided services respondents deemed essential, which may also account for their high rating.

IDAM was the state agency respondents felt was the most likely to provide them with assistance. IDAM had become a key source of credit (see Appendix Table A-3) and also provided technical assistance and farming implements. ADS, the state agency in charge of providing technical assistance for extractive activities, had a much more limited staff and budget than IDAM and focused its activities on communities that were actually engaged in rubber tapping and other extractive activities. ADS focused its attention on the communities on the Purus (where many communities were still

engaged in rubber tapping) and rarely visited the communities on the Ituxi (where most communities no longer tapper rubber). This in part would account for the percentage of respondents that said ADS helped them. SEARP and ITEAM did not have offices in Lábrea, which probably accounts for their low rating on this question.

The Federal agencies generally rated low on this question. Some because they did not have a physical presence in Lábrea (Federal Police and MMA) and others because they had only recently arrived when the survey was conducted (ICMBio). The groups that were focused on assisting indigenous communities (FUNAI and FUNASA) also rated low because they focused their scarce resources on helping indigenous communities.

The low rating of the community associations is probably a reflection of their inability to replace the “traditional” groups and provide credit, supplies, and market access. Appendix Table A-3 shows that they did provide information and other resources, but the low rating for assistance perhaps reveals that riverine inhabitants expected more from them than they were able to provide.

CNS rated the highest among the social movement organizations for its propensity to provide assistance. CNS was actively involved in the process of creating the Extractive Reserves and in the implementation of the state and federal rubber subsidy program in Lábrea. The social movements involved in indigenous affairs (OPIMP and CIMI) were rated low, again because of their focus on indigenous communities. MMC was one of the organizations that wrote an official letter demanding the creation of the extractive reserves, but in reality had probably never really existed as a fully functioning

organization. GTA and CPT were also actively involved in riverine communities, although they rarely visited the Ituxi River, which may explain their low rating.

Tie Strength Summary

Several trends appear in the results in Table 6-1. First, the results corroborate the assertion that riverine inhabitants had formed social networks that included a wide variety of groups and organizations, including many of the “new” government agencies and social movement groups that had recently arrived in Lábrea³. Second, these results show that respondents appeared to have stronger ties with groups that: a) spent more time with them (like the school teachers that lived in their villages), b) provided them with resources they valued highly (education, health care, government programs, credit), or c) were able to provide a wide array of resources and services (religious and municipal organizations). Third, most of the groups and organizations were rated at around 50% in terms of their willingness to provide assistance. This shows that in spite of the arrival of “new” actors, there were still many riverine inhabitants in Lábrea that were unable to access resources through these “new” sources of help. This result corroborates my observation in Chapter 4 that many riverine inhabitants were still excluded from many “formal” sources of resources and services. This inability of some riverine inhabitants to obtain resources from expanding government and civil society organizations may explain why modified forms of “traditional’ patron-client relationships, like those riverine people engaged in with river traders, continued to persist in Lábrea.

³ Appendix Table A-1 includes data regarding the dates that many of the groups and organizations on the list were established in Lábrea.

Network Variability, Network Extensity, and Social Capital

Riverine inhabitants had differing levels of contact and tie strength with the groups and organizations in and around Lábrea. These groups and organizations provided (or had the potential to provide) a diverse array of resources and services. However, certain inhabitants of the riverine communities in Lábrea were more successful in accessing resources than others. I decided to determine what role network variability played in respondents' ability to access resources. I also decided to test what role certain ascribed and attained personal characteristics played in the likelihood that respondents would have more extensive social networks.

Research Question #1

My first question was what role network extensity played in respondents' ability to access key resources (information) and (wealth). My hypothesis was that respondents with more network variability (contact with more of the groups and organization types listed in Appendix Table A-1) would be more likely to: 1) have information about the extractive reserves, and 2) have more wealth. In order to test this hypothesis I generated contact scores based on the data collected with the position generator questionnaires.

Contact and Community Contact Scores

Respondents were asked if they had contact with each of the forty-four groups and organizations on the alter list. Their responses were coded Yes=1 and 0=No. The responses of each respondent were summed to determine their contact score. The minimum possible contact score was zero and the maximum was forty-one.⁴

⁴ Three organizations (UEA, MMTRL, and IEB) were not included in the final statistical analysis due to missing data.

The same procedure was done to determine the respondents' Community Contact Score. Their responses to the question about which of the forty-one groups and organizations they had contact in their community with were coded Yes=1 and 0=No and the responses were summed to determine their community contact score. The minimum possible contact score was zero and the maximum was forty-one.

Weighted Contact Scores

Since the groups and organizations on the contact list developed for this study differed in their capacity to provide access to resources, I deemed it necessary to weight the respondent's contact scores. In many other position generator studies an occupational prestige scale is used to weight the scores (van der Gaag et al., 2008). The unique nature of the study area made standardized occupational prestige rankings inappropriate for weighting the groups with which riverine inhabitants had contact. Instead the scores were weighted using the respondents' answers to the questions in which they were asked to rate the amount of assistance each group or organization provided.

Dependent Variables

In addition to the questions designed to determine the amount of contact that riverine inhabitants in my sample had with the groups and organizations, I also gathered information for the two dependent variables that I wanted to test. The first was a series of questions to determine respondents' knowledge about the newly created extractive reserves and the second was a basic wealth indicator.

Extractive Reserve Knowledge Score

The a) *Conselho Deliberativo* (Deliberative Council), b) *Plano de Utilização* (Utilization Plan), c) *Plano de Manejo Participativo da Resex* (Resex Participatory

Management Plan) are three important institutional elements of an extractive reserve. They determine how the communities within the extractive reserve will manage and use natural resources. I asked respondents if they had heard of these elements to determine how well they understood the extractive reserve concept. I wanted to determine if there was a correlation between the variability of a respondent's network and their access to information about the extractive reserves. The extractive reserve knowledge score was generated by numbering respondents' answers to these questions, 1=Yes and 0=No and then summing the scores. The scores ranged from zero to three.

Wealth Indicator Scores

Finally respondents were asked to respond to an eighteen-question wealth indicator survey. This was done to see if there is a correlation between household wealth and social network variability. I developed this list of items with the input of a woman from one of the communities. The following items were included on the list:

1. Roof type (metal or thatch),
2. Gas stove (Y/N),
3. Television (Y/N),
4. Radio (Y/N),
5. *Forno de farinha* or manioc flour cooking equipment (Y/N),
6. *Rabeta* Motor (Y/N),
7. Chainsaw (Y/N),
8. Bed with mattress (Y/N),
9. Mosquito netting (Y/N),
10. Hammock (Y/N),
11. Shotgun (Y/N),
12. Fishing net (Y/N),
13. Canoe,
14. Cattle, (Y/N)
15. Pigs (Y/N),
16. Ducks (Y/N),
17. Chickens (Y/N),
18. Dogs (Y/N).

When respondents answered “Yes” to an item like Cattle, Pigs, Dogs, Shotgun, and Fishing Net, I asked how many they owned. I found that most of the time people were unable to tell me the number of chickens they owned.

Due to the relatively small number of position generator interviews I was able to collect (96), creating a wealth index using all eighteen of my wealth indicators items was not statistically feasible. I decided to create simpler wealth indices, one of domestic consumer items, and one of production items. The domestic consumer items were: 1) Gas Stove, 2) Radio, and 3) Television. For these three items I had data from ninety-two of the ninety-six respondents. Eighty percent of these respondents had a gas stove, fifty-five percent had radios, and thirty-nine percent had televisions. This was designed to be a hierarchical measure of wealth. The assumption was that individuals with a radio would already have a gas stove and that individuals with a television would already have a gas stove and a radio. To generate the respondents’ domestic wealth indicator score the responses were number 1=Yes and 0=No and the ones were summed to determine a score between zero and three.

The production item wealth indicator consisted of the 1) manioc roaster, and 2) the *rabeta* canoe motor. I collected data on these two items from ninety-two of the ninety-six respondents. Sixty percent of the respondents had manioc roasters and seventy-two percent had *rabeta* motors. To generate the respondents’ production wealth indicator score the responses were number 1=Yes and 0=No and the ones were summed to determine a score between zero and two.

I finished with three different indicators of wealth 1) Rabeta Motor, 2) Manioc Roaster, and 3) Gas Stove, Radio, and Television. The hierarchical Gas Stove, Radio, Television indicator is called “Wealth” in the tables that follow.

Statistical Analysis

Ordered Logit Models

First I ran basic correlations to determine the relationships between the data. The independent variables were highly correlated, which precluded them from being used in the same regression model. The ordered logit models did not provide statistically significant results. The Extractive Reserve Knowledge score did not converge to point estimates, probably due to the small sample size and the large number of variables.

Chi-Squares

To offset the problem of running ordered logit models with the data set I decided to run a simpler chi-square analysis using SPSS Version 18. First I divided the groups and organizations based on the categories presented in Appendix Table A-1. For example, the “Traditional” group included Patron, River Trader, and Shop Owner, the “Federal” group included all of the federal agencies represented in Lábrea at the time, the “State” group included all of the state agencies, and so on. I divided the groups in this fashion to try to determine how contact with organizations from these different types of agencies was related (or not) to respondents’ Wealth and Resex Knowledge Scores.

Breaking down the groups and organizations in this way also enabled me to convert the overall Contact Scores, which ranged from 0 to 41, to smaller scores that could more easily be converted to ordinal values that could be used in the X^2 models. For example, the “traditional” group, consisting of Patron, River Trader, and Shop Owner had a score that ranged from 0 to 3.

Due to the uneven distribution of the data, I decided to collapse some value categories so that the X^2 tests would perform better. Collapsing some of the values reduced the degrees of freedom and improved the performance of the tests. Below I present the results of the X^2 's with the combined data categories. In Appendix Tables A-5 through A-8 I present the results of the X^2 's before the values were combined. Combining the value categories did not radically change the results.

I conducted four types of chi-square models using the data describing the contact between individuals in the riverine communities and the groups and organizations that I gathered using the position generator. In these models the contact with the groups and organizations was the independent variable and the Resex Information, *Rabeta* Motor, Manioc Roaster, and Wealth indicators were the dependent variables.

Hypotheses

- **H1:** Respondents who had more variable social networks would have more information about the Extractive Reserves.
- **H2:** Respondents who had more variable social networks would have more wealth than those who did not.

In Model #1 I ran X^2 tests in which the respondents' contact score was the independent variable. In Model #2 I ran X^2 tests in which the respondents' community contact score was the independent variable. In Model #3 I ran X^2 tests in which the respondents' contact score, weighted by the amount of assistance they said the groups and organizations provided, was the independent variable. In Model #4 I ran X^2 tests in which the respondents' community contact score, weighted by the amount of assistance they said the groups and organizations provided, was the independent variable.

I weighted the contact scores by simply multiplying the assistance rating by the contact score. In other words, a weighted contact variable for the municipal

organizations was generated with the following calculation (Weighted Municipal Contact Variable = Mayor Contact * Mayor Assistance + Councilman Contact * Councilman Assistance + Municipal Secretary Contact * Municipal Secretary Assistance + Citizen's Center Contact * Citizen's Center Assistance). My assumption was that the weighted scores would provide a measurement that would better reflect a reality in which certain groups and organizations could provide more resources and therefore should not have the same value as organizations that provided less.

Statistical Results Research Question #1

Extractive Reserve Knowledge

The Chi-Square tables presented below reveal that there was a relationship between having contact with certain groups and organizations and having knowledge about the extractive reserves. Tables 6-2 and 6-3 contain the results of bivariate chi-squares in which the contact and community contact scores were the independent variables and the ResexInfo, *Rabeta* Motor, Manioc Roaster, and Wealth Indicators were the dependent variables.

Table 6-2 Network Variability and Contact

		Bivariate X^2 Contact			
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	X^2	2.446	0.647	1.782	2.399
Religious	X^2	5.595	1.041	4.018	5.209
Municipal	X^2	6.62	4.327	0.093	3.336
Basic Service Provider	X^2	1.543	0.361	1.039	0.134
State	X^2	19.359**	6.09	2.439	1.366
Federal	X^2	21.278**	0.347	1.358	2.496
Associations	X^2	23.825**	5.123	2.771	7.279
Social Movements	X^2	14.334*	0.293	0.766	8.966

Table 6-3 Network Variability and Community Contact

Bivariate X^2 Community Contact						
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth	
Traditional	X^2	10.717*	4.074	2.238	12.254*	
Religious	X^2	8.633	3.348	1.484	6.764	
Municipal	X^2	27.980**	4.395	3.854	4.873	
Basic Service Provider	X^2	10.513*	0.053	1.851	4.23	
State	X^2	26.362**	4.799	0.313	2.872	
Federal	X^2	30.556**	1.835	9.525	13.804	
Associations	X^2	23.091**	2.171	3.22	9.669	
Social Movements	X^2	26.174**	3.421	1.878	6.082	

Tables 6-4 and 6-5 contain the results of bivariate chi-squares in which the contact and community contact scores weighted with the assistance scores were the independent variables and the ResexInfo, *Rabeta* Motor, Manioc Roaster, and Wealth Indicators were the dependent variables. My assumption was that weighting the contact scores with the assistance scores would provide a more accurate measure for this analysis.

Table 6-4 Network Variability and Contact Weighted by Assistance

Bivariate X^2 Contact Weighted by Assistance						
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth	
Traditional	X^2	16.197*	0.058	6.389*	6.788	
Religious	X^2	3.304	3.908	1.773	4.221	
Municipal	X^2	3.929	4.003	3.429	7.27	
Basic Service Provider	X^2	5.188	2.451	4.889*	0.492	
State	X^2	24.220**	2.503	0.083	4.616	
Federal	X^2	19.800*	2.961	5.968	12.482	
Associations	X^2	18.525**	2.029	1.949	3.277	
Social Movements	X^2	22.940**	1.459	1.58	8.217	

Table 6-5 Network and Variability and Community Contact Weighted by Assistance
 Bivariate χ^2 Community Contact Weighted by Assistance

Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	χ^2	7.17	1.202	2.433	5.207
Religious	χ^2	4.481	6.988	1.964	8.135
Municipal	χ^2	10.713*	0.664	0.649	5.893
Basic Service Provider	χ^2	6.034	1.185	6.976	4.849
State	χ^2	31.888**	5.927	0.011	2.998
Federal	χ^2	29.756**	2.374	6.196	12.302
Associations	χ^2	22.692**	1.02	3.524	2.095
Social Movements	χ^2	30.601**	5.983	8.142*	8.03

Chi-Square Results

Resex Information and Network Variability

In the χ^2 results presented in Table 6-2 there is a pattern that is repeated in all of the subsequent models. Having a higher Contact Score with state and federal agencies, community associations, and social movements was related to having a higher Resex Information Score. In other words, respondents who had more variable networks that included these types of groups and organizations tended to have more information about the extractive reserves.

Since all of the community associations, most of the social movement organizations, as well as many of the federal and state agencies on the alter list were actively promoting the creation of the extractive reserves, it comes as no surprise that respondents with more contact with these groups would have higher Resex Information Scores.

There are anomalies in Models 2, 3, and 4 that I find difficult to explain. For example, in Models 2 and 3 there appears to be a relationship between having more

contact with “traditional” groups and having more information about the extractive reserves. Patrons, river traders, and shop owners were often the most threatened by the creation of the extractive reserves and many had actually spread false information about the reserves in the hopes that inhabitants would change their mind about creating them.

The same can be said about the result for municipal organizations in Table 6-5. The municipality of Lábrea was against the creation of the extractive reserves for several years prior to this research. It is not clear why someone with more municipal contacts would have a higher Resex Information Score.

Based on these results I would reject the null hypothesis for H1. There *does* appear to be a relationship between having a more variable network and having more knowledge about the reserves. I would fail to reject the null hypothesis in the case of H2. These results do not show a significant relationship between the variability of network contacts and wealth.

The difference between contact in general and contact in the respondents’ communities seemed to increase the likelihood that they would have more knowledge about the reserves. Weighting the contact scores by the assistance provided did not appear to significantly change the results of the X^2 tests.

Wealth and Network Extensity

Another pattern established in this first model is that there appears to be little or no relationship between having contact with the groups and organizations and having more wealth. There are exceptions in Models 2, 3, and 4 but the general impression from these results is that having a more variable network of contacts with these groups and

organizations did not necessarily imply that a respondent would benefit with material items.

This result seems counterintuitive based on direct observations and the results of the community histories presented in Chapter 5. For example, it was clear that the inhabitants of Vila Limeira actively formed relationships with several groups in order to form their community association. Once they had formed their association they used their relationship with IDAM, a state agency, to obtain farming implements to process sugarcane. *Rabeta* motors and manioc roasters are some of the most common implements that have been distributed to riverine inhabitants as part of government aid programs. However, perhaps the wealth indicators used here were not an appropriate measure of wealth.

Another explanation may be the timing of the research. The Médio Purus and Ituxi extractive reserves were created in May and June 2008, but the material benefits associated with the creation of extractive reserves were not distributed until April 2010. Since these benefits were distributed after the interviews were conducted, it is possible that the result of the wealth questions would have been different if the interviews had been conducted after the benefits had been distributed.

The variability of respondents' social networks was not a good predictor of their wealth. There did not appear to be a relationship between having contact with more groups and organizations and having more wealth.

Research Question #2

Dependent Variables

My second question was what role certain individual characteristics play in determining the extensity of a riverine inhabitants social network. In this analysis I

decided to use the Contact and Community Contact Scores used in Research Question #1 as dependent variables. The respondents' Recognition Score (the number of groups and organizations they had heard of) as well as their Membership Score were also used as dependent variables. I generated the Recognition scores by summing the number of groups and organizations that respondents said they had heard of during the position generator questionnaire. Scores ranged from 0 to 41. Membership in groups and organizations is often considered a form of social capital (Putnam, 2000; Putnam, Leonardi, & Nanetti, 1993), and during the interviews I asked respondents if they belonged to any of the groups and organizations listed (or any others). I summed the number of groups and organizations for each respondent to determine their Membership Score.

Independent Variables

I decided to test whether or not Age, Sex, Education (Yrschl), Religion, Living inside the Extractive Reserves (Resexyn), Community Distance from Lábrea (DistLab), and being a Community Leader were good predictors of the extensity of riverine inhabitants' social networks.

Correlations

I used SPSS Version 18 to determine if any of the independent variables in my model were correlated. Age was correlated with Education (Yrschl). Religion was correlated with Living inside an Extractive Reserve (Resexyn) and with Community Distance from Lábrea (DistLab). Living inside an Extractive Reserve (Resexyn) was also correlated with Community Distance from Lábrea. In the following linear regression models I avoided combining correlated independent variables.

In the following sections I present my hypotheses and statistical results generated using SPSS regarding how each of the independent variables listed above were associated with respondents' network extensity scores for 1) Recognition, 2) Membership, 3) Contact, and 4) Community Contact.

Linear Regression

The results for linear regression are identified as Rec#1 through #5 (Recognition), Memb#1 through #5 (Membership), Con#1 through #5 (Contact), and CC#1 through #5 (Community Contact). The independent variables used in each model are consistent for all four categories. In Score#1 the explanatory variables were Age, Sex, Religion, and Community Leader. In Score#2 the explanatory variables were Age, Sex, Lives inside Extractive Reserve, and Community Leader. In Score#3 the explanatory variables were Sex, Education, Religion, and Community Leader. In Score#4 the explanatory variables were Sex, Education, Community Leader, and Lives inside Extractive Reserve. In Score#5 the explanatory variables were Age, Sex, Education, Community Leader, and Community Distance to Lábrea.

Recognition

Hypotheses for Recognition

- **H1:** Community Leaders have higher Recognition scores than non-leaders.
- **H2:** Men have higher Recognition scores than women.
- **H3:** Younger respondents have higher Recognition scores than older respondents.
- **H4:** Catholics have higher Recognition scores than Evangelicals.
- **H5:** Respondents living inside the Extractive Reserves have higher Recognition scores than respondents living outside the Extractive Reserves.

- **H6:** Respondents with more education have higher Recognition scores than respondents with less education.
- **H7:** Respondents living in communities further from the town of Lábrea have lower Recognition scores than those living closer to town.

Recognition Results and Discussion

Hypothesis #1: Community Leaders have higher Recognition scores than non-leaders. **Result #1:** The results of the five linear regression models for Recognition reject the null hypothesis for H1. The Community Leader variable was highly significant in three of the models (Rec#1, #2, and #3) and moderately significant in the remaining two models (Rec#4 and #5). There was a positive association between being a community leader and recognizing a greater diversity of the groups and organizations in the position generator questionnaire. As I described in Chapter 5, community leaders were increasingly assuming a “broker” position between their communities and the outside world. They were consistently invited to meetings and were expected by other community inhabitants to have contacts with groups and organizations that could help resolve problems or bring much-needed resources into the community. Therefore, it is not surprising that being a community leader was associated with the respondents’ ability to recognize the groups and organizations on the questionnaire.

Hypothesis #2: Men have higher Recognition scores than women. **Result #2:** Sex was not associated with the respondents’ ability to recognize the groups and organizations in the questionnaire. The five linear regression models for Recognition failed to reject the null hypothesis for H2. I had assumed that men would be more likely to be engaged in activities outside the home and would therefore be more likely to recognize the groups and organizations than women. The results of this analysis imply that this was not the case, at least not in the sample of interviews I collected. Women

appeared to have similar information about the existence of these groups and organizations as men.

Hypothesis #3: Younger respondents have higher Recognition scores than older respondents. Result #3: The results of the five linear regression models for Recognition failed to reject the null hypothesis for H3. Age was moderately significant as an explanatory variable for recognition in model Rec#5. However, it was not significant in the other two models in which I used it as an independent variable. Perhaps with a larger sample size the significance of Age as an independent variable for Recognition would be different. However, because it was moderately significant in only one of three models I would not consider Age an explanatory variable in this analysis.

Hypothesis #4: Catholics have higher Recognition scores than Evangelicals. Result #4: Religion was moderately significant as an explanatory variable in model Rec#1 and highly significant as an explanatory variable in model Rec#3. However, the regression models failed to reject the null hypothesis because I surmised that Catholics would be more likely to recognize the groups and organizations than Evangelicals. As I mentioned in Chapter 5, Evangelicals have a reputation as being less likely to engage in social movement activities than Catholics. However, in my sample it was the Evangelicals (coded as 1) who were more likely to recognize the groups and organizations. Therefore, although the models failed to reject the hypothesis as it is written here, religion was significant as an explanatory variable for respondents' ability to recognize the groups and organizations. In Chapter 5 I cited several other studies that refute the notion that Evangelicals are not involved in social movement activities or

politics and do not engage in activities that challenge the *status quo* of social interactions (Freston, 1993; Ireland, 1993). These results appear to show that Evangelicals in Lábrea were actually more likely to recognize a wider array of groups and organizations than Catholics.

Hypothesis #5: Respondents living inside the Extractive Reserves have higher Recognition scores than respondents living outside the Extractive Reserves. Result #5: The five linear regression models failed to reject the null hypothesis for H5. Living inside an extractive reserve was moderately significant as an explanatory variable for recognition in model Rec#4 but was not significant in model Rec#2. It is unclear whether or not living inside an Extractive Reserve explains the respondents' ability to recognize the groups and organizations in the questionnaire. My assumption, based on these results, is that families inside and outside the reserves had roughly the same amount of information about the number and type of organizations operating in Lábrea.

Hypothesis #6: Respondents with more education have higher Recognition scores than respondents with less education. Result #6: The linear regression models for Recognition also failed to reject the null hypothesis for H6. Education was a moderately significant variable in model Rec#5, but was not significant in the other two models in which it was tested. Therefore, it is unclear what role education played in the respondents' ability to recognize the groups and organizations in the questionnaire. It may simply be that having a higher level of education did not mean that individuals in riverine communities would have more information about the groups and organizations operating in Lábrea.

Hypothesis #7: Respondents living in communities further from the town of Lábrea have lower Recognition scores than those living closer to town. Result #7: Community distance to Lábrea was correlated with Religion and Living Inside an Extractive Reserve. For this reason, I only included it as an independent variable in model Rec#5. Based on the results, this model failed to reject the null hypothesis for H7. The distance from the respondents' communities to the town of Lábrea was not associated with their ability to recognize the groups and organizations in the questionnaire. It may be that although they lived further from town, even isolated respondents had roughly the same amount of information about the existence of the groups and organizations as respondents that lived closer to Lábrea.

Recognition Summary

Table 6-6 shows that of the seven independent variables tested to explain the respondents' ability to recognize the groups and organizations in the questionnaire, being a community leader was significant in all five models. In Chapter 5 I discussed

Table 6-6 Recognition Scores

		Rec#1	Rec#2	Rec#3	Rec#4	Rec#5
	R^2	0.178	0.135	0.208	0.175	0.199
	F	4.669**	3.509*	5.569**	4.570**	4.131**
Age	B	0.025	0.018	-	-	0.071*
Sex	B	0.342	0.059	0.691	0.636	0.323
Religion	B	1.634*	-	1.990**	-	-
Yrschl	B	-	-	0.206	0.195	0.318*
Comm. Leader	B	2.699**	2.790**	2.540**	2.202*	2.221*
Resexyn	B	-	0.889	-	1.613*	-
Dist. to Lábrea	B	-	-	-	-	0.002

how community leaders were becoming more and more important as brokers between their communities and the outside world. It is therefore no surprise that they would be more likely than non-leaders to recognize the groups and organizations. Religion was

also an important variable explaining the respondents' ability to recognize the groups and organizations. In contrast to my hypothesis, Evangelicals were actually more likely than Catholics to recognize a greater diversity of groups and organizations. Evangelical communities played significant roles in the creation of the extractive reserves in Lábrea, which is contrary to the notion that Evangelicals do not engage in politics or social movement activities. As discussed Chapter 5, Evangelicals in Lábrea showed a greater propensity to organize themselves and strive to improve their living standards than Catholics. This may explain why Evangelicals were more likely to recognize the groups and organizations than Catholics. The remaining variables were either not significant or significant in only one or two of the regression models. Further research and a larger sample size would be required to validate or refute the significance of these variables to influence the respondents' capacity to recognize the groups and organizations.

Membership

Hypotheses for Membership

- H1: Community Leaders have higher Membership scores than non-leaders.
- H2: Men have higher Membership scores than women.
- H3: Younger respondents have higher Membership scores than older respondents.
- H4: Catholics have higher Membership scores than Evangelicals.
- H5: Respondents living inside the Extractive Reserves have higher Membership scores than respondents living outside the Extractive Reserves.
- H6: Respondents with more education have higher Membership scores than respondents with less education.
- H7: Respondents living in communities further from the town of Lábrea have lower Membership scores than those living closer to town.

Membership Results and Discussion

Hypothesis #1: Community Leaders have higher Membership scores than non-leaders. **Result #1:** The results of the five linear regression models for Membership reject the null hypothesis for H1. The Community Leader variable was highly significant in all of the models (Memb#1, #2, #3, #4, and #5). There was a positive association between being a community leader and belonging to a greater number of groups and organizations. As I described in Chapter 5, community leaders were increasingly assuming a “broker” position between their communities and the outside world. They were consistently invited to meetings and were expected by other community inhabitants to have contacts with groups and organizations that could help resolve problems or bring much-needed resources into the community. Status as a member in some cases may have strengthened a leader’s tie with a group or organization and made it more likely that they would help with resources, information, etc. Being a member of certain groups and organizations may have also strengthened their position as a leader in the community, where other inhabitants expected leaders to have contacts with groups and organizations that could help them. For these reasons, it is not surprising that being a community leader was associated with the respondents’ propensity to be a member in more groups and organizations.

Hypothesis #2: Men have higher Membership scores than women. **Result #2:** Sex was not associated with the respondents’ propensity to be a member in groups and organizations. All five linear regression models failed to reject the null hypothesis for H2. I had assumed that men would be more likely to be engaged in activities outside the home and would therefore be more likely to be members of groups and organizations than women. The results of this analysis imply that this was not the case, at least not in

the sample of interviews I collected. Men and women appeared to have similar tendency to be members of groups and organizations. These results seem to indicate that women may have had more opportunities for social engagement outside the home than in the past. In my trips to the communities I noticed that women were highly involved in church groups, meetings, and other activities designed to bring improvements to their communities. In addition, the head of the IBAMA office in Lábrea was a woman, as was the head of the office of the National Council of Rubber Tappers. These women were just as likely to interact with women as they were with men on trips to the interior, and made sure that women were included in meetings and other activities. Perhaps the increasing opportunities for women in government and social movement organizations had also led to more opportunities for women in riverine communities to participate in groups and organizations than in the past.

Hypothesis #3: Younger respondents have higher Membership scores than older respondents. **Result #3:** The results of the five linear regression models failed to reject the null hypothesis for H3. Age was not significant as an explanatory variable for Membership in any of the regression models. A respondent's age was not associated with their propensity to be a member in groups and organizations. Groups and organizations appeared to have members from a fairly wide range of age groups and perhaps there are other factors that better explain why people decided to participate in groups and organizations.

Hypothesis #4: Catholics have higher Membership scores than Evangelicals. **Result #4:** Religion was highly significant as an explanatory variable in models Memb#1 and Memb#3. However, the regression models failed to reject the null hypothesis

because I surmised that Catholics would be more likely to recognize the groups and organizations than Evangelicals. As I mentioned in Chapter 5, Evangelicals have a reputation as being less likely to engage in social movement activities than Catholics. However, in my sample it was the Evangelicals (coded as 1) who were more likely to be members of groups and organizations. Therefore, although the models failed to reject the hypothesis as it is written here, religion was significant as an explanatory variable for respondents' propensity to be members of groups and organizations.

Hypothesis #5: Respondents living inside the Extractive Reserves have higher Membership scores than respondents living outside the Extractive Reserves. **Result #5:** The five linear regression models rejected the null hypothesis for H5. Living inside an extractive reserve was highly significant as an explanatory variable for recognition in model Memb#2 and Memb#4. My assumption, based on these results, is that families inside the reserves were: a) more likely to have community leaders that encouraged them to participate in groups (such as community associations) to better their lives (such as the pastor who organized communities on the Ituxi River) or, b) were more likely to have opportunities to engage in group activities because government and social movement organizations that were interested in creating the Extractive Reserves had prioritized their communities as places they would work.

Hypothesis #6: Respondents with more education have higher Membership scores than respondents with less education. **Result #6:** The linear regression models for Membership also failed to reject the null hypothesis for H6. Education was a moderately significant variable in model Memb#5, but was not significant in the other

two models in which it was tested. Therefore, it is unclear what role education played in the respondents' propensity to be members of groups and organizations.

Hypothesis #7: Respondents living in communities further from the town of Lábrea have lower Membership scores than those living closer to town. Result #7: Community Distance to Lábrea was correlated with Religion and Living Inside an Extractive Reserve. For this reason, I only included it as an independent variable in model Memb#5. Based on the results, this model rejected the null hypothesis for H7. The distance from the respondents' communities to the town of Lábrea was associated with their propensity to be members of groups and organizations. As I will show later, community distance was also a significant variable in explaining the amount of contact that respondents had with the groups and organizations in their communities. Social movement groups and even government agencies faced serious resource constraints that made it difficult for them to visit the more remote communities, which may help explain this result. Fewer visits to their communities by the groups and organizations may have meant fewer opportunities for community inhabitants in remote communities to participate as members in the groups and organizations.

Membership Summary

Table 6-7 Membership Scores

		Memb#1	Memb#2	Memb#3	Memb#4	Memb#5
	R^2	0.249	0.235	0.276	0.282	0.281
	F	7.115**	6.919**	8.118**	8.461**	6.499**
Age	B	0.003	0.002	-	-	0.014
Sex	B	0.227	0.152	0.246	0.225	0.234
Religion	B	0.618**	-	0.710**	-	-
Yrschl	B	-	-	0.054	0.054	0.075*
Comm. Leader	B	0.982**	0.910**	0.921**	0.735**	0.774**
Resex	B	-	0.231**	-	0.823**	-
Dist. to Lábrea	B	-	-	-	-	0.002**

Table 6-7 shows that of the seven independent variables tested to explain the respondents' propensity to be members of groups and organizations, being a community leader was significant in all five models. In Chapter 5 I discussed how community leaders were becoming more and more important as brokers between their communities and the outside world. It is therefore no surprise that they would be more likely than non-leaders to be members of groups and organizations. Being a member of groups and organizations may have strengthened their position as leaders in the community by raising their prestige and enabling them to bring resources into the community.

Religion was also an important variable explaining the respondents' propensity to belong to groups and organizations. In contrast to my hypothesis, Evangelicals were actually more likely than Catholics to be members of groups and organizations. In Chapter 5 I discussed how Evangelical communities played a significant role in the creation of the extractive reserves in Lábrea, which is contrary to the notion that Evangelicals do not engage in politics or social movement activities. Evangelicals in Lábrea showed a greater propensity to organize themselves and strive to improve their living standards than Catholics. The result of these Membership regressions seems to corroborate these observations.

Living inside the extractive reserve was also significant for explaining the respondents' propensity to belong to groups and organizations. This may be because they: a) had leaders who were more active in encouraging them to participate in groups and organizations, or b) they had more opportunities because their communities were

prioritized as work areas for government agencies and social movements interested in creating extractive reserves.

Distance was also a significant variable for explaining respondents' propensity to belong to groups and organizations. Respondents living closer to the town of Lábrea were easier to visit and therefore may have had more opportunities to become members in these groups and organizations.

Age, Sex, and Education were either not significant or significant in only one of the regression models. Further research and a larger sample size would be required to validate or refute the significance of these variables to influence the respondents' propensity to become members of groups and organizations.

Contact

Hypotheses for Contact

- **H1:** Community Leaders have higher Contact scores than non-leaders.
- **H2:** Men have higher Contact scores than women.
- **H3:** Younger respondents have higher Contact scores than older respondents.
- **H4:** Catholics have higher Contact scores than Evangelicals.
- **H5:** Respondents living inside the Extractive Reserves have higher Contact scores than respondents living outside the Extractive Reserves.
- **H6:** Respondents with more education have higher Contact scores than respondents with less education.
- **H7:** Respondents living in communities further from the town of Lábrea have lower Contact scores than those living closer to town.

Contact Results and Discussion

Hypothesis #1: Community Leaders have higher Contact scores than non-leaders. **Result #1:** The results of the five linear regression models for Membership

reject the null hypothesis for H1. The Community Leader variable was highly significant in all of the models (Con#1, #2, #3, #4, and #5). There was a positive association between being a community leader and having contact with a greater number of groups and organizations. As I described in Chapter 5, community leaders were increasingly assuming a “broker” position between their communities and the outside world. They were consistently invited to meetings and were expected by other community inhabitants to have contacts with groups and organizations that could help resolve problems or bring much-needed resources into the community. The more contacts a leader had with outside groups and organizations, the more likely he or she would be able to bring benefits to the community. Having contact with a wide array of groups and organizations may have also strengthened their position as a leader in the community, where other inhabitants expected leaders to have contacts with groups and organizations that could help them. For these reasons, it is not surprising that being a community leader was associated with the respondents’ tendency to have contact with a wider array of groups and organizations.

Hypothesis #2: Men have higher Contact scores than women. **Result #2:** Sex was not associated with the respondents’ tendency to have contact with groups and organizations. All five linear regression models failed to reject the null hypothesis for H2. I had assumed that men would be more likely to be engaged in activities outside the home and would therefore be more likely to contact groups and organizations than women. The results of this analysis imply that this was not the case, at least not in the sample of interviews I collected. Men and women appeared to have similar tendency to contact groups and organizations.

These results seem to indicate that women may have more opportunities for social engagement outside the home than in the past. During interviews I found that the needs of their children often inspired women to make contacts outside of their communities. One woman I interviewed who lived in an isolated community on a tributary of the Ituxi River told me that she had knocked on the door of virtually every organization she could find in Lábrea that might possibly help her acquire medical assistance for one of her children. It was apparent that the often dire economic circumstances of riverine families inspired both men and women to make contact with as wide an array of groups and organizations as possible in the hopes of obtaining assistance. This may have also been a reflection of their need replace a single patron who provided an array of resources with a multitude of actors who provided a smaller range of resources and services.

Hypothesis #3: Younger respondents have higher Contact scores than older respondents. Result #3: Age was not significant as an explanatory variable for Contact in any of the three regression models in which it was used. The results of the linear regression models failed to reject the null hypothesis for H3. A respondent's age was not associated with the amount of contact they had with groups and organizations.

Hypothesis #4: Catholics have higher Contact scores than Evangelicals. Result #4: Religion was moderately significant as an explanatory variable in both models in which it was used (Con#1 and Con#3). However, the regression models failed to reject the null hypothesis because I surmised that Catholics would be more likely to have contact with the groups and organizations than Evangelicals. As I mentioned in Chapter 5, Evangelicals have a reputation as being less likely to engage in social movement

activities than Catholics. In addition, the Catholic Church in Lábrea had a long history of social movement organization (Christian Base Communities, Rural Workers' Union, etc.). However, in my sample it was the Evangelicals (coded as 1) who were more likely to have contact with a wider array of groups and organizations. Therefore, although the models failed to reject the hypothesis as it is written here, religion was significant as an explanatory variable for respondents' propensity to contact a wide array of groups and organizations.

Hypothesis #5: Respondents living inside the Extractive Reserves have higher Contact scores than respondents living outside the Extractive Reserves. **Result #5:** The linear regression models rejected the null hypothesis for H5. Living inside an extractive reserve was moderately significant as an explanatory variable for contact in model Con#2 and highly significant in Con#4. My assumption, based on these results, is that families inside the reserves were a) more likely to have community leaders that sought out contact with groups and organizations to bring much-needed assistance to their communities and/or b) were more likely to be contacted by groups and organizations that have opportunities to engage in group activities because government and social movement organizations interested in creating the extractive reserves had prioritized their communities as places they would work. I believe that the answer is a combination of the two. As I described in Chapter 5, community leaders actively sought out groups and organizations to try to resolve land tenure and resource conflicts. However, once the process of creating the extractive reserves was in motion, the government agencies and social movements interested in creating these reserves targeted the communities

inside the proposed reserves as priority work areas and visited them more regularly than communities outside the reserves.

Hypothesis #6: Respondents with more education have higher Contact scores than respondents with less education. Result #6: The linear regression models also failed to reject the null hypothesis for H6. Education was not significant in any of the three models in which it was tested.

Hypothesis #7: Respondents living in communities further from the town of Lábrea have lower Contact scores than those living closer to town. Result #7: Community Distance to Lábrea was correlated with Religion and Living Inside an Extractive Reserve. For this reason, I only included it as an independent variable in model Memb#5. Based on the results, this model failed to reject the null hypothesis for H7. The distance from the respondents' communities to the town of Lábrea was not associated with the amount of contact they had with groups and organizations. This is an interesting finding considering that community distance was a significant variable in explaining the propensity of respondents to be members of groups and organizations and the amount of contact that they had with the groups and organizations in their communities. Perhaps the example of the female respondent from the Ituxi once again helps to explain this phenomenon. Economic crisis, resource conflicts, and other problems inspired many respondents to go to the city and seek out the groups and organizations on the questionnaire for assistance. On the other hand, while several social movement and even government agencies were interested in achieving their goals of creating extractive reserves and therefore prioritized the communities inside the reserves for their visits, they were not driven by the same degree of need to visit the

communities as the inhabitants of the communities were to seek them out. Perhaps this explains why distance was a deciding factor in determining whether or not groups and organizations visited the communities, but was less significant in explaining whether or not inhabitants had contact with the groups and organizations.

Contact Summary

Table 6-8 Contact Scores

		Con#1	Con#2	Con#3	Con#4	Con#5
	R^2	0.198	0.194	0.203	0.237	0.179
	F	5.298**	5.418**	5.405**	6.682**	3.613**
Age	B	0.072	0.044	-	-	0.087
Sex	B	0.779	-0.153	1.744	1.491	0.597
Religion	B	2.691*	-	3.246*	-	-
Yrschl	B	-	-	0.012	0.008	0.076
Comm. Leader	B	5.742**	5.732**	6.014**	4.841**	5.725**
Resex	B	-	3.862*	-	4.979**	-
Dist. to Lábrea	B	-	-	-	-	0.003

Table 6-8 shows that of the seven independent variables tested to explain the respondents' propensity to be members of groups and organizations, being a community leader was highly significant in all five models. In Chapter 5 I discussed how community leaders were becoming more and more important as brokers between their communities and the outside world. It is therefore no surprise that they would be more likely than non-leaders to be in contact with groups and organizations. Having contact with a wide array of groups and organizations may have strengthened their position as leaders in the community by enabling them to bring resources into the community.

Religion was also a moderately significant in explaining the respondents' propensity to have contact with groups and organizations. In contrast to my hypothesis, Evangelicals were actually more likely than Catholics to have contact with groups and organizations. In Chapter 5 I discussed how Evangelical communities played a

significant role in the creation of the extractive reserves in Lábrea, which is contrary to the notion that Evangelicals do not engage in politics or social movement activities. Evangelicals in Lábrea showed a greater propensity to organize themselves and strive to improve their living standards than Catholics. The result of these Membership regressions seems to corroborate these observations.

Living inside the extractive reserve was also significant for explaining the respondents' tendency to have contact with groups and organizations. This may be because they: a) had leaders who were more active in organizing them and bringing them into contact with groups and organizations, or b) they had more opportunities because their communities were prioritized as work areas for government agencies and social movements interested in creating extractive reserves.

Distance was not a significant variable for explaining respondents' propensity to have contact with groups and organizations. Although respondents living closer to the town of Lábrea were easier to visit and therefore may have had more opportunities to become members in these groups and organizations, a series of factors, including economic crisis and resource conflict, inspired riverine inhabitants to seek out groups and organizations in Lábrea regardless of the distance of their community from town.

Age, Sex, and Education were not significant in any of the models. Further research and a larger sample size would be required to validate or refute the significance of these variables to influence the respondents' propensity to become members of groups and organizations.

Community Contact

Hypotheses for Community Contact

- **H1:** Community Leaders have higher Community Contact scores than non-leaders.
- **H2:** Men have higher Community Contact scores than women.
- **H3:** Younger respondents have higher Community Contact scores than older respondents.
- **H4:** Catholics have higher Community Contact scores than Evangelicals.
- **H5:** Respondents living inside the Extractive Reserves have higher Community Contact scores than respondents living outside the Extractive Reserves.
- **H6:** Respondents with more education have higher Community Contact scores than respondents with less education.
- **H7:** Respondents living in communities further from the town of Lábrea have lower Community Contact scores than those living closer to town.

Community Contact Results and Discussion

Hypothesis #1: Community Leaders have higher Community Contact scores than non-leaders. Result #1: The results of the five linear regression models reject the null hypothesis for H1. The Community Leader variable was highly significant in all of the models (CC#1, #2, #3, #4, and #5). Respondents who were community leaders were more likely to have contact within their communities with a wider array of groups and organizations than respondents who were non-leaders.

This result again corroborates my observations that community leaders were increasingly assuming a “broker” position between their communities and the outside world. When local politicians, social movement groups, and other outsiders would visit these communities they would generally seek out the community leader when they wanted to organize meetings or other activities in the community. This protocol

appeared to strengthen the position of many community leaders and invariably gave them many more opportunities to make contact with the groups and organizations in their communities than non-leaders. Since community leaders were consistently invited to meetings outside the community they were more likely to have rapport with the individuals representing the groups and organizations, increasing the likelihood that these individuals would seek them out when they visited the communities. Community leaders not only served as guides for individuals from the groups and organizations, who were generally not familiar with the riverine villages, but also validated the presence of these outsiders in the eyes of other community members, who might be suspicious of their presence. For these reasons, it would be surprising if being a community leader was not associated with the respondents' tendency to have contact with a wider array of groups and organizations in the communities.

Hypothesis #2: Men have higher Community Contact scores than women.

Result #2: Sex was not associated with the respondents' tendency to have contact with groups and organizations. All five linear regression models failed to reject the null hypothesis for H2. I had assumed that men would be more likely to be considered the head of the household and would therefore be more likely to interact with the groups and organizations during their visits to the communities. The results of this analysis imply that this was not the case. Men and women appeared to have a similar tendency to interact with the groups and organizations when they arrived in the communities. One possibility is that the extremely small size of the communities (most were twenty households or fewer) and the fact that they tended to be clustered together, meant that it was difficult to visit the community and not interact with almost everyone in the village.

However, during the meetings I attended in riverine communities I noticed a significant participation by women in community meetings and other group activities involving groups and organizations from outside the community. As previously mentioned, at the time of this research the head of the IBAMA office in Lábrea was a woman, as was the head of the office of the National Council of Rubber Tappers. These women made a point of including women in meetings and other activities.

Perhaps the increasing opportunities for women in government and social movement organizations have led to more opportunities for women in riverine communities to have contact in their communities with groups and organizations than in the past. Another possibility is that the geographic clustering of households that had once been dispersed in family rubber production areas on the seringal known as *colocações* may mean that it is more likely that everyone will have contact with groups and organizations passing by than ever before. In the past a women may have stayed at home in the remote *colocação* while her husband traveled to a meeting. Now, with the clustering of the communities, many women can participate in meetings without being forced to travel far from their homes and the domestic tasks in which they spend a great deal of time engaged. Therefore, I believe that women may have had more opportunities to participate in meetings and other activities outside the home than in the past.

Hypothesis #3: Younger respondents have higher Community Contact scores than older respondents. **Result #3:** Age was not significant as an explanatory variable for Community Contact in any of the three regression models in which it was used. The results of the linear regression models failed to reject the null hypothesis for H3. It

appears that personal interest or some other motivation was more likely than age to determine whether or not individuals interacted with outside groups and organizations visiting their communities.

Hypothesis #4: Catholics have higher Community Contact scores than Evangelicals. **Result #4:** Religion was not significant as an explanatory variable in both models in which it was used (CCC#1 and CC#3). The regression models failed to reject the null hypothesis. This result was surprising considering that Religion was a significant variable for explaining Recognition, Membership, and Contact. Perhaps the small size of the villages meant that once the groups and organizations arrived, Catholics and Evangelicals were just as likely to interact with them. It could also mean that many of the groups and organizations were just as likely to visit Catholic communities as they were to visit Evangelical communities.

Hypothesis #5: Respondents living inside the Extractive Reserves have higher Community Contact scores than respondents living outside the Extractive Reserves. **Result #5:** The linear regression models rejected the null hypothesis for H5. Living inside an extractive reserve was highly significant as an explanatory variable for Community Contact in model CC#2 and highly significant in CC#4.

My assumption, based on these results, is that families inside the reserves were a) more likely to have community leaders that sought out contact with groups and organizations to bring much-needed assistance to their communities and/or b) were more likely to be contacted by groups and organizations that have opportunities to engage in group activities because government and social movement organizations interested in creating the extractive reserves had prioritized their communities as places

they would work. I believe that the answer is a combination of the two. As I described in Chapter 5, community leaders actively sought out groups and organizations to try to resolve land tenure and resource conflicts. However, once the process of creating the extractive reserves was in motion, the government agencies and social movements interested in creating these reserves targeted the communities inside the proposed reserves as priority work areas and visited them more regularly than communities outside the reserves.

Hypothesis #6: Respondents with more education have higher Community Contact scores than respondents with less education. **Result #6:** The linear regression models also failed to reject the null hypothesis for H6. Education was not significant in any of the three models in which it was tested.

Hypothesis #7: Respondents living in communities further from the town of Lábrea have lower Community Contact scores than those living closer to town. **Result #7:** Community Distance to Lábrea was correlated with Religion and Living Inside an Extractive Reserve. For this reason, I only included it as an independent variable in model CC#5. Based on the results, this model rejects the null hypothesis for H7. The distance from the respondents' communities to the town of Lábrea was highly significant as an explanation for number of groups and organizations respondents had contact with in their communities. Community distance was also a significant variable in explaining the propensity of respondents to be members of groups and organizations. Due to the tremendous distances between the town of Lábrea and the villages where this research was conducted I am not surprised that inhabitants in remote areas had less contact with the groups and organizations in their communities than respondents living closer to

town. As I mentioned previously, social movement groups and government agencies all faced serious budget constraints that made it difficult for them to purchase the diesel fuel and other supplies that trips into the interior of Lábrea required. The average distance of the from Lábrea of the 26 villages⁵ in which I conducted interviews was 204.7 kilometers, implying high fuel costs that many groups and organizations could not cover on a regular basis.

Community Contact Summary

Table 6-9 Community Contact Scores

		CC#1	CC#2	CC#3	CC#4	CC#5
	<i>R</i> ²	0.150	0.235	0.179	0.308	0.259
	<i>F</i>	3.698**	6.762**	4.510**	9.360**	5.652**
Age	<i>B</i>	0.024	0.006	-	-	0.064
Sex	<i>B</i>	-0.495	-0.149	0.943	1.922	1.277
Religion	<i>B</i>	1.825	-	2.470	-	-
Yrschl	<i>B</i>	-	-	0.140	0.346	0.302
Comm. Leader	<i>B</i>	6.134**	5.621**	6.161**	4.337*	5.322**
Resex	<i>B</i>	-	5.206**	-	6.602**	-
Dist. to Lábrea	<i>B</i>	-	-	-	-	0.012**

Table 6-9 shows that of the seven independent variables tested to explain the respondents' contact with groups and organizations in their communities, being a community leader was highly significant in all five models. In Chapter 5 I discussed how community leaders were becoming more and more important as brokers between their communities and the outside world. It is therefore no surprise that they would be more likely than non-leaders to be in contact with groups and organizations. Having contact with a wide array of groups and organizations may have strengthened their position as

⁵ These distances were measured using a GPS unit and include the meanders of the rivers. I did not have the distance for one of the communities in which I conducted interviews, so the average may actually be a bit higher than the number presented here. For the complete table of community distances from Lábrea please the table in Appendix Table A-9.

leaders in the community by enabling them to bring resources into the community. When individuals from social movements and government agencies visited the communities they usually made it a point to contact community leaders first upon arriving, thus ensuring that they would have more contact than non-leaders. Community leaders often acted as guides for outsiders visiting their remote communities and were the ones invited to participate in meetings in the city, both of which assured that community leaders would have more contact than non-leaders.

Religion was also a moderately significant in explaining the respondents' propensity to have contact with groups and organizations in their communities. In contrast to my hypothesis, Evangelicals were actually more likely than Catholics to have contact with groups and organizations. In Chapter 5 I discussed how Evangelical communities played a significant role in the creation of the extractive reserves in Lábrea, which is contrary to the notion that Evangelicals do not engage in politics or social movement activities. Evangelicals in Lábrea showed a greater propensity to organize themselves and strive to improve their living standards than Catholics. The result of these Community Contact regressions seems to corroborate these observations.

Living inside the extractive reserve was also significant for explaining the respondents' tendency to have contact with groups and organizations. This may be because they: a) had leaders who were more active in organizing them and bringing them into contact with groups and organizations, or b) they had more opportunities because their communities were prioritized as work areas for government agencies and social movements interested in creating extractive reserves. Community leaders sought

out government agencies and social movements to get the extractive reserves created, and many of these same social movements and government agencies prioritized communities inside the reserves when they made trips into the interior. The mutual interest of creating extractive reserves that some community leaders and some social movements and government agencies had made it more likely that reserve residents would have contact with these groups and organizations than non-residents.

Distance was a highly significant variable for explaining respondents' propensity to have contact with groups and organizations in their communities. Social movement groups, religious organizations, and government agencies in Lábrea all face budget constraints that limited their ability to travel to remote villages along the Purus and Ituxi Rivers. For this reason, it is not surprising that the inhabitants of the more remote communities received fewer visits than communities closer to town. Age, Sex, and Education were not significant in any of the models. Further research and a larger sample size would be required to validate or refute the significance of these variables to influence the respondents' propensity to become members of groups and organizations.

Who are the Patrons?

One of the key research questions of this doctoral study was to analyze the changes that have taken place in the patron-client social relations that became institutionalized in many parts of the Amazon during the rubber boom. In Chapter 3 I described the evolution of patron-client relationships in Lábrea that were institutionalized as part of the *seringal* production unit. I discussed the expectations of "generalized exchange" between patrons and clients that developed and how they changed over time in response to the socioeconomic changes that affected extractive industries in the Amazon. In Chapter 3 I described the economic decline that led many

of the “traditional” *seringal* owners to abandon the interior, in many instances leaving their former clients to form new relationships in order to access vital resources.

In Chapter 4 I showed how seasonal production cycles, exclusion from “formal” credit, and a lack of basic services put many of the inhabitants of riverine communities in Lábrea in a precarious position that often necessitated the formation of relationships that would enable them to access “informal” sources of credit. The “informal” nature of these arrangements, without formal contractual obligations, required other forms of trust, potentially based on patron-client relationships.

In Chapter 5 I discussed how the inhabitants of riverine communities began to build relationships with government agencies and social movements to try to improve their lives in the wake of the collapse of the old *seringal* system.

In Chapter 2 I summarized some of the extensive body of literature regarding patron-client relationships, in essence the etic perspective of what these relationships mean. However, this analysis would be incomplete without the perspective of those who lives had long been enmeshed in these complex and often contentious relationships. How did the riverine inhabitants of communities in Lábrea understand patron-client relationships? How had their understanding of these relationships changed in the wake of the socioeconomic changes that had impacted their lives so profoundly in the past thirty years? In this section I present the results of my attempt to uncover the emic understanding of the patron-client relationships that existed in Lábrea in 2008-2009 based on extensive interviews with patrons, clients, government officials, social movement participants, and of course the riverine inhabitants.

The *Patrão* in the Eyes of Community Inhabitants

During the nearly two years that I spent in Lábrea doing the field research for this dissertation I conducted interviews in several different formats and engaged in countless informal conversations to try to better understand the local understanding of patron-client ties. In the following section I consolidate excerpts from these interviews and conversations to present these local understandings of the concept to the reader.

Since the word *patrão* had so many meanings I decided to ask direct questions that would enable me to find out who my interview respondents considered to be patrons. It is worth noting that when I asked respondents which of the groups and organizations they recognized and which they did not, all of the respondents recognized the “*patrão*.” This confirms that this word is widely used in Lábrea and is not simply an esoteric term associated with academia or with the increasingly forgotten rubber boom period.

However, in spite of respondents’ universal recognition of the term “*patrão*,” there were different ways of understanding its meaning. Considering the history of the Brazilian Amazon and the extensive literature regarding the rubber boom, which seems to dominate much of the historical texts about the region, it is easy to assume that the word *patrão* is the equivalent of *seringalista*, or rubber estate owner. However, socioeconomic changes in the past thirty years appear to have altered the way in which many people used and understood the word in Lábrea.

Understanding the Term *Patrão* in Lábrea

As I conducted the ninety-six position generator interviews in which I asked respondents five questions about groups and organizations with which they might interact, I tried as often as possible to ask follow-up questions that would help me to

understand how these interactions were taking place. For example, when people responded that they had contact with the “*patrão*,” I would ask them who their patron was, what they did for a living, and other questions regarding their interactions with that person. These were open questions and respondents were not given options from which to choose. I have combined the answers that were similar in the tables below, to show different ways in which people understood the concept of the “*patrão*.” In the following tables I present a breakdown of respondents’ answers to my questions regarding their interactions with patrons.

Power

Twenty-nine out of ninety-six, or 30%, of respondents provided qualitative responses to my follow-up questions after asking them to rate the power of the patrons.

Table 6-10 Who are the patrons? (Power)

# of Respondents	% of Responses	Type of Response
11	38%	Patron no longer exists
11	38%	Response related to patron’s power
4	14%	Patron buys, sells, or provides credit
3	10%	Patron is a river trader or shop owner
29	100%	Total

In Table 6-10 I present the follow-up answers of those who gave responses regarding the amount of power held by the patron. They generally rated it as being low compared to what it once was. Those who said the patron no longer existed were generally older respondents for whom the term meant *seringalista* or some other term associated with the *seringal* rubber production system. During interviews I noticed that buying, selling, and exchange seemed to be a common characteristic in determining whether or not someone was considered a patron. In this case if we combine the

responses that have this characteristic (Buys, sells, provides credit and patron equals river trader or shop owner) we see that 24% of the responses share this feature.

Contact

Forty-six of the ninety-six respondents, or 48%, provided follow-up comments when asked about their contact with patrons. A summary of these responses is presented in Table 6-11.

Table 6-11 Who are the patrons? (Contact)

# of Respondents	% of Responses	Type of Response
30	65%	Patron is same as river trader or shop owner
6	13%	Patron no longer exists
4	9%	Patron buys, sells or provides credit
2	4%	Patron is president of ASPACS association
2	4%	Patron is someone who claims the land they occupy
1	2%	Patron is a city councilperson
1	2%	Unrelated answer
46	100%	Total

Most of the respondents who answered the follow-up questions to the amount of contact they had with patrons said that for them the word is synonymous with river trader (*regatão*) or shop owner (*comerciante*). This seems to confirm that with the collapse of the *seringal* system and the elimination of the *barracão* or trading post as a source of supplies, respondents had formed relationships with river traders and store owners who bought their agricultural and extractivist production in exchange for supplies. Those who said the patron no longer existed were once again older residents who associated the word with the *seringalistas* and rubber barons that had abandoned the area. Two respondents named the president of the ASPACS association as their *patrão*. It is worth noting here that of the four associations respondents were asked about (APADRIT, APACJG, ASPACS, and AMIMP) ASPACS is the only one that had

the business relationships, market access, and working capital to buy and sell with riverine inhabitants. The other associations had focused on community organizing, accessing government projects, and helping members obtain government benefits. Two respondents said the patron they had contact with was someone who claimed that the land they lived on belonged to them as part of an old *seringal* property and in one case was still demanding a monthly rent from the inhabitants. One person said their patron was a city councilperson that had provided travel expenses and money during an illness.

Again if we combine the responses that were related to buying, selling, and exchange we see that for 78% of the people who provided follow-up answers a patron is someone from whom they buy and sell.

Community Contact

Thirty-three respondents, 34% of the total sample, provided follow-up responses related to the question about whether or not they had contact with the forty-four groups and organizations in their communities. Table 6-12 is a summary of these responses.

Table 6-12 Who are the patrons? (Community Contact)

# of Respondents	% of Responses	Type of Response
26	79%	Patron is same as river trader or shop owner
3	9%	Patron buys, sells or provides credit
2	6%	Patron no longer exists
1	3%	Patron is president of ASPACS association
1	3%	Patron is someone who claims land they occupy
33	100%	Total

The majority of those who provided follow-up responses said that the *patrão* was the same as river trader or shop owner. A couple said the patron no longer exists, again referring to the *seringalistas* that had abandoned the area.

Once again if we combine the answers associated with buying, selling, and credit we can see that this was a defining characteristic of being a patron for 91% of those that provided follow-up answers. It was apparent that the way most of the inhabitants understood the word “*patrão*” was still greatly influenced by the interactions that had taken place in the *barracão* trading posts that were so characteristic of the forest products’ economy that dominated in the region for so long. Inhabitants appeared to have a much more specific understanding of the type of interactions that constituted being a patron than the academic literature on the subject. The ability to control and provide access to supplies was the dominant response for what constituted a patron.

Resource Generator Interview Results

In addition to the ninety-six position generator interviews, I did six resource generator interviews with community inhabitants to try to determine how they used and understood the word “*patrão*.” The resource generator is a data collection instrument in which respondents are asked to provide information about whom they go to in order to obtain a list of items (van der Gaag & Snijders, 2005). Their responses to these questions are used to determine their social capital (van der Gaag & Snijders, 2005). I developed a modified version of this tool, not to measure respondents’ social capital, but instead to determine what kinds of people they believed were “patrons.”

First, respondents were asked from whom they would borrow seven different items: 1) chainsaw, 2) outboard motor, 3) one liter of fuel, 4) fifty liters of fuel, 5) one kilo of manioc flour, 6) fifty liters of manioc flour, and 7) supplies to harvest Brazil nuts. For each of the seven questions respondents were asked: 1) what they would give in exchange for borrowing the item, 2) what their relationship was to the lender (friend, family, acquaintance), 3) what the lender did for a living, and 4) if the person they listed

could not or would not loan the item, if there was someone else they would ask. The seven questions were then repeated but respondents were asked from whom they would buy these items instead of from whom they would borrow them.

Four follow-up questions were asked for each of the “buying” questions also. Next, respondents were asked to whom they would sell certain items. 1) 100 liters of manioc flour, 2) 100 kilos of Brazil nuts, 3) 100 liters of copaiba oil, and 4) 100 kilos of rubber. For each of these questions they were asked four follow-up questions: 1) what would you receive in exchange for the item, 2) what their relationship was to the buyer (friend, family, acquaintance), 3) what the buyer did for a living, and 4) if there was someone else they would sell to if that person did not want to purchase the item. Respondents were next asked five questions about other types of assistance they might receive. They were asked to whom they would go: 1) if they needed help with documents to access government programs like retirement benefits, *Bolsa Familia*, etc., 2) if they needed help to resolve a conflict, 3) if they needed information about employment opportunities, 4) if they needed assistance with legal matters, and 5) if they needed information about the prices of the items they buy and sell. Once again, for each of these questions they were asked the four follow-up questions they had been asked for the “borrowing,” “buying,” and “selling” questions.

Once they had finished answering these questions and had provided a list of names of the people they would borrow from, buy from, sell to, and receive certain kinds of assistance from I went down the list of the names and asked for each name if they would call that person a *patrão* or not. The results of this questionnaire are presented in Appendix Table A-4.

The results of the table are similar to those from the follow-up questions of the position generator questionnaire. In the column on the far right respondents overwhelmingly considered “patrons” to be people that: 1) provided credit, 2) bought large quantities of the items they produced (like manioc flour), or 3) sold them the tools and supplies they needed. In most cases patrons were considered to be acquaintances. It was less common that they were considered friends and highly unlikely that they would be relatives. This seems to agree with the notion that patrons were usually from different social groups than their clients and the patron-client relationship represented a “bridging tie.” As in the case with the position generator interviews, buying, selling, and credit seemed to determine whether or not someone was considered a patron. Individuals who provided legal advice, employment information, help with paperwork, and help resolving conflicts were generally not considered to be patrons.

The results of this section show the divide between emic and etic understandings of the word patron. The etic understanding presented in Chapter 2 encompasses a great many situations and types of interaction that may constitute a patron-client relationship. In Lábrea the term was narrowly used to refer to interactions involving buying, selling, and providing credit. In spite of the many changes that had occurred in the social networks of riverine inhabitants since the collapse of the *seringal* system, their exclusion from formal sources of credit, dependence on seasonal agro-extractive production activities, and other factors mean that “patrons” are still very much a part of their daily existence. These findings also show that many of the groups and organizations that have replaced the “traditional” patrons as sources of key resources

are not called “patrons” by the riverine inhabitants themselves. In this sense the long history of the “*cultura do barracão*” seems to have shaped the way people use and understand the term patron. The etic version includes a wide array of exchanges and relationship types, while the emic understanding of the word in Lábrea is confined to certain types of market exchanges.

Chapter Summary

This chapter describes the contacts to whom riverine inhabitants potentially could go to in order to access resources and services. In Lábrea this included a mix of more than forty groups and organizations that included community associations, government agencies, social movements, and religious organizations. This chapter provides a quantitative analysis of the interactions between these groups and organizations and riverine communities.

This chapter also describes the resources these groups and organizations controlled and the perceptions of riverine inhabitants regarding their propensity to provide these resources and services. The data show that although most of the groups and organizations were rated rather low in this regard, riverine inhabitants were accessing resources from a wide range of these groups and organizations. This result corroborates my assertion that multi-hub social networks comprised of a multitude of actors had replaced the dyadic patron-client relationships that had become entrenched during the rubber boom.

This chapter shows how variability in riverine inhabitants’ networks was associated with their access to information about extractive reserves, but did not explain why some inhabitants were wealthier than others. The characteristics that best explained network extensity among riverine inhabitants in Lábrea were also explored in this chapter.

Community leaders, Evangelicals, and extractive reserve inhabitants were more likely to have extensive social networks. This result confirms my observation that community leaders were playing an increasingly important role in the social structures that were replacing the patronage pyramids established during the rubber boom. It also shows that in spite of the long history of mobilization by the Catholic Church in Lábrea, Evangelicals were in fact more engaged in many social organizing activities than Catholics. Finally, it shows the two-way nature of these “new” networks, in which community leaders were forming relationships in the effort to bring improvements to their communities, but were also being sought out by government agencies and social movements interested in creating extractive reserves, or types of development work.

This chapter also reveals the very specific characteristics that constitute being a “patron” in the eyes of riverine inhabitants in Lábrea. Buying, selling, and controlling credit and supplies were what constituted being a patron in the local conceptualization of patronage. River traders and storeowners were the actors that had taken over these activities in the wake of the collapse of the *seringal* system.

CHAPTER 7 DISCUSSION: POST-SERINGAL PATRONAGE

The case studies in Chapter 5 show how social structures in Lábrea, based on the patron-client relationships that were institutionalized during the rubber boom, changed dramatically between the 1940s and the 2000s. As we can see in Figure 7-1¹ below, supplies once came to the *seringal* through the owner's contacts with merchant houses, who in turn often had ties to large banks. This is an example of a patronage pyramid, in which a patron uses his influence to maintain control of a series of clients (Martin, 2009).

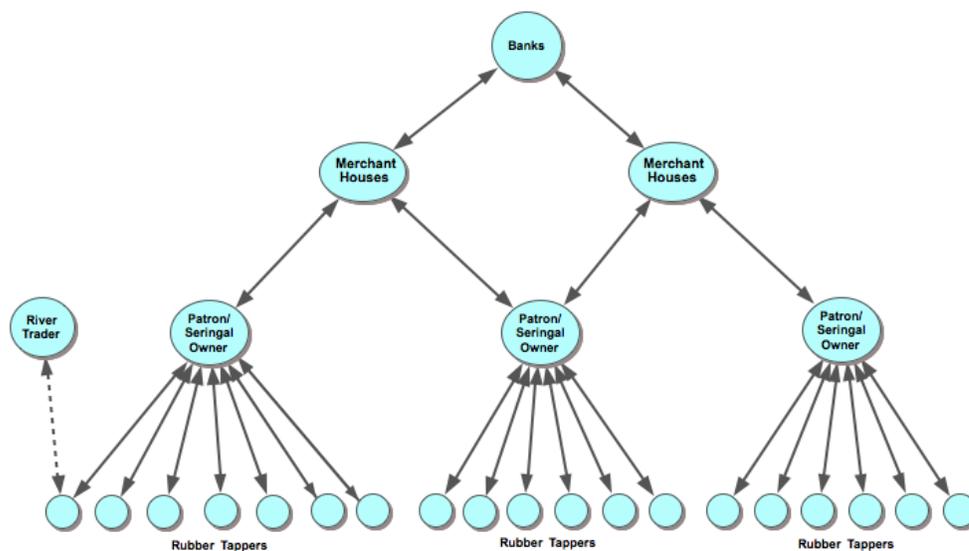


Figure 7-1 *Seringal* Patronage Triangle

Seringal owner patrons were able to keep their tapper clients by providing supplies on credit on an exclusive basis. In the event that the tapper sold rubber to someone else, such as a river trader, the patron threaten to invoke sanctions, such as restricting credit or evicting the tapper and his family from the *seringal*. Priests, government

¹ This figure was inspired by the patronage pyramid figures in (Martin, 2009).

agents, politicians, and others respected the *seringal* hierarchy and would seek out the *patrão* upon arriving at the *seringal*.

Economic collapse, particularly the decline of the rubber industry, made it difficult for *seringal* owners to provide supplies on credit and they were unable to maintain their land tenure claims. Patrons could no longer maintain exclusive exchange with their clients because they could not provide credit and could not threaten to evict them from the land. They were no longer able to enforce the “one patron” rule, which is considered a key element of maintaining patronage pyramids (Martin, 2009).

A new multi-hub structure began to emerge in which community inhabitants began to seek out a myriad of actors to obtain resources and services. Figure 7-2 below shows my impression of how social networks were changing into more multi-hub structure in which community leaders began to assume key roles as brokers between the village inhabitants and the outside world.

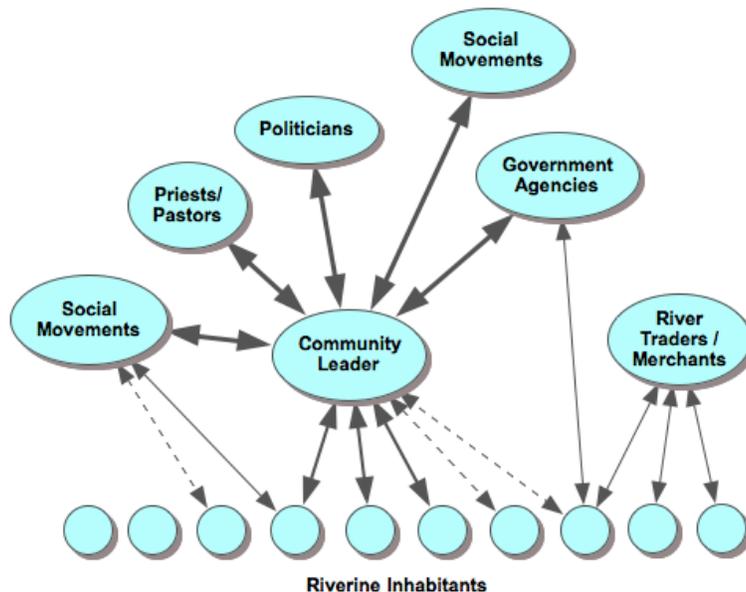


Figure 7-2 Post-*Seringal* Multi-Hub Network

In Chapter 2 of this dissertation I summarized some of the extensive body of literature regarding patron-client relationships, particularly the elements that encourage the formation of these relationships, such as inequality. In Chapter 3 I described the evolution and institutionalization of patronage in the rubber economy of Lábrea. I showed how the arrangements between patrons and clients changed over time based on economic conditions and the ability of patrons to control and provide access to scarce resources. I showed how the arrival of “new” actors, particularly government agencies and social movements, provided alternative options for accessing resources that did not exist in the past. In Chapter 4 I provided information about the conditions that still excluded many riverine inhabitants in Lábrea from participating in the types of relationships that were replacing “traditional” patronage. In Chapter 5 I presented three case studies revealing how three riverine communities in Lábrea responded to the changes in social structures by actively forming relationships with brokers and intermediaries who could help them after the departure of *seringal* patrons. In Chapter 6 I presented the results of survey designed to determine which of the “new” actors were providing resources and what the perceptions of riverine inhabitants were regarding their propensity to provide assistance. The results of this survey show how riverine inhabitants’ networks changed to multi-hub networks in which they no longer depended on a single patron.

Significant changes in Lábrea’s socioeconomic realities have led to changes in the social networks of inhabitants of the interior of the municipality. The following socio-economic changes may have created the conditions necessary to change patron-client ties developed on the *seringal* system: 1) economic collapse of extractivist industries

and the *seringal* production system; 2) rural/urban migration in which patrons and clients abandon the interior; 3) the rise of social movements that challenge the inequality of patron-client ties and unequal land distribution; 4) the establishment of land reform / conservation units (Terra Indigena, Reserva Extrativista, Reserva de Desenvolvimento Sustentavel, etc.) designed in part to break patron-client ties and ensure the continuation of “traditional” livelihoods; 5) the creation of government programs to provide credit to small rural producers as well as social assistance programs, like *Bolsa Familia*; 6) the establishment of government agencies and social movement organizations that actively worked with communities to set up associations designed to provide them with an alternative to traditional patron-client ties; 7) the shift in focus of government agencies that led to government funding for programs, like the rubber subsidy program, to be channeled through community associations instead of through patrons; 8) access to personal modes of transportation, particularly the 5.5 HP *rabeta* motors, enabled community members to reach cities, like Lábrea, to sell their products and buy merchandise without having to row for days at a time; 9) improvements in communication, such as two-way, transistor radios, and even satellite dishes facilitated communication between communities and enabled people receive national and international news; 10) a return to democratic government in Brazil after 21 years of military dictatorships and articles in the 1988 constitution that specifically guaranteed the rights of indigenous peoples and other minority groups provided legal recourse that did not exist at the height of the *seringal* system.

In spite of the collapse of the *seringal* system, the emergence of social movement organizations, and migration to urban areas there was still the potential for patron-client

ties to exist because: 1) people still needed supplies in their remote communities; 2) there were still some people in positions of power and many people in positions of powerlessness, 3) some individuals in the society have more access to information, loans, jobs, capital, etc., than others, 4) the society in many parts of the interior of the Brazilian Amazon was still quite hierarchical with little room for social mobility; 5) people lacked education, and illiteracy was a significant barrier to accessing government programs, health care, employment, etc.; 6) the associations, social movement activities, and government programs were not completely successful in helping people to access markets, transport their goods, etc. which left many with no choice but unequal trade relationships; 7) many people still lacked even the most basic citizenship documents, many of which are required to participate in government programs, obtain loans, etc.; 8) most of the inhabitants of the Purus and Ituxi Rivers did not have land title to areas they use and live on, which in addition to providing security against being forced off the land, are often essential as collateral in the process of obtaining loans.

Although the patron-client systems that characterized the *seringal* system had disappeared for the most part, other kinds of patronage were alive and well. Political patronage in local government and during election cycles was ubiquitous and included everything from small favors in exchange for loyalty to the purchase of votes for money, food, and equipment.

As community and association leaders gained more power as the key brokers between community members and the rest of society, the potential that these relationships will develop into patron-client arrangements also exists. As Martin (2009) has pointed out, although a multi-hub network may be more egalitarian, it may take

more effort to access resources through many patrons than through one. Finding one patron who can provide the same resources and services may be more efficient, which may explain why patronage pyramids can persist or resurface (Martin, 2009).

Patronage in the Brazilian Amazon has survived previous socioeconomic upheaval and it remains to be seen whether or not the changes of the past thirty years will lead to its final demise.

The events that have transpired in Lábrea chronicled in this dissertation were not isolated incidents, similar processes were occurring throughout the Brazilian Amazon, in other parts of Brazil, other Latin American countries, and other regions of the world. Many of the larger forces that were leading to changes in social structures in Lábrea (rural economic transitions, rural/urban migration, land use change, and resource conflict) were also occurring throughout the Amazon and in other developing, natural resource-rich regions of the world. Although a great number of the inhabitants of many of these areas joined the migration flow to urban areas, in many of these areas, just as in Lábrea, others had decided to stay in rural areas (or return from the cities). Those who stayed often faced the same types of challenges facing riverine inhabitants in Lábrea, which often included economic transitions that also produced transitions from a set of established social interactions to new social systems that inhabitants had to negotiate. In the Brazilian Amazon, and other parts of Brazil, this has often implied a transition from social systems based on multiplex dyadic patron-client relationships to new social arrangements in which resources and services are obtained from a multitude of actors.

Throughout the Brazilian Amazon, and in other regions of Brazil, many of the individuals who were negotiating these social transitions gathered together, sometimes with the help of other groups, organized themselves, and formed social networks they hoped would help them improve their living standards, resolve resource use conflicts, and achieve other goals. The emergence of community leaders and formation of networks with governmental, religious, and social movement groups and organizations described here was not unique to Lábrea and was in fact occurring in many areas throughout the region, and throughout Brazil (A. W. B. d. Almeida, 2008). In some cases the result of these community organization and networking activities were laws at the municipal, state, and even federal levels that (at least on paper) established land tenure security and use rights for many of these communities, like the riverine and indigenous peoples in Lábrea, that long occupied these areas (A. W. B. d. Almeida, 2008). In other cases, as seen in Chapter 5 of this dissertation, “new” social networks enabled communities to secure land tenure stability in the form of extractive reserves. In many cases the process of creating these areas involved struggles and the formation of social networks similar to those described in this dissertation (M. W. B. d. Almeida, 1992; Sant’Ana Júnior, Pereira, Alves, & Pereira, 2009). Similar processes were taking place in neighboring South American countries and throughout the region (A. Escobar, 2008; Little, 2001). The socioeconomic changes that riverine inhabitants were struggling to overcome by forming “new” social networks to replace more entrenched types of patron-client relations are often attributed to the forces of globalization and are not unique to this area. The responses of riverine communities to these social and

economic forces may be helpful for understanding how isolated communities in remote areas in other parts of the world may respond to similar circumstances.

APPENDIX
ORGANIZATION INFORMATION

Table A-1. Organization Information

Name	Type	Mem. Org. (Y/N)	Office Lábrea (Y/N)	Year Founded in Brazil	Year Established in Lábrea
River Trader	Traditional	No	Yes	NA	NA
Patron	Traditional	No	Yes	NA	NA
Shop Owner	Traditional	No	Yes	NA	1871
Prelacy	Religious	No	Yes	No data	1925
Priest	Religious	No	Yes	NA	1873
IEADLAM	Religious	No	Yes	1911	No data
Pastor	Religious	No	Yes	No data	No data
Mayor	Municipal	No	Yes	No data	1886
Councilmen	Municipal	No	Yes	No data	1886
Municipal Sec.	Municipal	No	Yes	No data	No data
Citizen's Center	Municipal	No	Yes	2006	2006
Doctor	Basic Service	No	Yes	NA	No data
Dentist	Basic Service	No	Yes	NA	No data
Professor	Basic Service	No	Yes	NA	No data
IDAM	State	No	Yes	1996	1996
ADS	State	No	Yes	2007	2007
ITEAM	State	No	No	2003	N/A
SEARP	State	No	No	2007	N/A
UEA	State	Yes	Yes	2001	2008
IBAMA	Federal	No	Yes	1989	No data
ICMBio	Federal	No	Yes	2007	2009
INCRA	Federal	No	Yes	1970	1979
Federal Police	Federal	No	No	1964	N/A
Military Police	Federal	No	Yes	1834	1887
Army	Federal	No	Yes	1822	1999
FUNASA	Federal	No	Yes	1999	1999
FUNAI	Federal	No	Yes	1967	1981

Table A-1. Continued

Name	Type	Membership (Y/N)	Office Lábrea (Y/N)	Year Founded in Brazil	Year Established in Lábrea
MMA	Federal	No	No	1992	N/A
APADRIT	Association	Yes	Yes	1997	1997
ATAMP	Association	Yes	Yes	2005	2005
APACJG	Association	Yes	Yes	2003	2003
ASPACS	Association	Yes	Yes	1997	1997
AMIMP	Association	Yes	Yes	2003	2003
CNS	Soc. Mov.	No	Yes	1985	2004
CPT	Soc. Mov.	No	Yes	1975	No data
GTA	Soc. Mov.	Yes	Yes	1992	1999
MMC	Soc. Mov.	Yes	No	NA	N/A
OPIMP	Soc. Mov.	No	Yes	1995	1995
Rural Union	Soc. Mov.	Yes	Yes	1979	1979
Children's Pastoral	Soc. Mov.	No	Yes	1995	1993
CIMI	Soc. Mov.	No	Yes	1972	1978
IEB	Soc. Mov.	No	Yes	1998	2008
MMTRL	Soc. Mov.	Yes	Yes	1997	1997
Grileiro	Other	No	No	NA	NA

Table A-2. Organization Assistance

Name	Assistance they said they provide
River Trader	No information.
Patron	No information.
Shop Owner	Sell goods to people.
Prelacy	Guide youth in the community, ammeliorate social problems, assist with housing, try to help with health care.
Priest	Help people with housing program, education, youth training, food, clothing.
IEADLAM	Take collections to help people with problems.
Pastor	Help with some donations. Try to avoid giving people things.
Mayor	No information.
Councilmen	Help communities with basic services, assistance with travel expenses, medicine, bills,
Municipal Sec.	(Sec. of Environment) Provide documents to cut timber for homes. IPAAM does documents for commercial timber.
Citizen's Center	Provide documents and access to social programs (Bolsa Familia).
Doctor	Provide health care.
Dentist	Provide dental care.
Professor	Provide education and study materials.
IDAM	Provide agricultural credit, implements, livestock management, seeds.
ADS	Provide technical assistance, documents, receipts, implements for extractivism.
ITEAM	Legalization of land titles with municipal cartorios.
SEARP	Communication broker between local soc.move. And other gov. agencies. Documents, find funding, etc.
UEA	Provide education.
IBAMA	Implement environmental legislation prevent environmental crimes.
ICMBio	No information.
INCRA	Agricultural credits and documentation.
Federal Police	No information.
Military Police	Enforce laws, monitor elections.
Army	Monitor elections, train young people
FUNASA	Provide health care, Mainly to indigenous but also some to riverine people.
FUNAI	Provide production materials, help with documents, provide access to social programs, help with production chains.
MMA	Technical Assistance, Documents, Program Financing
APADRIT	Help with documents, transportation, clothing, food.

Table. A-2 Continued

Name	Assistance they said they provide
ATAMP	Help resolve land and resource conflicts. Broker between communities and government agencies and social movements.
APACJG	Help people with documents, government benefits, crop improvements, rubber subsidy program, provide rubber tapping implements.
ASPACS	Buy peoples' production (Brazil nuts, agricultural products, andiroba, etc.)
AMIMP	Help with organization in indigenous communities.
CNS	Help resolve land and natural resource conflicts. Health issues, provide information, link people to other organizations.
CPT	Help resolve land and natural resource conflicts. Lake preservation and volunteer environmental monitor programs.
GTA	Helps with organization, logistical support, help finding funds for association projects.
MMC	No information.
OPIMP	Help indigenous communities with problems and with implements and supplies.
Rural Union	Help with documents and receipts. Documents that help provide access to government programs.
Children's Pastoral	Provide food and "natural" medicine for children, information about pre-natal care, child care, hygiene.
CIMI	Help indigenous people get health care, education, resolve land issue and conflicts, monitor government Indian agencies.
IEB	Strengthen local organizations, community associations.
MMTRL	Help with documents.
Grileiro	

Table A-3 Resources Provided by Groups and Organizations in Lábrea

Name	Credit	Supplies	Markets	Health	Educ.	Jobs	Transport	Info./Advice	Docs.	Programs	Protection	Religion	Resex
Patron	23%	8%	11%	1%	-	-	-	-	-	-	-	-	-
River Trader	8%	21%	14%	-	-	-	-	-	-	-	-	-	-
Shop Owner	15%	13%	6%	-	-	-	-	-	-	-	-	-	-
Prelacy	-	1%	-	3%	-	-	8%	8%	5%	2%	-	15%	2%
Priest	1%	3%	-	3%	-	-	12%	11%	-	5%	-	31%	5%
Assem. of God	1%	4%	-	1%	-	-	4%	1%	-	-	-	23%	-
Pastor	1%	3%	-	1%	-	-	8%	3%	-	-	-	31%	-
Mayor	-	9%	-	7%	14%	67%	16%	-	-	9%	-	-	-
Councilperson	4%	12%	-	12%	-	-	8%	1%	2%	2%	-	-	-
Municipal Sec.	-	2%	-	7%	50%	33%	4%	1%	-	-	-	-	-
Citizen's Center	3%	-	-	1%	4%	-	4%	2%	40%	10%	-	-	-
Doctor	-	-	-	3%	-	-	-	-	-	-	-	-	-
Dentist	-	-	-	2%	-	-	-	-	-	-	-	-	-
Professor	-	-	-	-	32%	-	-	-	-	-	-	-	-
IDAM	31%	-	-	-	-	-	-	8%	5%	19%	-	-	-
ADS	1%	-	11%	-	-	-	-	3%	5%	7%	-	-	-
ITEAM	-	-	-	-	-	-	-	-	-	-	4%	-	2%
SEARP	-	-	-	-	-	-	-	-	-	-	-	-	-
IBAMA	-	4%	-	-	-	-	-	6%	4%	1%	26%	-	7%
ICMBio	-	-	-	1%	-	-	-	9%	-	-	9%	-	12%
INCRA	1%	-	-	-	-	-	-	7%	5%	5%	6%	-	14%
Federal Police	-	-	-	-	-	-	-	-	2%	-	13%	-	-
Military Police	-	-	-	-	-	-	-	-	-	-	20%	-	-
Army	-	1%	-	7%	-	-	-	-	2%	-	11%	-	-
FUNASA	1%	-	-	32%	-	-	-	-	-	-	-	-	-
FUNAI	-	-	-	5%	-	-	4%	-	-	-	-	-	-
MMA	-	-	-	-	-	-	-	3%	-	2%	2%	-	7%

Table A-3. Continued

Name	Credit	Supplies	Markets	Health	Educ.	Jobs	Transport	Info./Advice	Docs.	Programs	Protection	Religion	Resex
ATAMP	-	-	-	-	-	-	8%	7%	-	3%	4%	-	12%
APACJG	-	-	6%	1%	-	-	8%	4%	4%	4%	-	-	5%
ASPACS	6%	3%	22%	1%	-	-	8%	2%	-	-	-	-	-
APADRIT	-	1%	-	-	-	-	4%	1%	-	-	-	-	-
CNS	1%	2%	11%	-	-	-	-	12%	2%	10%	-	-	19%
CPT	-	2%	6%	-	-	-	4%	4%	-	3%	4%	-	12%
GTA	-	-	14%	-	-	-	-	-	2%	10%	-	-	2%
MMC	-	-	-	-	-	-	-	-	-	-	-	-	-
OPIMP	-	-	-	-	-	-	-	-	-	-	-	-	2%
Rural Union	-	-	-	-	-	-	-	-	23%	3%	2%	-	-
Child's Past.	-	12%	-	11%	-	-	-	2%	-	-	-	-	-
CIMI	-	-	-	-	-	-	-	2%	-	-	-	-	-
Grileiro	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals (N)	71	121	36	95	28	3	25	89	57	203	54	26	43

Table A-4 Who are the Patrons?

Patron-Client Resource Generator - Lábrea, AM, Brazil 2009 N=6

Do you know someone who would...	% "Yes"	If "yes" what is your relationship with them?				Are they a patron? (%Y)
		Relative	Friend	Acquaintance	Neighbor	
1. Loan you a chainsaw	50	33	67	0	0	0
2. Loan you a boat motor	100	16.6	16.6	16.6	50	0
3. Loan you 1lit of fuel	100	16.6	33	33	16.6	0
4. Loan you 50lit of fuel	83	0	16.6	50	16.6	16.6
5. Loan you 1kil of manioc flour	100	33	33	0	33	0
6. Loan you 50k of manioc flour	100	16.6	33	16.6	33	0
7. Loan you credit for Brazil nut supplies	83	0	40	60	0	100
8. Sell you a chainsaw	100	0	50	50	0	100
9. Sell you a boat motor	100	0	33.5	66.5	0	83
10. Sell you 1lit of fuel	100	0	33	50	17	67
11. Sell you 50lit of fuel	100	0	33.5	66.5	0	83
14. Buy 100kil of manioc flour from you	100	0	33.5	66.5	0	67
15. Buy 100kil of Brazil nuts from you	100	0	33.5	66.5	0	100
16. Buy 100lit copaiba/andiroba from you	100	0	17	83	0	100
17. Buy 100kil of rubber from you	100	0	17	66	17	67
18. Help you with paperwork	67	0	0	75	25	0
19. Help you resolve problem/quarrel	83	0	0	100	0	0
20. Provide you employment information	33	0	50	0	50	0
21. Give you legal advice	83	0	0	80	20	0

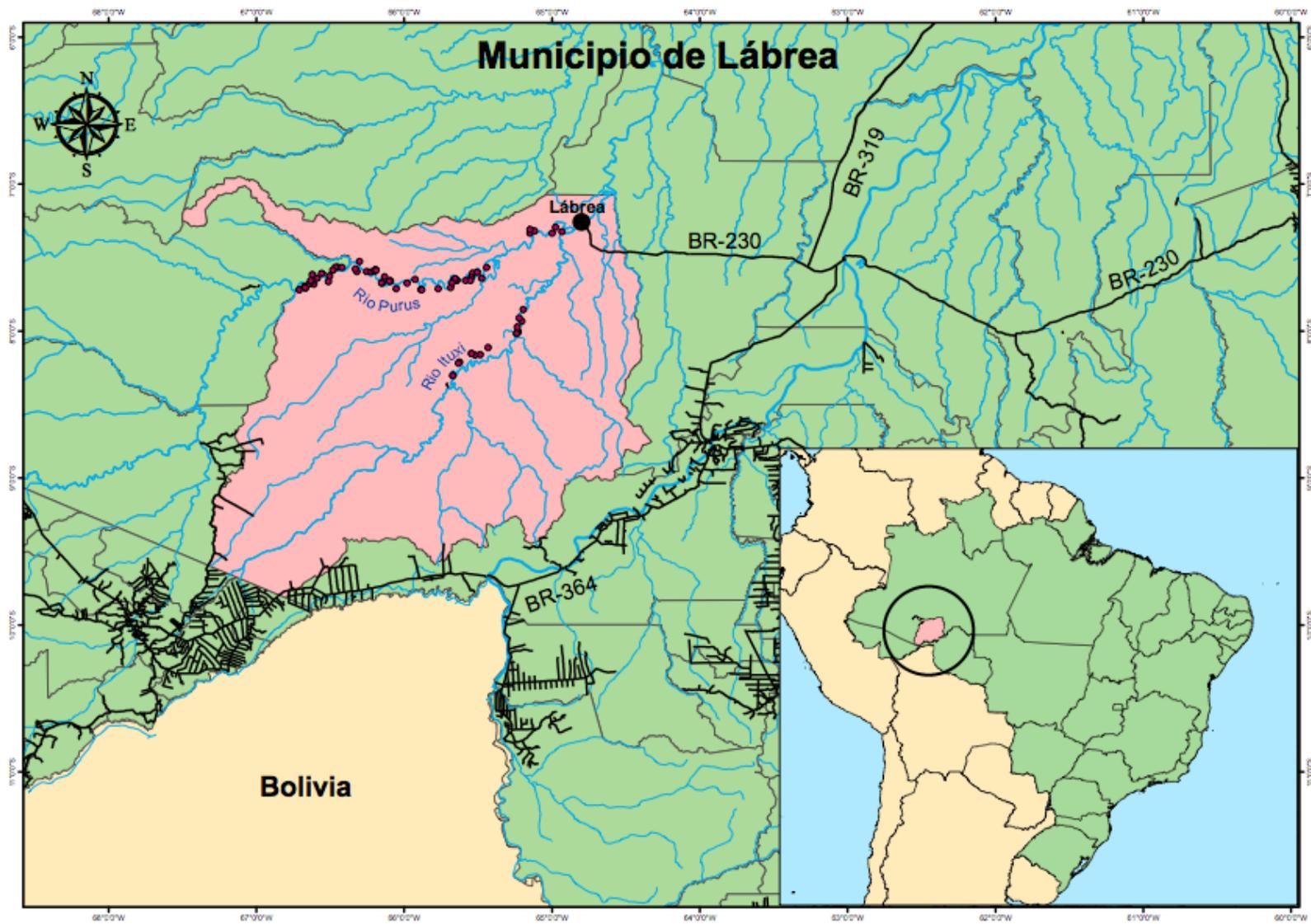


Figure A-1 Map of Lábrea

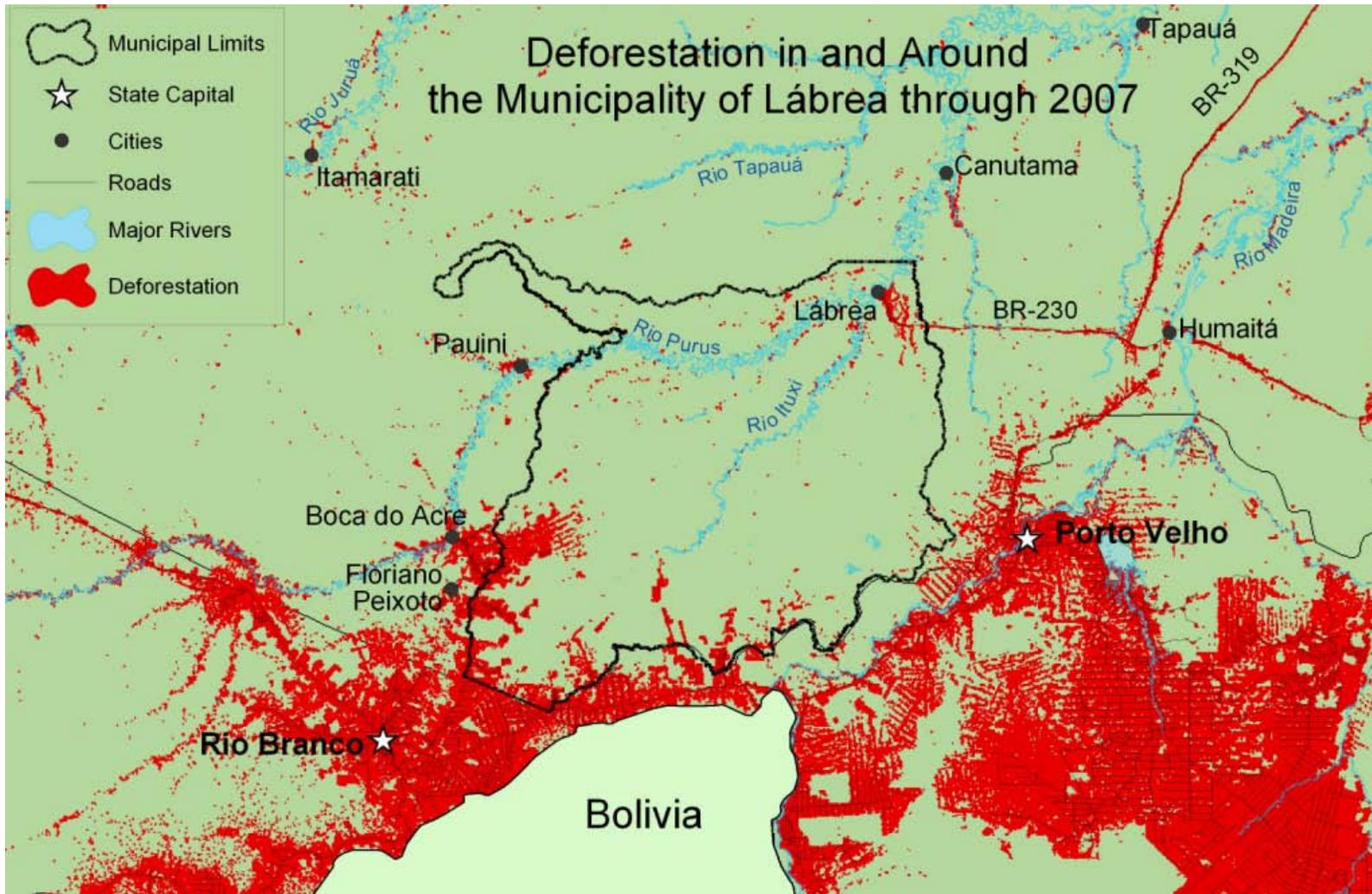


Figure A-2 Map of Deforestation

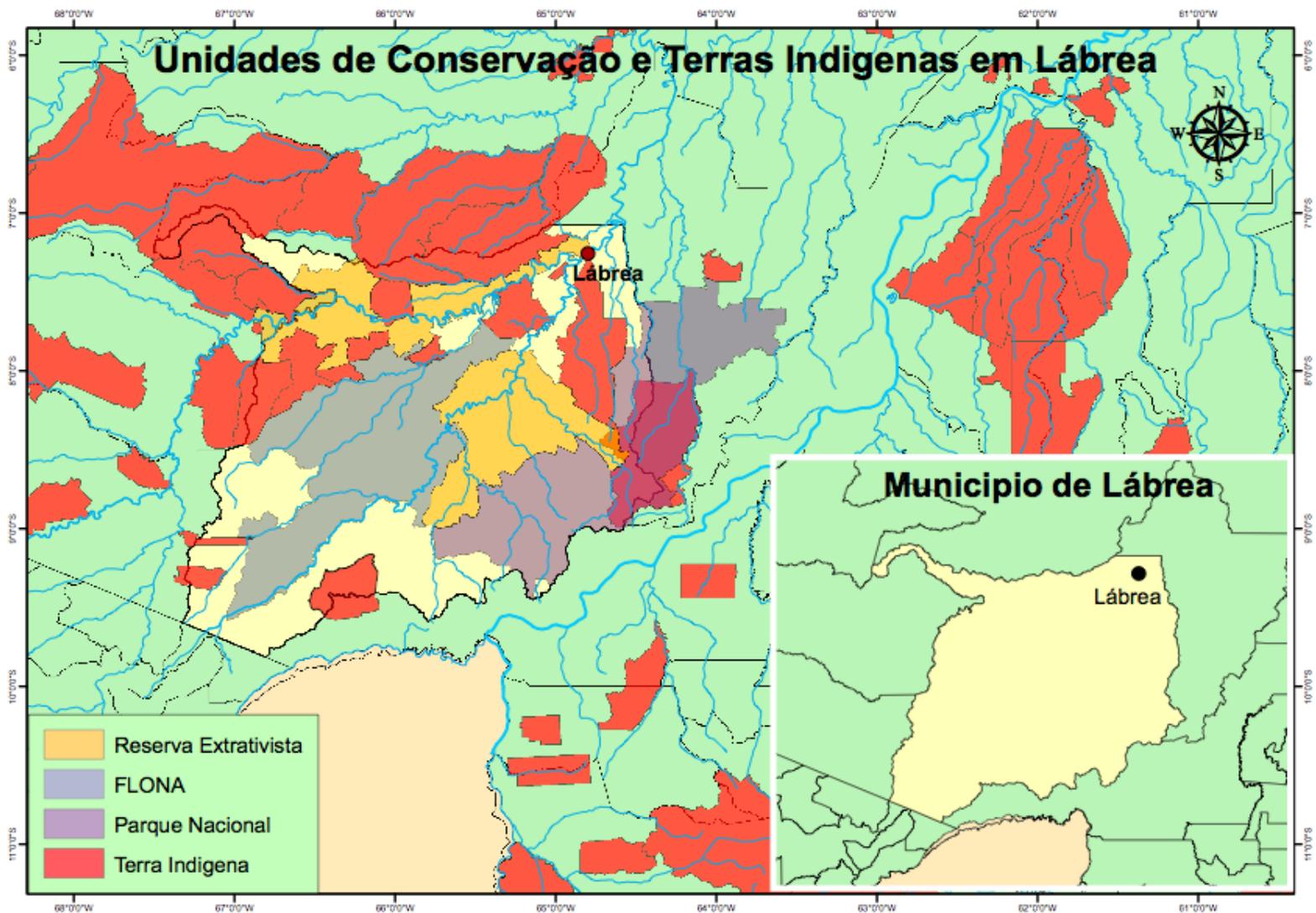


Figure A-3 Map of Conservation Units Lábrea

Below are the tables of the bivariate X^2 analyses conducted before I combined the categories that did not have high enough values in some of the cells.

Table A-5 Network Variability and Contact

Bivariate X^2 Contact					
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	X^2	4.798	.662	2.495	5.284
Religious	X^2	11.781	3.317	5.220	10.907
Municipal	X^2	18.601	13.343	1.055	8.667
Basic Service Provider	X^2	3.626	1.576	2.324	12.142
State	X^2	22.354*	6.134	3.727	12.954
Federal	X^2	29.668	6.274	8.582	24.589
Associations	X^2	29.653**	5.132	2.771	14.351
Social Movements	X^2	36.815*	3.328	4.299	23.919

Table A-6 Network Variability and Community Contact

Bivariate X^2 Community Contact					
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	X^2	17.679*	4.157	2.505	15.582
Religious	X^2	14.582	3.938	1.502	11.968
Municipal	X^2	29.838**	4.395	3.854	6.948
Basic Service Provider	X^2	15.544	.217	5.190	7.630
State	X^2	29.372**	4.909	1.471	9.841
Federal	X^2	38.273*	2.014	11.670	23.242
Associations	X^2	33.205**	2.171	3.729	20.403
Social Movements	X^2	36.510*	3.503	3.548	16.405

Table A-7 Network Variability and Contact Weighted by Assistance

Bivariate X^2 Contact Weighted by Assistance					
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	X^2	20.667*	.058	6.389	13.778
Religious	X^2	5.739	4.451	2.317	7.912
Municipal	X^2	10.188	4.749	5.559	13.540
Basic Service Provider	X^2	7.252	3.193	6.559	9.494
State	X^2	28.399**	2.738	3.449	7.156
Federal	X^2	26.741	3.818	7.480	23.267
Associations	X^2	26.308*	10.088*	4.262	16.501
Social Movements	X^2	30.100*	1.930	4.346	18.453

Table A-8 Network Variability and Community Contact Weighted by Assistance

Bivariate X^2 Community Contact Weighted by Assistance					
Group Type		ResexInfo	Rabeta Motor	Manioc Roaster	Wealth
Traditional	X^2	21.358*	1.655	3.665	12.412
Religious	X^2	8.506	7.865	2.078	13.209
Municipal	X^2	15.250	1.629	1.958	10.308
Basic Service Provider	X^2	17.091*	1.241	7.211	10.113
State	X^2	35.983**	5.966	1.151	8.554
Federal	X^2	38.666*	3.930	8.469	26.104
Associations	X^2	23.622**	4.260	3.527	9.670
Social Movements	X^2	43.664**	6.462	12.270*	22.522

Table A-9 Village Distances (Research Sites)

From	To	River	Distance Kilometers
Lábrea	Praia de Lábrea	Purus	4.7
-	Boca do Ituxi	Purus	12
-	Goiaba	Ituxi	196.7
-	Palmapi	Ituxi	207.4
-	Cabeçudo	Ituxi	210.8
-	Floresta	Ituxi	220.2
-	Jarusalen	Punicici	No Data
-	Volta do Bucho	Ituxi	225.3
-	Praia Alta	Ituxi	238
-	Pouso do Camaleão	Siriquiqui	253.5
-	Cachoeira Vai e Volta	Siriquiqui	310.2
-	Vila Vitória	Ituxi	314.7
-	Nova Esperança	Ituxi	327.4
-	Maciari	Purus	14.6
-	Cassianá	Purus	21.4
-	Jucuri	Purus	26.9
-	Buraco	Purus	44.9
-	Santa Rosa	Purus	54.3
-	Jurucuá	Purus	73.4
-	Bananal	Purus	86.6
-	Santa Cândida	Purus	238
-	Vila Acimã	Purus	289.1
-	Várzea Grande	Purus	355.1
-	Bela Rosa	Purus	408.3
-	Ajuricaba	Purus	476.7
-	Vila Limeira	Seruini	507.1

LIST OF REFERENCES

- Adriance, M. C. (1995). *Promised Land: Base Christian Communities and the Struggle for the Amazon*. Albany, NY: State University of New York Press.
- Akers, C. E. (1914). *The Rubber Industry in Brazil and the Orient*. London: Methuen & Co. Ltd.
- Allegretti, M. (2002). *A Construção Social de Políticas Ambientais: Chico Mendes e o Movimento dos Seringueiros*. Unpublished Tese de Doutorado, Universidade de Brasília, Brasília, Brasil.
- Almeida, A. W. B. d. (2008). *Terras de Quilombo, Terras Indígenas, "Babaçuais Livres", "Castanhais do Povo", Faxinais e Fundos de Pasto: Terras Tradicionalmente Ocupadas*. Manaus: PGSCA-UFAM.
- Almeida, M. W. B. d. (1992). *Rubber Tappers of the Upper Juruá River, Brazil: The Making of a Forest Peasant Economy*. University of Cambridge, Cambridge.
- Aramburu, M. (1994). Aviamento, modernidade e pós-modernidade no interior amazônico. *Revista Brasileira de Ciências Sociais*, 9(25), 82-99.
- Barham, B. L., & Coomes, O. T. (1996). *Prosperity's Promise: The Amazon Rubber Boom and Distorted Economic Development* (Vol. 34). Boulder, CO: Westview Press.
- Bearfield, D. A. (2009). What is Patronage? A Critical Reexamination. *Public Administration Review*, 69(1), 64-76.
- Benatti, J. H., Surgik, A. C. S., Treccani, G. D., McGrath, D. G., & da Gama, A. S. P. (2005). *A Questão Fundiária e o Manejo dos Recursos Naturais da Várzea: Análise para a Elaboração de Novos Modelos Jurídicos*. Manaus, AM: Edições Ibama / ProVárzea.
- Benchimol, S. (1999). *Amazônia: Formação Social e Cultural*. Manaus: Editora Valer / Editora da Universidade do Amazonas.
- Bernard, H. R. (2006). *Research Methods in Anthropology* (4 ed.). Oxford, UK: AltaMira.
- Berryman, P. (1987). *Liberation Theology: Essential Facts about the Revolutionary Movement in Latin America and Beyond*. Bloomington, IN: Meyer Stone Books.
- Bittencourt, A. C. R. (1918). *O Município da Lábrea: Notícia sobre a sua origem e desenvolvimento e sobre o rio Purús*. Manáos - Amazonas: Cesar, Cavalcanti, & Ca.
- Boff, L. (1985). *Church: Charism and Power - Liberation Theology and the Institutional Church* (J. W. Diercksmeier, Trans.). New York: Crossroad.
- Boissevain, J. (1977). When the saints go marching out: Reflections on the decline of patronage in Malta. In E. Gellner & J. Waterbury (Eds.), *Patrons and Clients in Mediterranean Societies* (pp. 81-96). London: Duckworth.
- Bourdieu, P. (1986). The Forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education*. Westport, CT: Greenwood Press.
- Braga, W. S. M., Brasil, L. M., de Souza, R. A. B., de Melo, M. S., Rosas, M. D. G., Castilho, M. d. C., et al. (2004). Prevalência da infecção pelos vírus da hepatite B (VHB) e da hepatite Delta (VHD) em Lábrea, Rio Purus, Estado do Amazonas. *Epidemiologia e Serviços de Saúde*, 13(1), 35-46.

- Brooke, J. (1995, July 9, 1995). Rubber Trees Being Planted in Brazil, the Source. *The New York Times*, p. 114.
- Brown, C. B., & Lidstone, W. (1878). *Fifteen Thousand Miles on the Amazon and its Tributaries*. London: Edward Stanford.
- Bruneau, T. C. (1986). Brazil: The Catholic Church and Basic Christian Communities. In D. H. Levine (Ed.), *Religion and Political Conflict in Latin America* (pp. 106-123). Chapel Hill and London: The University of North Carolina Press.
- Burt, R. S. (1992). *Structural Holes*. Cambridge, MA: Harvard University Press.
- Burt, R. S. (2004). Structural Holes and Good Ideas. *American Journal of Sociology*, 110(2), 349-399.
- Cabral, A. L. (1984 (1949)). *Dez Anos no Amazonas (1897-1907)* (2ª edição ed.). Brasília, DF: Senado Federal.
- Cardoso, E. (2009). A Brief History of Trade Policies in Brazil: From ISI, Export Promotion and Import Liberalization to Multilateral and Regional Agreements, *The Political Economy of Trade Policy in the BRICS*. New Orleans, LA.
- Chambers, R., Longhurst, R., & Pacey, A. (Eds.). (1981). *Seasonal Dimensions to Rural Poverty*. Totowa, New Jersey: Allanheld, Osmun & Co. Publishers, Inc.
- Chandless, W. (1866). Ascent of the River Purûs. *Journal of the Royal Geographical Society of London*, 36, 86-118.
- Chesnut, R. A. (1997). *Born Again in Brazil: The Pentecostal Boom and the Pathogens of Poverty*. New Brunswick, New Jersey, and London: Rutgers University Press.
- CIMI - Quem Somos. (2004). Retrieved January 12, 2010, from <http://www.cimi.org.br/?system=news&action=read&id247&eid=224>
- Coppen, J. J. W. (1995). *Non-Wood Forest Products: Gums, resins and latexes of plant origin*. Rome, Italy: FAO - Food and Agriculture Organization of the United Nations.
- Costa, C. (1940). *A Conquista do Deserto Ocidental (Subsídios para a História do Território do Acre)*. São Paulo: Companhia Editora Nacional.
- Costa, F. P. (2005). *Seringueiros, Patrões e a Justiça no Acre Federal, 1904-1918*. Rio Branco, Acre, Brasil: Editora da Universidade Federal do Acre-EDUFAC.
- Cruz, O. (1913). *Relatório sobre as Condições Médico-Sanitárias do Vale do Amazonas*. Rio de Janeiro: Typ. do Jornal do Commercio, de Rodrigues & C.
- da Costa, A. M., Ramos, J. L., & de A. Cunha, M. V. (2007). *Preservação de Lagos: Uma Experiência Ribeirinha*. Manaus: Comissão Pastoral da Terra - Regional Amazonas - CPT/AM.
- da Cunha, E. (2003a). *Amazônia: Um paraíso perdido*. Manaus: Editora Valer / Governo do Estado de Amazonas / Editora da Universidade Federal do Amazonas.
- da Cunha, E. (2003b). Entre os seringais. In C. Gallindo (Ed.), *Canudos e Outros Temas* (pp. 165-168). Brasília: Senado Federal.
- da Cunha, E. (2003c). O Povoamento e a navegabilidade do rio Purus. In C. Gallindo (Ed.), *Canudos e Outros Temas* (pp. 169-188). Brasília: Senado Federal.
- da Gama e Abreu, J. C. (1895). *As regiões amazônicas: estudos chorographicos dos estados do Gram Pará e Amazonas*. Lisboa: Imprensa de Libanio da Silva.
- DaMatta, R. A. (1990). *Carnavais, Malandros e Heróis: Para uma Sociologia do Dilema Brasileiro*. Rio de Janeiro: Editora Guanabara Koogan S.A.

- Davis, S. H. (1977). *Victims of the Miracle: Development and the Indians of Brazil*. Cambridge: Cambridge University Press.
- de Melo, M. D. (1994). *Do Sertão Cearense às Barrancas do Acre* (1ª edição ed.). Manaus: Editora Calderaro Ltda. .
- Dean, W. (1987). *Brazil and the Struggle for Rubber: A Study in Environmental History*. New York: NY: Cambridge University Press.
- Diagnóstico Sócio-econômico e Cadastro Empresarial de Lábrea*. (1996.). Manaus: Program Informação - Serviço de Apoio às Micro e Pequenas Empresas do Amazonas SEBRAE/AM.
- Ehrenreich, P. (1929). Viagem no rios Amazonas e Purús. *Revista do Museu Paulista*, XVI, 279-312.
- Eisenstadt, S. N., & Lemarchand, R. (Eds.). (1981). *Political Clientelism, Patronage and Development*. Beverly Hills / London: SAGE Publications.
- Eisenstadt, S. N., & Roniger, L. (1980). Patron-Client Relations as a Model of Structuring Social Exchange. *Comparative Studies in Society and History*, 22(1), 42-77.
- Eisenstadt, S. N., & Roniger, L. (1984). *Patrons, Clients, and Friends: Interpersonal Relations and the Structure of Trust in Society*. London: Cambridge University Press.
- Enns, S., Malinick, T., & Matthews, R. (2008). It's Not Only Who You Know, It's Also Where They Are: Using the Position Generator to Investigate the Structure of Access to Embedded Resources. In N. Lin & B. H. Erickson (Eds.), *Social Capital: An International Research Program* (pp. 255-281). New York: Oxford University Press.
- Escobar, A. (2008). *Territories of Difference*. Durham and London: Duke University Press.
- Escobar, C. (1994). Clientelism and Social Protest: Peasant Politics in Northern Colombia. In L. Roniger & A. Güneş-Ayata (Eds.), *Democracy, Clientelism, and Civil Society* (pp. 65-85). Boulder and London: Lynne Rienner Publishers.
- Ferrarini, S. A. (1981). *Lábrea: 1881 Ontem - Hoje 1981*. Manaus: Imprensa Oficial do Estado do Amazonas.
- Ferrarini, S. A. (2009). *Rio Purus: História - Cultura - Ecologia*. São Paulo: FTD.
- Flap, H., & Boxman, E. (2001). Getting Started: The Influence of Social Capital on the Start of the Occupational Career. In N. Lin, K. Cook & R. S. Burt (Eds.), *Social Capital: Theory and Research* (pp. 159-181). New York: Aldine de Gruyter.
- Foster, G. M. (1961). The Dyadic Contract: A Model for the Social Structure of a Mexican Peasant Village. *American Anthropologist, New Series*, 63(6), 1173-1192.
- Foster, G. M. (1963). The Dyadic Contract in Tzintzuntzan, II: Patron-Client Relationship. *American Anthropologist, New Series* 65(6), 1280-1294.
- Frank, Z., & Musacchio, A. (2006). Brazil and the International Rubber Trade, 1870-1930. In S. Topik, C. Marichal & Z. Frank (Eds.), *From Silver to Cocaine: Latin American Commodity Chains and the Building of the World Economy, 1500-2000* (pp. 271-299). Durham, NC: Duke University Press.

- Freston, P. (1993). Brother Votes for Brother: The New Politics of Protestantism in Brazil. In V. Garrard-Burnett & D. Stoll (Eds.), *Rethinking Protestantism in Latin America* (pp. 66-110). Philadelphia: Temple University Press.
- Ganzeboom, H. B. G., & Treiman, D. J. (2003). Three Internationally Standardised Measures for Comparative Research on Occupational Status. In J. H. P. Hoffmeyer-Zlotnik & C. Wolf (Eds.), *Advances in Cross-National Comparison: A European Working Book for Demographic and Socio-Economic Variables* (pp. 159-193). New York: Kluwer Academic/Plenum Publishers.
- Gay, R. (1998). Rethinking Clientelism: Demands, Discourses and Practices in Contemporary Brazil. *European Review of Latin American and Caribbean Studies*, 65, 7-24.
- Gondim, J. (2001). *Através do Amazonas: Impressões de viagens realizadas em 1921* (2ª edição ed.). Manaus: Edições Governo do Estado do Amazonas / Secretaria de Estado da Cultura, Turismo e Desporto.
- Goodman, L. A. (1961). Snowball Sampling. *Annals of Mathematical Statistics*, 32, 148-170.
- Gough, K. (1981). *Rural Society in Southeast India*. Cambridge: Cambridge University Press.
- Goulding, M., Barthem, R., & Ferreira, E. (2003). *The Smithsonian Atlas of the Amazon*. Washington, D.C.: Smithsonian Books.
- Granovetter, M. S. (1973). The Strength of Weak Ties. *The American Journal of Sociology*, 78(6), 1360-1380.
- Granovetter, M. S. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory*, 1, 201-233.
- Greenfield, S. M. (1979). Patron-Client Exchanges in Southeastern Minas Gerais. In M. L. Margolis & W. E. Carter (Eds.), *Brazil - Anthropological Perspectives: Essays in Honor of Charles Wagley* (pp. 362-378). New York: Columbia University Press.
- Guasti, L. (1981). Clientelism in Decline: A Peruvian Regional Study. In S. N. Eisenstadt & R. Lemarchand (Eds.), *Political Clientelism, Patronage and Development* (pp. 217-248). Beverly Hills and London: SAGE Publications.
- Güneş-Ayata, A. (1994). Clientelism: Premodern, Modern, Postmodern. In L. Roniger & A. Güneş-Ayata (Eds.), *Democracy, Clientelism, and Civil Society* (pp. 19-28). Boulder and London: Lynne Rienner Publishers.
- Hemming, J. (1978). *Red Gold: The Conquest of the Brazilian Indians, 1500-1760*. Cambridge, MA: Harvard University Press.
- Hemming, J. (1987). *Amazon Frontier: The Defeat of the Brazilian Indians*. Cambridge, MA: Harvard University Press.
- Hemming, J. (2003). *Die If You Must: Brazilian Indians in the Twentieth Century*. London: Macmillan.
- Hoelz, J. J., & Martinez, A. A. (1972). A Cultura da Seringueira no Estado de São Paulo, *I Seminário Nacional da Seringueira*. Cuiabá, Mato Grosso: Ministério da Indústria e do Comércio - Superintendência da Borracha.
- Ireland, R. (1993). The Cretes of Campo Alegre and the Religious Construction of Brazilian Politics. In V. Garrard-Burnett & D. Stoll (Eds.), *Rethinking Protestantism in Latin America* (pp. 45-65). Philadelphia: Temple University Press.

- Jackson, J. (2008). *The Thief at the End of the World: Rubber, Power, and the Seeds of Empire*. New York: Penguin Books.
- Jaramillo, H. (1902). *Breve noticia sobre os valles dos rios Purús e Madeira: afluentes do amazonas : estradas de ferro projectadas Madeira e Mamoré no Matto Grosso Central do Amazonas no rio Purús*. Manaus: Livraria e Typ. de M. Silva
- Kroemer, G. (1985). *Cuxiuara - O Purus dos Indígenas: Ensaio Etno-Histórico e Etnográfico sobre os Índios do Médio Purus*. São Paulo: Edições Loyola.
- La Rue, C. D. (1926). *The Hevea Rubber Tree in the Amazon Valley*. Washington, D.C.: Government Printing Office - United States Department of Agriculture
- Labre, A. R. P. (1872). *Rio Purús - Notícia*. Maranhão: Typ. do Paiz. Imp. M.F.V. Pires.
- Landé, C. H. (1983). Political Clientelism in Political Studies: Retrospect and Prospects. *International Political Science Review*, 4, 435-545.
- Lange, A. (1911). The Rubber Workers of the Amazon. *Bulletin of the American Geographical Society*, 43(1), 33-36.
- Lange, A. (1912). *In the Amazon Jungle*. New York: G.P. Putnam's Sons.
- Lange, A. (1914). *The Lower Amazon*. New York: The Knickerbocker Press.
- Lemarchand, R. (1981). Comparative Political Clientelism: Structure, Process and Optic. In S. N. Eisenstadt & R. Lemarchand (Eds.), *Political Clientelism, Patronage and Development* (pp. 7-32). Beverly Hills and London: SAGE Publications.
- Lin, N. (1982). Social Resources and Instrumental Action. In P. V. Marsden & N. Lin (Eds.), *Social Structure and Network Analysis* (pp. 131-145). Beverly Hills, CA: Sage.
- Lin, N. (1999). Social Networks and Status Attainment. *Annual Review of Sociology*, 25, 467-487.
- Lin, N. (2001a). Building a Network Theory of Social Capital. In N. Lin, K. S. Cook & R. S. Burt (Eds.), *Social Capital: Theory and Research* (pp. 3-29). New York, NY: Aldine de Gruyter.
- Lin, N. (2001b). *Social Capital: A Theory of Social Structure and Action*. New York, NY: Cambridge University Press.
- Lin, N., & Dumin, M. (1986). Access to Occupations Through Social Ties. *Social Networks*, 8, 365-385.
- Lin, N., & Erickson, B. H. (2008). Theory, Measurement, and the Research Enterprise on Social Capital. In N. Lin & B. H. Erickson (Eds.), *Social Capital: An International Research Program* (pp. 1-24). New York: Oxford University Press.
- Little, P. E. (2001). *Amazonia: Territorial Struggles on Perennial Frontiers*. Baltimore, MD: The John Hopkins University Press.
- Loureiro, A. J. S. (1981). *A "Gazeta do Purus"; scenas de uma época (Sena Madureira - 1918-1924)*. Manaus: Imprensa Oficial do Estado do Amazonas.
- Loureiro, A. J. S. (2007). *História da Navegação no Amazonas*. Manaus: Lorena Ltda.
- Luxardo, L. (1973). *Purus: História de Ontem - Estórias de Hoje*. Belém, Pará, Brasil: GRAFISA - Cia. Gráfica e Editora Globo.
- Marsden, P. V. (2005). Recent Developments in Network Measurement. In P. J. Carrington, J. Scott & S. Wasserman (Eds.), *Models and Methods in Social Network Analysis* (pp. 8-30). New York, NY: Cambridge University Press.

- Marsden, P. V., & Campbell, K. E. (1984). Measuring Tie Strength. *Social Forces*, 63(2), 482-501.
- Martin, J. L. (2009). *Social Structures*. Princeton, NJ: Princeton University Press.
- Martinello, P. (2004). *A "Batalha da Borracha" na Segunda Guerra Mundial*. Rio Branco: EDUFAC.
- Mathews, E. D. (1879). *Up the Amazon and Madeira Rivers, through Bolivia and Peru*. London: Sampson Low, Marston, Searle & Rivington.
- Medeiros, J. F., Py-Daniel, V., Barbosa, U. C., & Izzo, T. J. (2009). Mansonella ozzardi in Brazil: prevalence of infection in riverine communities in the Purus region, in the state of Amazonas. *Memórias do Instituto Oswaldo Cruz*, 104(1), 74-80.
- Medeiros, J. F., Py-Daniel, V., Barbosa, U. C., & Ogawa, G. M. (2008). Current profile of Mansonella ozzardi (Nematoda: Onchocercidae) in communities along the Ituxi river, Lábrea municipality, Amazonas, Brazil. *Memórias do Instituto Oswaldo Cruz*, 103(4), 409-411.
- Miller, D. (1985). Replacement of traditional elites: an Amazon case study. In J. Hemming (Ed.), *Change in the Amazon Basin Vol.2: The frontier after a decade of destruction* (pp. 158-171). Manchester: Manchester University Press.
- Mintz, S. W., & Wolf, E. R. (1950). An Analysis of Ritual Co-Parenthood (Compadrazgo). *Southwestern Journal of Anthropology*, 6(4), 341-368.
- O nascimento da CPT*. (2010). Goiânia, Goiás: Comissão Pastoral da Terra (CPT) - Secretaria Nacional.
- Pantoja, M. C. (2004). *Os Milton: Cem Anos de História nos Seringais*. Recife: Fundação Joaquim Nabuco.
- Paróquia Nossa Senhora de Nazaré - Lábrea AM - 125 Anos Evangelizando*. (2003). Lábrea, AM: Paróquia Nossa Senhora de Nazaré
- Patron-client relations. (2000). In A. G. Johnson (Ed.), *The Blackwell Dictionary of Sociology: A User's Guide to Sociological Language* (Second Edition ed., pp. 224). Malden, MA: Blackwell Publishers.
- Pearson, H. C. (1911). *The Rubber Country of the Amazon*. New York: The India Rubber World.
- Peret, J. A. (1985). *Amazonas: História, Gente, e Costumes*. Brasília: Senado Federal Centro Gráfico.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1-24.
- PROBOR II - Segundo Programa de Incentivo à Produção de Borracha Natural: Fundamentos - Objetivos - Normas Operativas. (1978). In M. d. I. e. d. C. S. d. Borracha (Ed.).
- Programa de Incentivo à Produção de Borracha Vegetal - Normas Operativas Aplicáveis ao Financiamento de Projetos - PROBOR (1972). In M. d. I. e. d. C. S. d. Borracha (Ed.) (Vol. Decreto-lei n° 1.232, de 17.7.1972).
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York, NY: Simon & Schuster.
- Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Reis, A. C. F. (1953). *O Seringal e o Seringueiro*. Rio de Janeiro: Ministério da Agricultura / Serviço de Informação Agrícola.

- Reis, A. C. F. (1998). *História do Amazonas* (3 ed.). Belo Horizonte: Editora Itatiaia Limitada.
- Ribeiro, D. (1996). *Os índios e a civilização: a integração das populações indígenas no Brasil moderno* (3.^a reimpressão ed.). São Paulo: Companhia das Letras.
- Ricardo, F. (Ed.). (2004). *Terras Indígenas & Unidades de Conservação da natureza: o desafio das sobreposições*. São Paulo: Instituto Socioambiental.
- Roniger, L. (1990). *Hierarchy and Trust in Modern Mexico and Brazil*. New York: Praeger.
- Roniger, L. (1994a). Conclusions: The Transformation of Clientelism and Civil Society. In L. Roniger & A. Güneş-Ayata (Eds.), *Democracy, Clientelism, and Civil Society* (pp. 207-214). Boulder and London: Lynne Rienner Publishers.
- Roniger, L. (1994b). The Comparative Study of Clientelism and the Changing Nature of Civil Society in the Contemporary World. In L. Roniger & A. Güneş-Ayata (Eds.), *Democracy, Clientelism, and Civil Society* (pp. 1-18). Boulder and London: Lynne Rienner Publishers.
- Roniger, L., & Güneş-Ayata, A. (Eds.). (1994). *Democracy, Clientelism, and Civil Society*. Boulder and London: Lynne Rienner Publishers.
- Sant'Ana Júnior, H. A. d., Pereira, M. d. J. F., Alves, E. d. J. P., & Pereira, C. R. A. (Eds.). (2009). *Ecossistemas e conflitos socioambientais: a RESEX de Tauá-Mirim*. São Luís: EDUFMA.
- Santos, F. S. D. d. (2000). Ainda a "cultura do barracão" nos seringais da Amazônia. *História Oral - Revista da Associação Brasileira de História Oral*, 3(Junho), 69-89.
- Santos, F. S. D. d., & Muaze, M. d. A. F. (2002). *Tradições em Movimento: Uma Etnohistória da Saúde e da Doença nos Vales dos Rios Acre e Purus*. Brasília: Paralelo 15.
- Santos, R. (1980). *História Econômica da Amazônia (1800-1920)*. São Paulo, Brazil: T.A. Queiroz.
- Schmink, M., & Wood, C. H. (1992). *Contested Frontiers in Amazonia*. New York: Columbia University Press.
- Schurz, W. L., Hargis, O. D., Marbut, C. F., & Manifold, C. B. (1925). *Rubber Production in the Amazon Valley*. Washington, D.C.: Department of Commerce / Government Printing Office.
- Scott, J. (1977). Patronage or exploitation? In E. Gellner & J. Waterbury (Eds.), *Patrons and Clients in Mediterranean Societies* (pp. 21-39). London: Duckworth.
- Scott, J. C. (1985). *Weapons of the Weak: Everyday Forms of Peasant Resistance*. New Haven, CT: Yale University Press.
- Scott, J. C. (1990). *Domination and the Arts of Resistance: Hidden Transcripts*. New Haven and London: Yale University Press.
- Scott, J. C., & Kerkvliet, B. J. (1973). How Traditional Rural Patrons Lose Legitimacy. *Cultures et développement*, 501-540.
- Secreto, M. V. (2007). *Soldados da Borracha: Trabalhadores entre o sertão e a Amazônia no governo Vargas*. São Paulo: Editora Fundação Perseu Abramo.
- Shelley, A. J., & Coscarón, S. (2001). Simuliid Blackflies (Diptera: Simuliidae) and Ceratopogonid Midges (Diptera: Ceratopogonidae) as Vectors of *Mansonella*

- ozzardi (Nematoda: Onchocercidae) in Northern Argentina. *Memórias do Instituto Oswaldo Cruz*, 96(4), 451-458.
- Silva, M. C. (1994). Peasants, Patrons, and the State in Northern Portugal. In L. Roniger & A. Güneş-Ayata (Eds.), *Democracy, Clientelism, and Civil Society* (pp. 29-47). Boulder and London: Lynne Rienner Publishers.
- Smith, H. H. (1879). *Brazil the Amazons and the Coast*. New York: Charles Scribner's Sons.
- Smith, N. J. H. (1999). *The Amazon River Forest: A Natural History of Plants, Animals, and People*. New York, NY: Oxford University Press.
- Soares, F. V., Ribas, R. P., & Osório, R. G. (2010). Evaluating the Impact of Brazil's Bolsa Família: Cash Transfer Programs in Comparative Perspective. *Latin American Research Review*, 45(2), 173-190.
- Sorauf, F. J. (1960). The Silent Revolution in Patronage. *Public Administration Review*, 20(1), 28-34.
- Steere, J. B. (1903). Narrative of a Visit to Indian Tribes of the Purus River, Brazil. In (pp. 359-393). Washington, D.C.: Smithsonian Institution / United States National Museum / Government Printing Office.
- Stepan, N. L. (2003). "The Only Serious Terror in These Regions": Malaria Control in the Brazilian Amazon. In D. Armus (Ed.), *Disease in the History of Modern Latin America: From Malaria to AIDS* (pp. 25-50). Durham and London: Duke University Press.
- Stoll, D. (1990). *Is Latin America Turning Protestant? The Politics of Evangelical Growth*. Berkeley: University of California Press.
- Stoll, D. (1993). Introduction: Rethinking Protestantism in Latin America. In V. Garrard-Burnett & D. Stoll (Eds.), *Rethinking Protestantism in Latin America* (pp. 1-19). Philadelphia: Temple University Press.
- Tastevin, C. (1943). *The Middle Amazon: Its People and Geography (Eleven Articles by Constant Tastevin)* (T. S. I. o. t. Americas, Trans.). Washington, D.C.: Coordinator of Inter-American Affairs - Office of Emergency Management.
- Teixeira, C. C. (2009). *Servidão Humana na Selva: O Aviamento e o Barracão na Sociedade do Seringal*. Manaus: Editora Valer / Edua.
- Theobald, R. (1983). The Decline of Patron-Client Relations in Developed Societies. *Archives européennes de sociologie*, 24(1), 136-147.
- Theobald, R. (1992). On the Survival of Patronage in Developed Societies. *Archives européennes de sociologie*, 33, 183-191.
- Townsend, J. (1985). Seasonality and capitalist penetration in the Amazon. In J. Hemming (Ed.), *Change in the Amazon Basin Vol.2: The frontier after a decade of destruction* (pp. 140-157). Manchester: Manchester University Press.
- van der Gaag, M. (2005). *Measurement of Individual Social Capital*. Amsterdam: F&N Boekservices.
- van der Gaag, M., & Snijders, T. A. B. (2005). The Resource Generator: social capital quantification with concrete items. *Social Networks*, 27, 1-29.
- van der Gaag, M., Snijders, T. A. B., & Flap, H. (2008). Position Generator Measures and Their Relationship to Other Social Capital Measures. In N. Lin & B. H. Erickson (Eds.), *Social Capital: An International Research Program* (pp. 27-48). New York: Oxford University Press.

- Verbrugge, L. M. (1979). Multiplexity in Adult Friendships. *Social Forces*, 57(4), 1286-1309.
- Vercrujisse, E. (1984). *The Penetration of Capitalism - A West African Case Study*. London: Zed Press.
- Wagley, C. (1977). *Welcome of Tears: The Tapirapé Indians of Central Brazil*. Prospect Heights, IL: Waveland Press, Inc.
- Waterbury, J. (1977). An attempt to put patrons and clients in their place. In E. Gellner & J. Waterbury (Eds.), *Patrons and Clients in Mediterranean Societies* (pp. 329-342). London: Duckworth.
- Weingrod, A. (1968). Patrons, Patronage, and Political Parties. *Comparative Studies in Society and History*, 10(4), 377-400.
- Weingrod, A. (1977). Patronage and power. In E. Gellner & J. Waterbury (Eds.), *Patrons and Clients in Mediterranean Societies* (pp. 41-51). London: Duckworth.
- Weinstein, B. (1983). *The Amazon Rubber Boom 1850-1920*. Stanford, California: Stanford University Press.
- Wolff, C. S. (1999). *Mulheres da Floresta: uma história Alto Juruá, Acre (1890-1945)*. São Paulo: Editora Hucitec.
- Woodroffe, J. F. (1914). *The Upper Reaches of the Amazon*. London: Methuen & Co. Ltd.
- Yungjohann, J. C. (1989). White Gold: The diary of a rubber cutter in the Amazon 1906-1916. In G. T. Prance (Ed.). Oracle, AZ: Synergetic Press, Inc.

BIOGRAPHICAL SKETCH

My passion for natural resource management stems from family hikes in the canyon country of western Colorado. The beauty of these places inspired me to study natural resource management at Colorado State University. After graduation I served in the Peace Corps in Guatemala. As I worked with a community to develop an ecotourism project and improve the management of their forest reserve I became inspired to pursue a career working in Latin America. I love learning languages, being exposed to different cultures, and working with communities as they strive to improve their lives.

My research in the Natural Resources and Sustainable Development Master's program at American University and the United Nations University for Peace in Costa Rica focused on community participation in the Mesoamerican Biological Corridor. An internship in Nicaragua assisting with the development of a regional forest management strategy reinforced my desire to work with communities.

In spite of my field experiences, I felt I needed more academic training to fulfill my career goals. Completing a PhD in Interdisciplinary Ecology at the University of Florida and my dissertation research experience in Brazil's Amazonas state has prepared me to work as a university professor.

I intend to work on projects that focus on communities and natural resource management in Latin America. I plan on a career conducting research and facilitating information flow between donor agencies, policy-makers, and, most importantly, local resource managers and users.