

Livelihoods and Gender: A Case Study on the Coast of Southeastern Brazil

Lydia Carpenter

A Thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfillment of the requirements of the degree of

Master of Natural Resources Management (M.N.R.M)

Natural Resources Institute
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ABSTRACT

This research explores the gendered intra-household livelihood dynamics of one coastal community in Paraty, Brazil. Exploring gender in the livelihoods context addresses the social context of gender roles and relations as they relate to small-scale agriculture, artisanal fishing, tourism and the larger livelihoods picture in one community.

Project objectives included: 1) To examine how people in a small coastal community make their livelihood, 2) To analyze the influence of gender roles and relations and the division of labour in livelihood activities and on gender effects within the household or family unit, and 3) To explore prospects for future livelihood diversification sensitive to the influence of gender.

Results show that individual and household livelihood portfolios are diverse and are highly dependent on the natural resource base. Gender relations and bargaining power depended on the diversity and type of livelihood activities practiced at the household and on an individual levels.

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GLOSSARY OF TERMS

<i>Caiçara</i>	Mixed European, Native South American and African descendants that live along the Atlantic Forest Coast in Paraná, Sao Paulo and Rio de Janeiro states.
<i>Casa de farinha</i>	Where bitter manioc is processed into manioc flour. The direct translation is “flour house”
<i>Cerco</i>	multispecific, unselective, floating fish trap that targets both pelagic and demersal fish. It is elliptical in structure with an anchored bottom and a leader running to the shore that herds the fish toward the trap. The traps work passively, entrapping inshore moving/migrating fish and squid, and up to three collections are taken per day (Martins and Perez, 2008).
<i>Coco preto</i>	unidentified spiny palm species with small coconut-like fruits
<i>Dona de casa</i>	<i>Dona de casa</i> refers to a social role consisting primarily of female reproductive labour including housework and childcare. In English it may be understood as a stay at home mother or homemaker.
<i>Embarcado</i>	<i>Embarcados</i> are those individuals that fish on board large ocean-going vessels. In this case, <i>embarcado</i> refers to industrial scale fishing including shrimp trawlers and sardine fisheries.
Laranjeiras	Laranjeiras is a resort/condominium community on the Atlantic Forest coast. The condo is a transition zone for community members from Ponta Negra and Praia do Sono trying to reach Paraty by boat. If trying to access the highway to Paraty community members must pass through Laranjeiras once they have disembarked a boat.
Livelihood Portfolio	A bundle of activities households or individuals engage in to generate a livelihood.
<i>Lula</i>	<i>Loligo plei</i> or <i>Loligo sanpaulensis</i> – Slender inshore squid (15-20 inches) caught in the inner shelf water off the coast of South and Southeastern Brazil during the hotter months (November-March)
<i>Palmito</i>	<i>Euterpe edulis</i> Mart. - Heart-of-palm is a wild, edible palm with a wide distribution throughout the Atlantic Rainforest. <i>E. edulis</i> is indigenous to the Atlantic Rainforest of Brazil. Over-exploitation and social and economic pressures have devastated heart-of-palm forests (Cardoso <i>et al.</i> , 2001).

<i>Pindá</i>	<i>Echinometra lucunter</i> – Sea urchin that inhabits shallow reef rock and reef crests. This species is restricted to shallow water less than 3 meters and is most prevalent in a high-energy environment (Collin <i>et al.</i> , 2005)
<i>Proteção Integral</i>	Protected areas designation with the primary objective 1) to preserve the natural environment while 2) permitting only the indirect use of natural resources under Sistema Nacional de Unidades de Conservação da Natureza (SNUC)
Productive labour	Refers to that which is ‘generative’ and measurable and includes paid work, self-employment and subsistence production.
Reproductive labour	Also referred to as domestic labour, reproductive labour is thought of as ‘housework’ and emotional work including caring work. In Marxian thought reproductive labour is work aimed at re-creating the worker or the capacity to work.
<i>Roça</i>	A land clearing where shifting agriculture is practiced. In this context the dominant <i>roça</i> crops include (in order of abundance) bitter manioc, bananas, sweet manioc, sugar, beans, and sweet potato. Other foodstuffs are also grown on a smaller scale including coffee, herbs, and greens.



Preparing the *roça* for planting: Ponta Negra

Sketch: Laurie Carpenter, 2011 ©

CHAPTER 1: INTRODUCTION



A view of Ponta Negra

Sketch: Laurie Carpenter, 2011 ©

This thesis explores how the people of Ponta Negra, a small coastal community in Southeastern Brazil, make their livelihood and how the intra-household dynamics of gender influence individual livelihood activity profiles. Specifically, I attempt to outline livelihood portfolios of the permanent residents of Ponta Negra, and explore how gender roles and relations influence livelihood activities as well as opportunities and challenges for continued and future livelihood diversification. Informed by participatory concepts and a community-based approach to research, and guided by the UK Department of International Development's (DFID) Sustainable Livelihoods Framework (DFID, 1999) and the gender analysis framework (Asian Development Bank, 2006), I will explore 1) how people in one small coastal community make their livelihood 2) the influence of gender roles and relations on livelihood activities and 3) the prospects for future livelihood diversification sensitive to the effects of gender.

My research is part of a 5-year International Development Research Centre (IDRC) funded project titled 'Community-Based Resource Management and Food Security in Coastal Brazil'. As part of the International Research Chairs Program this is a collaborative project between the University of Campinas (UNICAMP) in Brazil, the Natural Resources Institute (NRI) at the University of Manitoba, and the Fisheries and Food Institute (FIFO), a non-governmental organization in Brazil focused on fisher livelihood and food security issues in Brazil. The focus of the larger project, led by Dr. Alpina Begossi from the University of Campinas and Dr. Fikret Berkes from the University of Manitoba is to develop integrated approaches to help communities in the municipality of Paraty manage local resources and diversify their income so as to increase food security in the region. In part, the larger project is informed by the results from a livelihood survey published by Begossi *et al.* (2009) that identified challenges within the small-scale fishing sector in the region. Although there was a clear focus on livelihoods the primary interview focus was on the 'catching-sector' and intra-household dynamics were not explored. Thirteen communities in the municipality of Paraty were included in the 2009 study, including Ponta Negra. Several communities in the municipality of Paraty have been chosen for the larger study, most of which depend on

the natural resource base to make a livelihood: including artisanal fishing, harvesting activities and small-scale agriculture. The selection of communities for the 5-year study was informed by the 2009 study (Begossi *et al.*, 2009). Most of the communities in this region are characterized by inhabitants known as *Caiçara*: mixed European, Native South American and African descendents that live along the Atlantic Forest Coast and depend primarily on subsistence fishing and small-scale shifting agriculture to make a livelihood (Begossi, 1998). From this selected group, I have chosen one community, Ponta Negra, for my case study. Site selection criteria are outlined in Chapter 2: Study Area and Methods.

Purpose Statement

The purpose of this research is to analyze how gender roles and relations impact livelihood activities at the household level and influence opportunities and barriers to livelihood diversification. I assess the larger livelihood picture of Ponta Negra by focusing on the intra-household dynamics of gender.

Research Objectives

The specific research objectives are:

1. To examine how people in a small coastal community make their livelihood.
2. To analyze the influence of gender roles and relations and the divisions of labour in livelihood activities with particular focus on gender effects within the household or family unit.
3. To explore prospects for future livelihood diversification sensitive to the effects of gender within the household/community

Context: A Coastal Community in Southeastern Brazil

Located in the Southeastern State of Rio de Janeiro, on the Atlantic Forest Coast in the municipality of Paraty, Ponta Negra is a small community, home to approximately 200 residents (Figure 1.1). Ponta Negra is 1 of 8 communities that is located inside the Juatinga Ecological Reserve; an 80 sq km reserve with some restrictive policies around resource harvesting that impact ‘*Caiçara*’ natural resource based livelihood activities in the region. Individuals in these communities, including Ponta Negra, have a broad depth of knowledge of the rainforest coast (Begossi, 1998) including knowledge relating to land cultivation, artisanal fishing technology, and local flora and fauna (Hanazaki *et al.*, 2000). *Caiçaras* are known to subsist primarily on agriculture and artisanal fishing (Begossi, 2006b; Hanazaki *et al.*, 2000) and have, more recently, become involved in tourism related activities. Like the residents of other *Caiçara* communities in the Paraty region, the residents of Ponta Negra depend largely on artisanal fishing, small-scale agriculture (horticulture), harvesting activities and tourism, as their primary livelihood activities (Hanazaki *et al.*, 2000). It is often referred to as one of the more ‘traditional’ *Caiçara* communities in the region. The cash economy of Ponta Negra depends primarily on fishing although in the past (prior to the 1950’s) their source of cash came primarily from the sale of horticultural products (bananas) (Begossi, 2006). Some residents of Ponta Negra are also dependent on seasonal labour migration and the resulting cash income. While some households migrate seasonally to Paraty for work and school some individuals migrate and send remittance income. Also important to local livelihoods in the region are subsistence activities include fishing, horticulture, resource harvesting and fowl production.

Ponta Negra has no road access and no electricity and is the most isolated community in the Paraty region and thus more isolated than the other communities included in the 5-year project. Ponta Negra can be reached by trail (approximately a 3-hour hike) or by boat (30 minutes). Both physical and financial limitations can make travel to and from the community difficult furthering individual and community isolation. For those who

are differentially able or with small children the trail is not easily navigable. Cost prohibitive boat transportation is limited and only a few local carriers provide consistent transportation services. Furthermore, during the cooler months (July-November) the southeastern coast of Brazil is frequently affected by meteorological disturbances such as cold fronts, causing heavy rains and oscillations in the sea surface (Oliveira *et al.*, 2009). Ponta Negra's windward location means it is susceptible to heavy winds and rain and travel interruptions during these times are frequent and can last for days at a time.

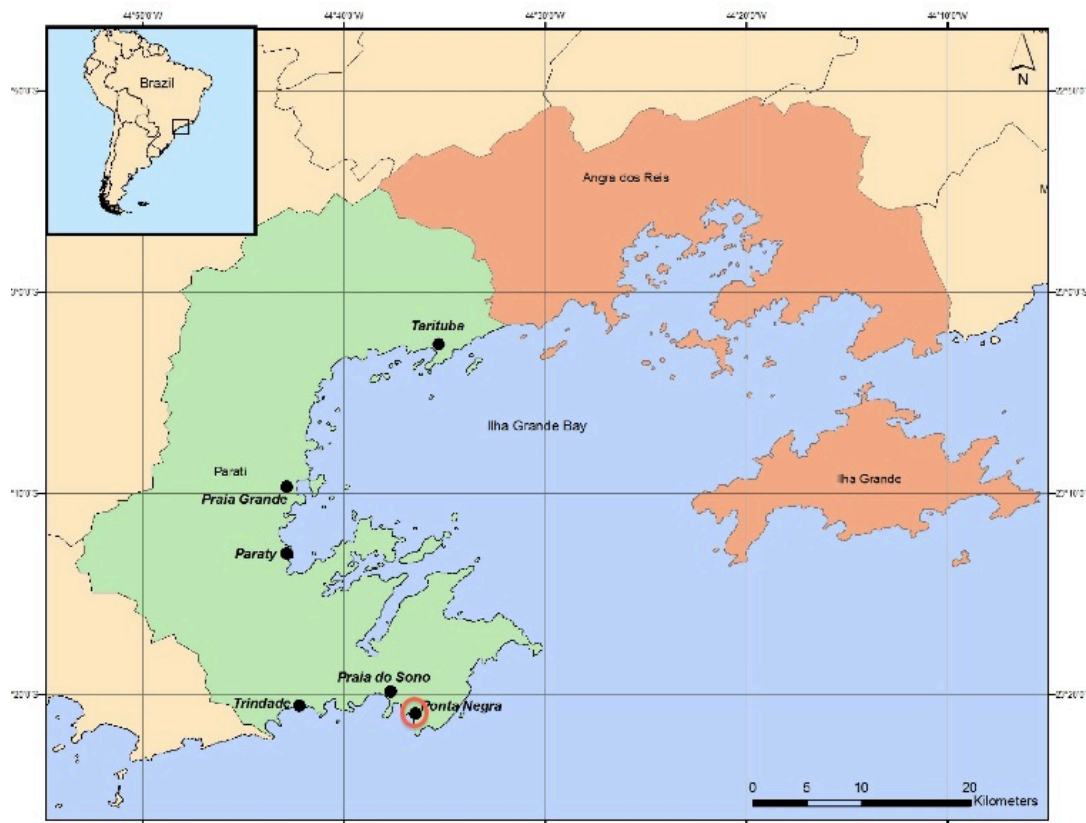


Figure 1.1 Ponta Negra is located in the far southeast corner of Rio de Janeiro State.

Methodology & Methods

My research is informed by community-based research principles and followed a qualitative, social science approach. I employed a case study strategy of inquiry (Creswell, 2009) and used several data gathering techniques. Fossey *et al.* (2002) outlines

that gathering information from multiple sources and in multiple ways (different data gathering techniques) more clearly illustrates different situations and experiences and creates a better understanding of their complexity. Semi-structured interviews, informal conversation, group interviews, and participant observation (Creswell, 2009; Dunn, 2005) were all used to gather data. I also employed the use of informal photography and kept a journal throughout my field season.

Critical reflexivity and adaptive concepts were important throughout the research process. Critical reflexivity is important in identifying responsibility, accountability, partiality and subjectivity within the research as it relates to the researcher (Davies & Dodd, 2002) and was particularly important while working in a different cultural context. Adaptive concepts were important because of changing circumstances and challenged assumptions that arose from the process of reflexivity.

My field research was carried out in three phases:

Phase I: Phase I consisted of scoping and familiarization with the Paraty region. During this time I determined where I was welcome to carry out my research. Through a set of selection criteria, outlined in detail in Chapter 2, the community of Ponta Negra was selected. This phase took approximately two weeks.

Phase II: Phase II was the process of carrying out the research. This included the semi-structured interviews and participant observation. Once the research site was selected Phase II was ongoing and took place from mid-June until late September.

Phase III: Phase III involved verification. This was done through group interviews, informal conversation and return visits with research participants to discuss the research findings. This process was ongoing, however the bulk of the verification work was done in the last two weeks of September.

Significance of Study

This project is important in its potential to inform the larger 5-year IDRC funded project which focuses on fisheries as an integrated social-ecological system. This research on livelihoods and gender addresses the social context of the fishery as it relates to the broader livelihoods picture that is based on multiple resources, individuals, and actions.

In the past, there has been a lack of attention to the gender dimension of fisheries management (Bennett, 2005). In many countries, fisheries management is based on the relationships of individual resource users with government agencies (Jentoft, 2000) and has historically ignored community, household and intra-household level dynamics in strategy planning. Although women play an important role in the fishing sector, policy makers and researchers have often overlooked the social space of women (Bennett, 2005; Chapman 1987; Jentoft, 1999). The work that has been done regarding gender and fisheries shows that women contribute to community work that supports the fishing economy, household work that provides a support system for fishers, and various activities directly related to fishing (fishing, harvesting, processing, marketing) (Bennett, 2005; Bennett *et al.*, 2004; Binkley, 2005; Grant, 2004; Maneschy and Alvares, 2005; Nayak, 2005).

Furthermore, fishing is not necessarily a full time occupation taking place within a single, well-defined, economic sector (Allison & Ellis, 2001) and fishery systems need to be understood more broadly with an awareness of the wider family and local community context (Salmi, 2005). Policies that are based on and focus on different sectors often ignore the fact that diversity is an important attribute to rural livelihoods in developing countries. In the fishers sector, fisheries governance "...is too often based on stereotypical assumptions of full-time fishermen as independent economic actors (Salmi, 2005: 22)"

As with most rural citizens, artisanal fishers in low-income countries pursue diversified livelihoods (Allison & Ellis, 2001) this occurs both at the household and intra-household level. Allison & Ellis (2001) outline the importance of high mobility in and amongst different economic and resource sectors in a diversified livelihood approach. Large capital investment in one sector may limit opportunities to act opportunistically should the fishing resource decline, thus this research aims to focus on the larger livelihood picture, focusing in intra-household livelihood dynamics of gender and on the role of both men and women in making a livelihood.

This research is important because it explores the larger livelihood picture with a focus on the intra-household dynamics of gender roles and relations in making a livelihood. From the fisheries perspective this research moves to include not only the ‘catching – sector’ (Bennett, 2005) which is often male dominated, but also the household sector which is often female dominated. Recognizing gender roles and relations is important because gender signifies an aspect of all social relationships and relations of power in decision-making (Cornwall, 2003). Gender analysis is thus an important dimension of coastal livelihoods and resources management.

Thesis Organization

This thesis is divided into six Chapters. Chapter 1 provides a general overview of my research and some information regarding the study site. Chapter 2 provides more detailed information about the Paraty region and the community of Ponta Negra and a detailed outline of the methodology and research methods that I employed. Chapters 3, 4, and 5 follow objectives 1, 2, and 3 respectively with a review of the relevant literature followed by results and discussion. Chapter 3 follows Objective 1: To examine how people in a small coastal community make their livelihood, and explores individual livelihood activity portfolios of the residents of Ponta Negra. Chapter 4 follows Objective 2: To analyze the influence of gender roles and relations and the divisions of labour in

livelihood activities with particular focus on gender effects within the household or family unit, while Chapter 5 follows Objective 3: To explore prospects for future livelihood diversification sensitive to the effects of gender within the household/community. Finally, Chapter 6 presents an overview of the key findings as they relate to the research objectives, policy implications, and recommendations. It ends with a reflection on the research process.

CHAPTER 2: STUDY AREA AND METHODS



Football on the beach: Ponta Negra Sketch: Laurie Carpenter, 2011 ©

Research Approach

My research is informed by community-based research principles and follows a qualitative, social science approach. I employed a case study strategy of inquiry (Creswell, 2009) and used a single (within-site study) intrinsic case (Creswell, 2007; Stake, 1995). A single case is when only one bound unit is being studied in great detail. In this case it is one community. The case is intrinsic because of its uniqueness (Creswell, 2007) and because the aim of the research is to learn about the particular case (Stake, 1995) and not necessarily try to instrumentally illustrate an issue (Creswell, 2007). I used a variety of data collection procedures including semi-structured interviews, informal conversation, group interviews and participant observation (Creswell 2009; Dunn, 2005). My research is guided by the Sustainable Livelihoods (SL) framework (Figure 2.1) as set out by DFID (2004) which places people at the centre of a web of inter-related influences that affect how people create a livelihood for themselves and their households. The framework focuses on the resources and livelihood assets to which individuals and households have access and use. In my research approach I also apply gender analysis (Figure 2.2) (Carney, 2002) following a binary approach that focuses on the lives of women as separate or distinct from the lives of men (Davis and Nadel-Klein, 1992).

My research is guided by participatory concepts (Boog, 2003; Henderson, 1995; McTaggart, 1997) that emphasize the importance of an adaptive and collaborative research design, allowing, if necessary, for the initiation of new research directions (Dowling, 2000). This adaptive approach allowed me to adjust my techniques based on study site limitations, changing circumstances, personal reflection and community feedback (Nelson, 1991). Personal reflection, also known as critical reflexivity, was an important component of the research process. Critical reflexivity can be defined as the process of constant, self-conscious, scrutiny of the self as a researcher and of the research process (Dowling, 2000). Critical reflexivity was an important component of my work because it can be used where applying a rigidly systematic approach to the research may

not work and where rigor must be rethought in the immediate context (Davies & Dodd, 2002). Through understanding my role as the researcher I attempted to produce a more inclusive, flexible methodology, sensitive to power relations that were arguably inherent within my fieldwork (England, K.V.L, 1994). I focused on self-reflexivity and self-transformation as an important outcome of my research (Lengel, 1998).

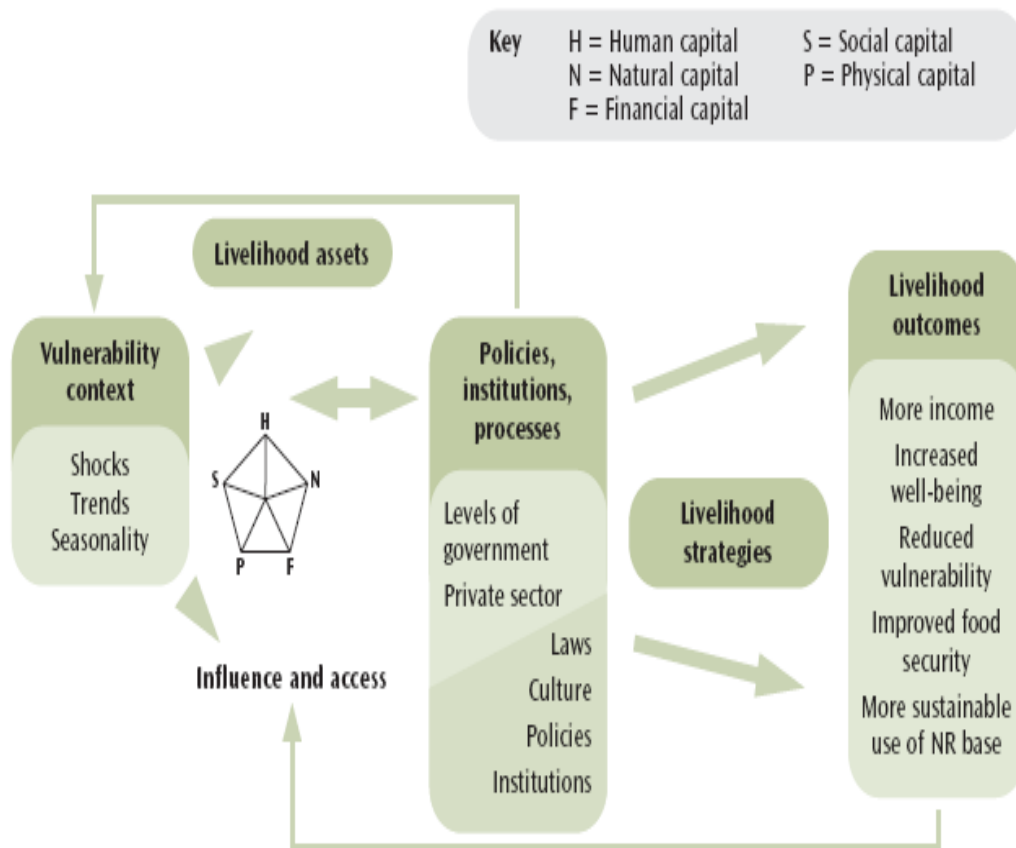


Figure 2.1 DFID's sustainable livelihoods framework (DFID, 1999)

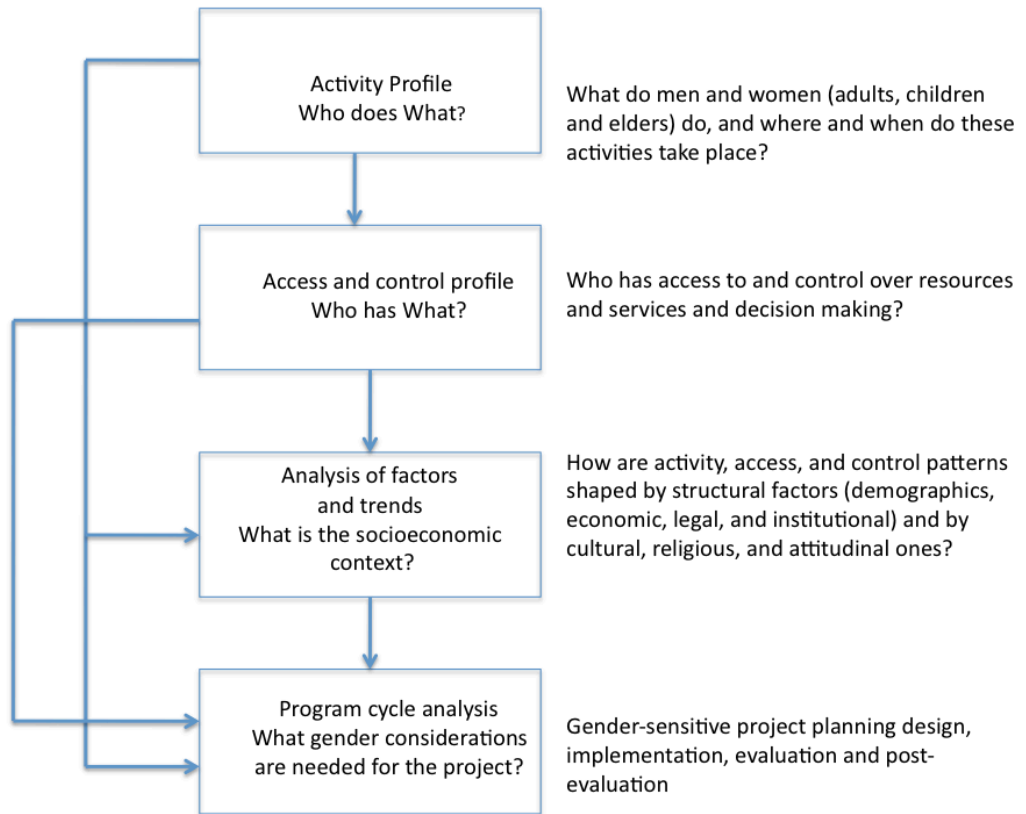


Figure 2.2 Gender analysis framework adapted from the Asian Development Bank (2006)

Strategy of Inquiry

I employed a case study strategy of inquiry using a single-case study approach (Creswell, 2007; Stake, 1995; Yin, 1994). The case study approach aided in my research because I had little control over events and because the issues explored were contemporary and occurring in a real-life context (Yin, 1994). Case studies are presumed to be a methodologically sound strategy of inquiry for participatory research (Creswell, 2009) and allow the researcher to retain holistic and meaningful characteristics of real life events (Yin, 2009), thus a case study was ideal for my research. By using the case study approach and thus by using various data-gathering techniques I was able to explore both “how” and “why” questions.

The unit of analysis for this study is the household. Emphasis was placed on intra-household aspects of livelihoods and livelihood diversification with a focus on the livelihood portfolios of individual household members. Specifically, through gender analysis the gender division of livelihood tasks within the household was explored.

Generally, the belief is held that households aim to secure livelihoods and as a unit have access to a portfolio of assets (Rakodi, 2002). However, using the household can be problematic as explained by Niehof (2004: 323):

“...Feminists criticized the New Household Economics’ view of the household as a utility-maximizing unit under the altruistic leadership of the household head as ignoring gender-based intra-household inequalities. Anthropologists pointed to the danger of neglecting intra-household organization and, by doing so, keeping the lid on the black box. However, when looking at how people provide for their daily needs we cannot do without the household, whatever form it might actually have”.

This research, using the household unit, will focus on individuals within the household unit, and how individuals aim to secure a livelihood to the benefit of other household members. The primary focus of this research is on intra-household dynamics. For the purpose of this work, a household is defined as “the social group which resides in the same place, shares the same meals, and makes joint or coordinated decisions over resource allocation and income pooling” (Ellis, 2000a). It is seen as an appropriate unit for analysis because like much of the Paraty region, Ponta Negra is a community where the nuclear family is the norm. Typically the household is occupied by the nuclear family where both female and male household heads are present. Therefore, in this case study analyzing gender divisions at the household level was deemed an appropriate category for analysis (Oyewumi, 2002).

Study Area & Site Selection

Ponta Negra (Figure 2.3) is a small coastal community located on the Atlantic Forest coast in the municipality of Paraty. There are approximately 200 people living in Ponta

Negra of which more than half are under the age of 18. There is no road access to the community thus the community can only be reached by trail (approximately a 3 hour hike) or by boat (30 minutes). Like many communities in the region, residents of Ponta Negra use the city of Paraty as a commercial and service centre, frequently visiting the city for groceries, medical visits and often migrating for education and employment. Ponta Negra's economy depends primarily on artisanal fishing and tourism with horticultural activities and non-timber forest products (NTFP) harvest of various edible plants as a component of subsistence livelihoods in the region.



Figure 2.3 Ponta Negra's beach from the south Photo credit: L. Carpenter

Like several other resource-dependent communities in the region, Ponta Negra is located in the Juatinga Ecological Reserve, an 80 sq km reserve that encompasses the entire point of Juatinga (see Figure 5.1). Sistema Nacional de Unidades de Conservação da Natureza (SNUC) defines and regulates federal, state, and municipal levels and is under the jurisdiction of the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio). There are two general classifications: 1) strictly protected, with biodiversity conservation

as the principle objective (*proteção integral*) and 2) sustainable use areas (*uso sustentável*) (SNUC, 2000). These are also referred to as areas of indirect and direct use, respectively (Rylands and Brandon, 2005). Ecological reserves are no longer an official category under SNUC, thus the protected area in which the community is located is up for reclassification. Although the ecological reserve status is not officially recognized, policy documents still state that the Juatinga Ecological Reserve's main objective is to protect the local ecosystem by permitting the indirect use of natural resources (INEA, 2011) while still attempting to support *Caiçara* resource-based livelihoods. The reclassification process, beginning at the end of 2010 and ending July 2011 was to be participatory and inclusive.

Art. 5o of the 2002 decree (SUNC, 2002) outlines the role of public participation:

Art. 5o The creation of the conservation unit will be done via public consultation, a process that will ultimately lead to the most appropriate dimensions and limits of the conservation unit.

§ 1o Consultation consists of public meeting, other forms of hearing the local population and other interested parties and creating comprehensive criteria for protection

§ 2o The process of public consultation, and the creation of comprehensive protection criteria should clearly indicate, in plain language, the implication for the resident population living inside the proposed protected area.

At the end of my field season in October 2010 reclassification of the Ecological Reserve was not being discussed in the community nor was it apparent that anyone was aware that this process was going to/taking place. When asked about the Ecological Reserve the community thought that the reserve was still under the jurisdiction of The Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA). Nobody mentioned ICMbio or the 2002 decree. The protected area designation is an important characteristic of the community that impacts resource-based livelihoods in the region. Reclassification and public participation in the reclassification process is important for natural resource based livelihoods in the region.

Ponta Negra has a limited number of services compared to the commercial centre of Paraty. The community has a primary school offering schooling up to the 4th grade, and a community centre that houses both early childhood education and weekly/bi-weekly visits by the regional physician. Several locals hold public service jobs including the community nursing assistant, the teacher and the school cook: otherwise there is very little paid employment outside of fishing and tourism. The community lacks several basic services including electricity, communications (public phone), general sanitation, public transportation, and local food for purchase making travel too and from other neighbouring communities, namely Paraty, essential for many members of the community.

Ponta Negra was chosen as my study site based on several selection criteria, including; 1) Small community size (50-100 households); 2) Proportionately high number of households dependent on the local environment (natural resource base) for their livelihood; 3) Ability to integrate my research with that of other researchers; 4) Community member's willingness to participate; 5) Ability to carry out the research (point of entry, safety, logistics)

Upon arriving in the field I had the opportunity to visit several communities. I visited Barra Grande, Praia Grande, Ilha do Araujo, and Ponta Negra. Praia do Sono was also recognized as a potential study site however, Praia do Sono was not visited during the site selection process because of indications, from data collection during Hanazaki *et al.* 2010, that the community was somewhat unwilling to participate in the research process. I used data from the February 2010 field report (Seixas *et al.* 2010) along with my own observations in the fieldwork to inform my decision. Table 2.1 illustrates the site selection criteria with consideration given to the aforementioned communities. I was able to do a preliminary evaluation using Table 2.1 after which I considered specific assets and limitations with preference given to Ponta Negra.

Table 2.1 Selection criteria by community - question marks appear where the possibility for research integration was unknown or where point of entry was difficult.

Community	Criteria 1: Size	Criteria 2: Resource Dependency	Criteria 3: Integration of Research	Criteria 4: Willingness Participate	Criteria 5: Logistics
Ilha do Araujo	No	Yes	?	?	No
Praia Grande	Yes	?	?	?	No
Barra Grande	No	No	?	?	?
Ponta Negra	Yes	Yes	Yes	Yes	Yes
Praia do Sono	Yes	Yes	?	?	?

1) Community size: smaller community (50-100 households)

Ilha do Araujo, Praia Grande, and Barra Grande are large in comparison to Praia do Sono and Ponta Negra. Ponta Negra has an estimated 45-50 households (occupied depending on the season).

2) High number of households dependent on the local environment (natural resource base) for their livelihood.

The majority of households in Ponta Negra have one or more individuals that participate in artisanal fishing, horticulture in the form of shifting agriculture (Hanazaki *et al.* 2010), and various harvesting activities.

3) Ability to integrate my research with that of other researchers

Upon the onset of my fieldwork, Carlos Julian Idrobo had entered the field and was working in Ponta Negra. He and I discussed the complementary nature of our work and the issue of informant fatigue. Because we were not working with a base organization we found collaboration an effective tool for point of entry into the community. Also we considered the effectiveness of a male/female partnership as our own gender identity

allowed us differential access to particular individuals (groups of individuals) and activities in the community.

4) Community member's willingness to participate

I was formally introduced to residents of Ponta Negra in a community meeting and I quickly became known to many individuals in the community. Several individuals (including several women) demonstrated early interest in what I was doing. Visits to other communities including Praia Grande and Ilha do Araujo did not result in the same response and I found it difficult to access and communicate with individuals who could inform my research. Because of time limitations, and the willingness of community members to participate, I felt most comfortable carrying out my research in Ponta Negra.

5) Ability to carry out the research (point of entry, researchers perceived gender role, safety, logistics)

Selection criterion 5 was added once I arrived in Brazil and had made several visits to different potential research sites. Being a foreign female entering the community from a male dominant environment (fishing boats/docks/the beach) created an unforeseen obstacle. Point of entry is a timely process thus, my own identity as a researcher became an important limitation, one that impacted site selection.

Data Gathering Techniques

My 3.5-month field season took place between mid June 2010 and October 2010. During that time I resided in Ponta Negra, leaving only for groceries, communications and other necessary amenities. During my time in the field I employed several data gathering techniques including: semi-structured interviews, group interviews, informal conversation, and participant observations (Creswell 2009; Dunn, 2005). I kept a journal and used informal photography as a record-keeping device. Table 2.2 illustrates data gathering techniques by objective.

Table 2.2 Data gathering techniques by objective

Objective	Data gathering technique	Data gathered
1. To examine how people in a small coastal community make their livelihood.	Semi-structured interviews (n=28) Informal conversation Participant observation	I gathered information on livelihood activity profiles for individuals and households in the community (who does what).
2. To analyze the influence of gender roles and relations and the divisions of labour in livelihood activities with particular focus on gender effects within the household or family unit.	Semi-structured interviews (n=28) Informal conversation Participant observation	I collected data regarding gender roles and who (men and women) has access to and control over resource, services and decision-making. I focused on the roles of women, but interviewed both men and women.
3. To explore prospects for future livelihood diversification sensitive to the effects of gender within household/community.	Semi-structured interviews (n=28) Informal conversation Group interview	I collected data regarding future livelihood improvements and opportunities and barriers to continued livelihood diversification sensitive to differential impacts of diversification on men and women

Interviews

Semi-structured interviews are content focused (Dunn, 2000) and are well suited to the exploration of individuals' perceptions, opinions and experiences around a particular issue. For the purposes of my research semi-structured interviews were employed for several reasons: 1) for the clarification of interesting and relevant issues raised by the

respondent 2) for eliciting valuable and complete information 3) the interviewer can explore and clarify inconsistencies with respondents' account, and they 4) can help respondents recall information for questions involving memory (Barriball and White, 1994). Informal-conversation as an interview method was also employed in conjunction with participant observation and as a tool to build upon the semi-structured interviews.

Small community size allowed me to do a preliminary interview of 65 community members to create a sampling frame from which I chose participants for the semi-structured interviews (see Appendix B). The preliminary information used was gathered via informal conversation and data collected for Hanazaki *et al.* (2010). From the 19 interviews collected for Hanazaki *et al.* (2010) and included in my data set of 65 preliminary interviews, 10 were conducted by myself and Carlos Julian Idrobo, 3 were conducted by myself, Carlos Julian Idrobo and Luciana G. Araujo and 6 were conducted by myself and Laura Cavechia. I conducted another 46 preliminary interviews through home visits and informal conversation (Figure 2.4). The preliminary interview data provided information on sex, age, education, primary livelihood activities and household makeup. Sixty-five individuals over the age of 18 (34 women and 31 men) were included in the preliminary data-gathering phase. In choosing the participants for the semi-structured interview I used purposive, non-probability sampling focusing primarily on gender and age and secondarily on education (Patton, 1990) (Figure 2.5 and Figure 2.6). Participants were used as key informants, with snowball sampling and judgment sampling used to identify participants (Bernard, H.R., 1995). All interviews and informal conversations were conducted in Portuguese. My own proficiency in Portuguese allowed me to conduct all research activities without the aid of an interpreter. During the interview process I interpreted all of the quotes that appear in this thesis from Portuguese to English.

No one that I requested an interview from refused to participate. At the time of interviewing not all of the 65 preliminary participants were available (four male participants in the 20-29 and 30-39 age category had left the community to work as

*embarcados*¹) and thus were excluded from the selection process. Between July and September 2010, 22 semi-structured interviews were conducted with 28 individuals. Seventeen of the participants were women and 11 were men (Figure 2.5). In order to capture the ideas of both men and women, where possible, male and female household heads were interviewed separately. Five interviews had multiple participants; four of the cases were two household heads (male and female). In one case, the interview was conducted with a mother and daughter. In nearly all cases, multiple informal conversations (separate from the formal semi-structured interview), helped build upon the data collected in the semi-structured interview. Informal conversations allowed for questions to emerge from natural conversation and proved to be a highly responsive method that assisted in building rapport. It was also an effective way to capture the ideas of men and women separately. Informal conversations occurred on a daily basis. Multiple visits were made to many households. For the months of August and September daily visits and semi-daily visits were made with nearly all of those individuals that participated in the semi-structured interviews (n=28).

¹ those individuals that fish on board large ocean-going vessels. In this case, *embarcado* refers to industrial scale fishing including shrimp trawlers and sardine fisheries.

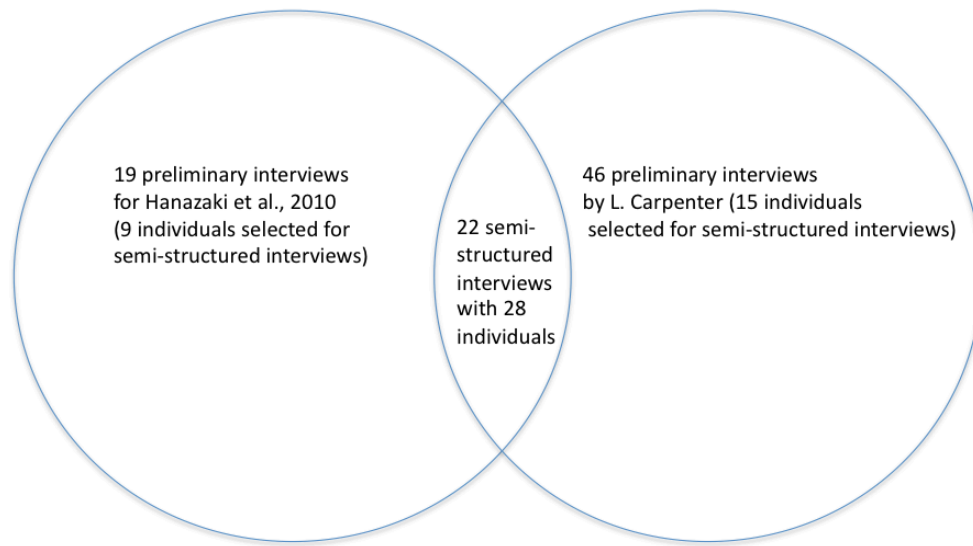


Figure 2.4 Preliminary interviews (n=65) completed in conjunction with Hanazaki et al, 2010 and the selection of semi-structured interview participants (n=28)

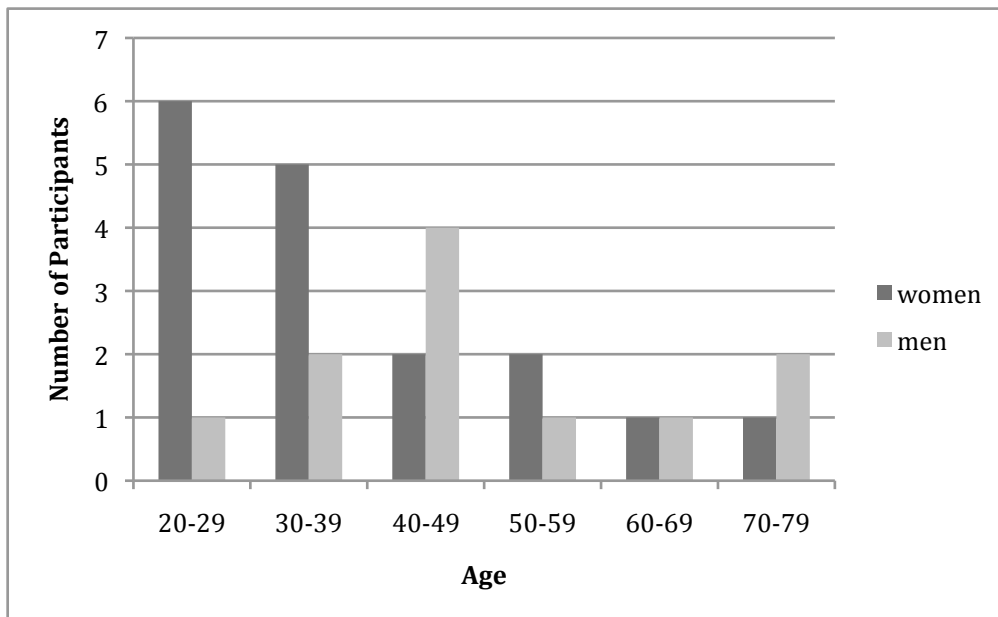


Figure 2.5 Semi-structured interview participants by gender and age (n=28) source: interview data

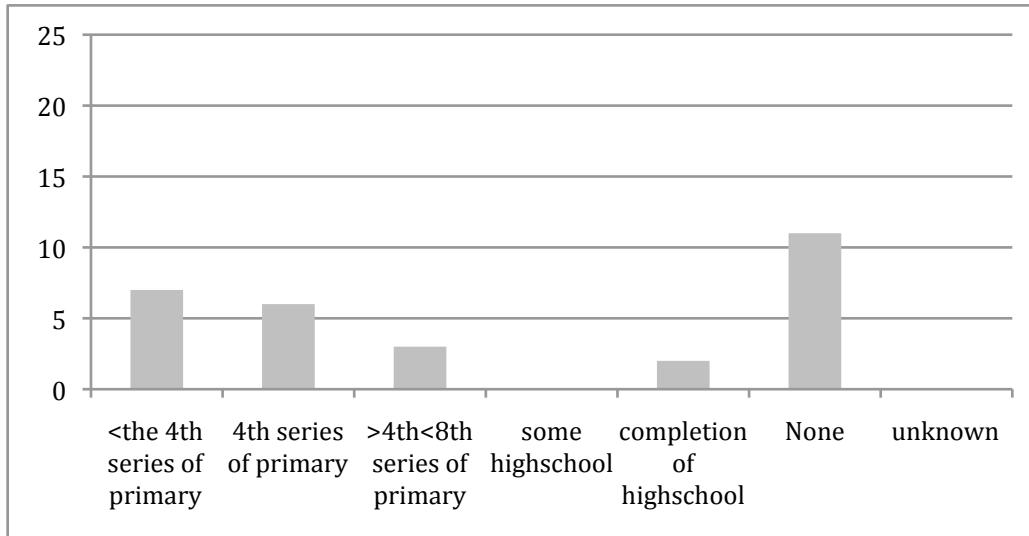


Figure 2.6 Formal education level of the semi-structured interview participants (n=28) source: interview data

The interviews focused on several themes as they related to the research objectives: roles and responsibilities; assets; power and decision making; and needs and priorities. Questions aimed to elicit information on: 1) what men and women do, 2) Where these activities are performed, 3) when and with whom are they performed, 4) what livelihood assets and opportunities do men and women have access to, 5) in what decision-making do men and/or women participate and 6) What constraints to they face.

Interviews were not digitally recorded as per the request of several participants. I took notes during the interview process, translating directly from Portuguese to English. Short hand notes were taken during the interview and interview summaries were written up a short time after the cessation of the interview. Where interviews were conducted with a research partner, and only with male participants, were interviews recorded. Although these interviews were

recorded, I remained consistent in the exercise of taking short hand notes (Portuguese to English) and later creating interview summaries. The semi-structured interviews lasted between 45 minutes and 1.5 hours.

Group Interviews

Group interviews were another important data gathering technique. The group interview method, similar to the focus group method, involves a small group of people discussing a particular topic or issue defined by the researcher (Cameron, 2000) and can often generate insights and understanding that is novel to both the researcher and participants (Cameron, 2000). Group interviews allowed for follow-up of individual interviews and validation of the conclusions drawn from those interviews (Morgan, 1996). The exploration of interview results (Carey, 1994) through the group interview method provided further insights into the behaviours of the participants (Morgan, 1996).

I conducted six group interviews with 2-3 participants each (Table 2.3). In total 11 different individuals participated in group-interviews. Group interviews, rather than focus groups, were more conducive to the locality, as many individuals were not comfortable speaking in larger groups, or expressed discomfort in working with particular community members. Broadly the group interviews aimed to explore: 1) the dynamics of gender relations, 2) decision making and bargaining power, 3) livelihood tasks of women, particularly as they related to fishing, tourism, horticulture and non-timber forest products (NTFPs), and 4) opportunities and challenges for livelihood diversification. Specific questions and topics were informed by the semi-structured interviews. Each group interview had a different focus and time was allocated for open discussion led by the participants. Table 2.3 shows the group interview participants, dates and topics. Nearly all of the participants were women. Data from the group interview sessions were recorded through note taking. Sessions ranged from 45 minutes to 2 hours in duration.

Table 2.3 Group interviews

Group interview	Participants	Focus group	Date
GI1	RP08 RP09 RP16	Women and <i>lula</i> jigging	August 10 th , 2010
GI2	RP16 RP17	Community organization	August 30 th , 2010
GI3	RP08 RP16	Resource harvesting	September 2 nd , 2010
GI4	RP15 RP16	Men's and women's work	September 8 th , 2010
GI5	RP03 RP04 RP22	Our husbands go away to fish: The wives of <i>embarcados</i>	September 21 st , 2010
GI6	RP06 RP49 RP50	Women's work and the opportunity for livelihood diversification	September 27 th , 2010

Participant Observation

Participant observation occurs when the researcher joins a group of individuals to record action, interaction or events that occur (Spencer *et al*, 2003). It involves forming relationships with individuals and “..puts you where the action is and lets you collect data...” (Bernard, H.R., 2006). The opportunity to act as a participant observer provided me with insights for my research and allowed for the strengthening of field relations.

I lived in the community where my research was carried out and found multiple opportunities to interact with community members. As a participant observer I explored the daily livelihood activities of both men and women in the community. I kept and recorded observational data using jottings, and field notes (Bernard, H.R., 2006). My observations assisted me in interpreting

findings derived from other data gathering techniques including semi-structured interviews and group interviews. Observational data was accompanied by a journal and informal photography.

Data Analysis and Verification

Data analysis is a continual and ongoing process of interpretation (Creswell, 2009; Richards, 1999). Much of my data analysis was conducted concurrently while gathering data in the field. Informed by Creswell (2009) I attempted to follow a linear, hierarchical approach of qualitative research analysis (Figure. 2.8) while incorporating my own specific research strategy steps, including the ongoing analysis and interpretation of interview data and participant observation data while still in the field. In doing so I took both interpretive and reflexive approaches to data analysis (Welsh, 2002).

Post field data analysis followed a more linear form including: 1) organizing and preparing raw data, such as interviews and filed notes for further analysis; 2) doing a read through of all materials, and making additional notes; and 3) manual coding for general themes. For coding I used pre-assigned coding themes, each relating to a research objective. New codes were created as different themes began to emerge. Verification was done using both group interviews and return visits with research participants to discuss the emerging themes of the research. Multiple visits were made with research participants, however verification visits were done near the end of the field season when all of the semi-structured interviews had been completed.

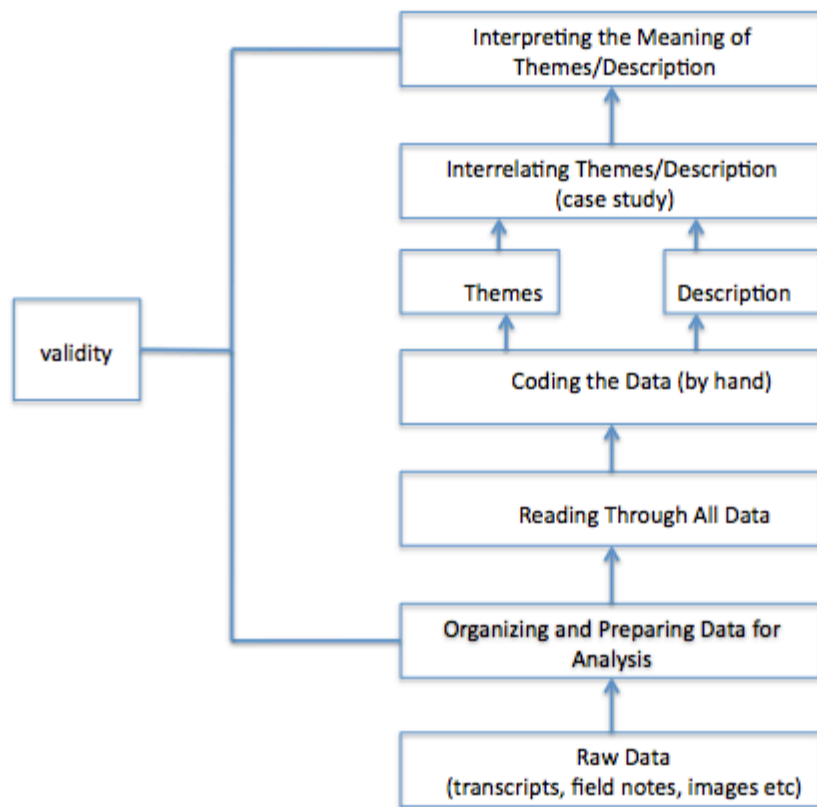


Figure 2.7 Data analysis in qualitative research (Creswell, 2009)

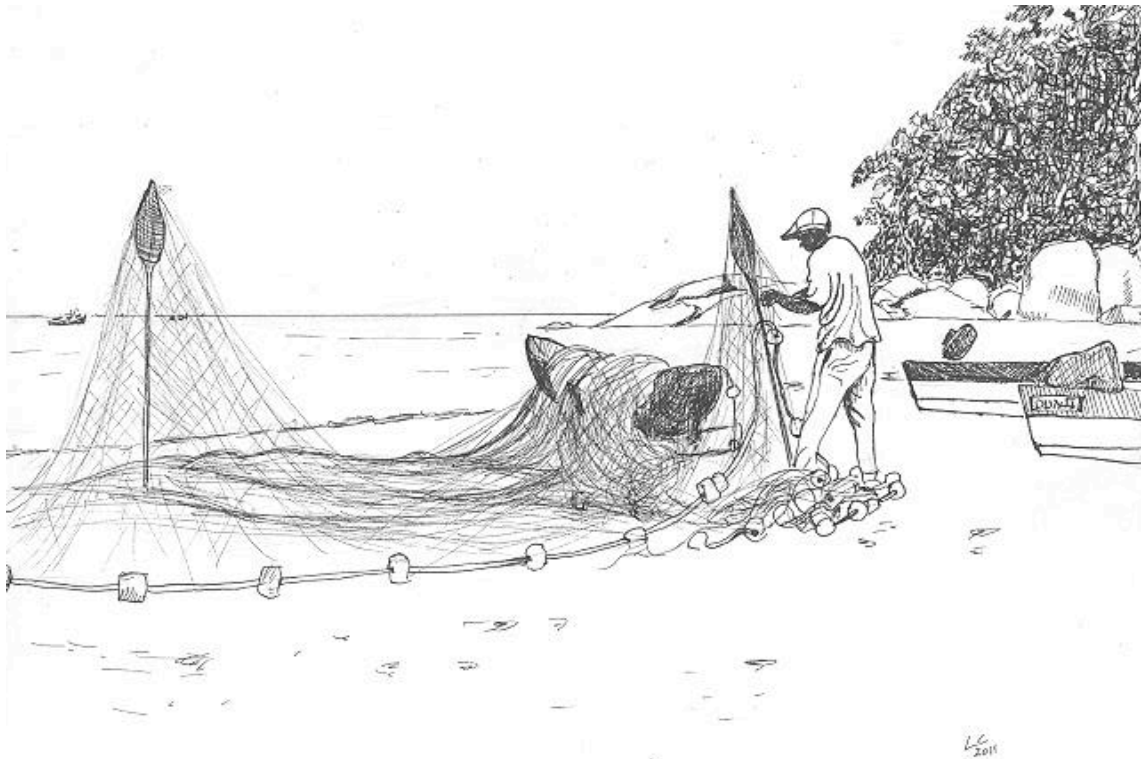
Study Limitations

There were several study limitations including language, time, the limitations of working in a different cultural context, and of being a solo female researcher. All of these issues were considered prior to the onset of my work except for the issue of how my own gender would impact point of entry into the field. Table 2.4 illustrates these limitations and the considerations and processes that were used to deal with them.

Table 2.4 Study limitations

Study Limitation	Considerations	Process
Language Limitations	Upon the onset of my fieldwork I was not fluent in Portuguese. I was able to understand but did not have practice with my speaking skills. I am fluent in Spanish.	I had 14 weeks in the field, living in the community where the case study was conducted. I was able to learn Portuguese fairly quickly, and in 3 weeks was fluent enough to carry out my own research. I conducted interviews without the aid of an interpreter.
Time Limitations	My field season was 3.5 months long. (June 18 th 2010-October 1 st 2010.). I did not observe a full annual cycle.	Throughout the research process I asked respondents to recall activities and processes in a complete annual cycle. Seasonality meant I was unable to observe certain livelihood activities including <i>lula</i> jiggling.
Cross-Cultural Context	The research was conducted outside of my own cultural context.	Critical reflexivity Adaptive approach Agency Openness Multiple data gathering techniques attempt to capture a holistic contextualized picture of the social, political, and economic factors that affect the everyday existence of individuals (Tillman, 2002).
Identity of the Researcher	The difficulties of being a foreign female researcher working alone in a remote community in this part of Brazil only became apparent to me once in the field.	Collaboration Aid in point of entry Critical Reflexivity (on both the research and the researcher)

CHAPTER 3: MAKING A LIVELIHOOD



Cerco worker mending a net: Ponta Negra Sketch: Laurie Carpenter, 2011 ©

The sustainability of rural/coastal livelihoods depends on a diversity of activities and resources. In Ponta Negra, individual and household livelihood portfolios are diverse and occupational pluralism is widely practiced. Artisanal fishing is recognized as an important and widely practiced livelihood activity in the region and was identified as an important livelihood activity by many individuals in Ponta Negra. However important artisanal fishing is to the community, it is performed in tandem with many other activities including horticulture, harvesting activities (including timber, wild edibles, hunting game, and coastal harvest), tourism, industrial fisheries, and reproductive labour otherwise known as domestic labour. All of these activities create a diverse livelihood portfolio at the community, household, and individual level.

Following Objective 1, the purpose of this chapter is to examine how people in the small coastal community of Ponta Negra make their livelihood. First, I will briefly review the literature on the Sustainable Livelihoods Approach (SLA) and rural livelihoods in the ‘developing’ world. I will then outline the livelihood activity profiles of the people of Ponta Negra and I will focus on both cash and subsistence economies including activities related to fishing, horticulture and tourism. In keeping with the people centered approach of the SLA I will focus on what people have, rather than what they don’t have, and seek to explore how through their given assets they carve out a livelihood. Through questions relating to “What people do”, livelihood portfolio activities will be considered in productive and reproductive labour profiles at the individual and household level. I conclude this chapter with a discussion of reproductive labour profiles that will lead into the Chapter 4 discussion on gender roles and relations.

The Sustainable Livelihoods Approach

The Sustainable Livelihoods Approach (SLA) is “...based on a multidimensional understanding of people’s lives, which recognizes the different assets and entitlements that people hold in relation to the wider context of institutions, regulations and cultural

norms (Toner, 2003: 771)". In line with the SLA, a livelihood is defined as the activities, the assets, and the access that jointly determine the living gained by an individual or household and including livelihood capabilities, tangible assets and intangible assets (de Haan and Zoomers, 2005).

Much of the thinking around sustainable livelihoods comes from the work of Chambers and Conway (1992), who throughout the 1990s provided strong advocacy for sustainable livelihoods approaches in development. Ashley and Carney (1999) outline the conceptual approach of sustainable livelihoods adopted by the UK Department for International Development (DFID):

Sustainable livelihoods approaches are based upon evolving thinking about poverty reduction, the way the poor live their lives, and the importance of structural and institutional issues. They draw on three decades of changing views of poverty. In particular, participatory approaches to development have highlighted great diversity in the goals to which people aspire, and in the livelihood strategies they adopt to achieve them. Poverty analysis has highlighted the importance of assets, including social capital, in determining well being. The twin influences of the policy framework and governance, which have dominated much development thinking since the early 1980s, are also reflected in SL, as is a core focus on the community (Ashley and Carney, 1999:12).

My research approach is informed by the SLA used by DFID (1999), however sustainable livelihood approaches are not linked to any single organizational type and livelihoods approaches have been developed within research institutes, non-governmental organizations (NGOs) such as CARE and Oxfam and donors including the United Nations Development Programme (UNDP) (Ashley and Carney, 1999). There are several core principles that underline sustainable livelihood (SL) thinking: 1) taking a people-centered approach; 2) being responsive and participatory; 3) making multi-level, macro-micro links; 4) building on strengths; 5) taking a broad view of sustainability and; 6) understanding that systems are dynamic and thus transcend sector boundaries (Allison

and Horemans, 2006; Ashley and Carney, 1999; Chambers and Conway, 1992; DFID, 1999; DFID, 2004).

Taking a people-centered approach puts people in the center of development. People, rather than resource and government agencies are the priority. It is more important to understand people and the assets that make up their livelihoods than how they use one specific resource. Furthermore, being responsive and participatory involves working with individual stakeholders and being dynamic and adaptive. Individuals must play the dominant role in identifying livelihood priorities. In using a livelihood approach to resource management the priority is to work in partnership with local peoples.

Making multi-level links attempts to bridge the gap between macro and micro level activities. Macro level policy has critical implications on livelihood opportunities and options for individuals, households and communities. The SLA encourages explicit consideration of the distinction between local, national and international issues. In addition, the SLA starts by analyzing strengths, rather than needs. This approach seeks to assist individuals in meeting their own objectives, not macro-scale development goals. The approach looks at all available assets including those that come from strong social networks, access to physical resources and infrastructure, ability to influence core institutions, or any other factor that has poverty-reducing potential. Moreover, central to this approach is the idea of sustainability. DFID (2004) outlines four key dimensions to sustainability (arguably there are more): economic, institutional, social, and environmental, and it is suggested that a balance must be found between them. Often definitions of sustainability and sustainable development are criticized for ambiguity (Membratu, 1998). In a livelihoods context the definition of sustainability is fairly clear; Sustainability is the capacity of a livelihood system to withstand shocks and adapt to change (Chambers and Conway, 1992).

Finally, the SLA acknowledges that systems are dynamic. Proponents of the SLA “.. call for ongoing investigation and an effort to uncover the nature of complex, two-way cause

and effect relationships and iterative chains of events” (DFID, 2004). The goal of the SLA in development and policy is to respond flexibly to changes in people’s situations and in this way develop long-term commitments to maximize livelihood benefits for the poor and eradicate poverty (DFID, 2004).

Several studies incorporate the SLA by focusing on particular core SLA principles (Ellis *et al.*, 2003; Davies *et al.*, 2008; Gladwin *et al.*, 2001; Hanazaki *et al.*, 2007). Allison & Horemans (2006: 758) found,

...that although none of these core concepts are new or unique to the livelihoods approach, taken together they represent a new way of working in development that yielded positive results in other areas of rural and natural resource development.

Out of the SLA comes the Sustainable Livelihoods Framework (see Figure 2.1). This is a tool to improve our understanding of livelihoods, particularly the livelihoods of the poor (DFID, 1999). The Sustainable Livelihoods Framework provides a schematic of assets and activities to aide in illustrating the interaction between them. Central to the schematic is the “asset pentagon”. This was developed to enable information about people’s assets to be represented visually, thereby bringing to life important inter-relationships between the various asset sets. Different forms of capital from the five-asset categories; human, natural, financial, social, and physical capital combine in a multitude of different ways to generate livelihood outcomes. The Sustainable Livelihoods Framework also incorporates the *vulnerability context* that frames the external environment in which people exist (DFID, 1999; DFID, 2004). Vulnerability is defined as a high degree of exposure to risks, shocks, and stresses and leads to issues and insecurity (Ellis, 2000b). The *vulnerability context* provides recognition that such shocks, trends, and seasonal shifts fundamentally affect livelihoods and the availability of and access to assets.

The SLA (DFID 2004), in combination with the Sustainable Livelihoods Framework provides a set of operational principles to improve our understanding of livelihoods (DFID, 1999). The framework was developed with the fundamental goal of reducing

poverty (Carney, 2002) and has been employed broadly in research, policy and development planning. There has been some criticism regarding the shortcomings of the SLA. These shortcomings include: 1) the absence of political capital, 2) the absence of gender and other power issues, 3) limited utility in conceptualizing human agency, 4) experience and conflicts over values, 5) lack of consideration for intra-household differences in livelihoods, 6) limited engagement in community development approaches and concepts, under-emphasis of the role of global markets and globalization, and, overemphasis placed on the “asset-pentagon” (Allison & Horemans, 2006; Bebbington *et al.*, 2007; Hussein, 2002; Toner, 2003). These shortcomings are magnified when the SLA is used uncritically and the analysis does not consider change over time. The approach can, however be used flexibly. Emphasis can be placed on specific livelihood issues without compromising the core principles mentioned above. For example, as in this research, focus can be placed on gender and intra-household dynamics and all of the core SLA principles can still be upheld.

Rural/Coastal Livelihoods in the Developing World

It is necessary to acknowledge that defining rural livelihoods without generalizing too broadly is difficult particularly when limited by space and time. This section will quickly explore some of the processes and trends that have been recognized in recent work on rural livelihoods. Outlined by Rigg (2006) these trends include:

- 1) Occupations and livelihoods in the countryside are diversifying
- 2) Occupational pluralism or occupational multiplicity is becoming more common and more pronounced
- 3) The balance of household income is shifting from farm to non-farm
- 4) Livelihoods and poverty are becoming de-linked from land (and from farming)
- 5) Lives are becoming more mobile and livelihoods correspondingly delocalized
- 6) Remittances are playing a growing role in rural household incomes
- 7) The average age of farmers is rising

- 8) Cultural and social changes are being implicated in livelihood modifications, and in new ways

Rural households in developing countries are often characterized as having a diverse livelihood portfolio associated with both improving (opportunity) and deteriorating (necessity) economic conditions (Ellis, 1998). According to Barrett *et al.* (2001) and Ellis (2000b), diversification is the norm and most households have truly multiple income sources. As expressed by Ellis (2000: 4):

....it is the maintenance and continuous adaptation of a highly diverse portfolio of activities that is a distinguished feature of rural survival strategies in contemporary poor countries. This household level diversification has implications for rural poverty reduction policies since it means that conventional approaches aimed at increasing employment, income and productivity in a single occupation, like farming, [and fishing] may be missing their targets.

While much of the literature on rural livelihoods focuses on agriculture Allison and Ellis (2001) look at the role of rural livelihood diversification in small-scale fisheries. They find that diversified livelihoods are an important feature in fishing households. The authors contend that diversification is characteristic of 'sustainable' fishery systems and that focusing on occupational pluralism and constraints on occupational pluralism would address issues of sustainability in fisheries management. Work by Hanazaki *et al.* (2007) focuses on the livelihoods of *Caiçaras* on the coast of Sao Paulo State and finds that although their livelihoods are diverse, a combination of four main activities, namely fishing, agriculture, tourism and the extraction of NTFPs (mainly non-timber plants including ornamental ferns and mosses), make up local livelihood portfolios.

Rural households are dependent on both cash and subsistence income including natural resource or land-based strategies such as fishing, horticulture, livestock and harvesting (Scoones, 2009) as well as the seasonal, temporary and permanent migration and the resulting remittance incomes that are increasingly important to rural livelihoods (Allison and Ellis, 2001; Frances, 1998; Rigg, 2006). Seasonal labour migration can result from

both ‘push’ (high levels of poverty and food insecurity) and ‘pull’ factors (seasonal employment opportunities outside of the community/region) (Gill, 2003). Allison and Ellis (2001) note that in relation to seasonal labour migration as well as temporary and permanent labour migration the importance of the remittance economy in rural livelihoods is sometimes overlooked. At the local level it may appear that rural livelihoods depend primarily on the natural resource base however “...studies of household incomes in rural areas of low income countries generate average figures demonstrating that between 40 and 60 per cent of rural incomes tend to originate from non-natural resource based sources (Allison and Ellis, 2001 pp. 384).” Evidence from studies around the globe, as outlined by Start (2001), demonstrates that the portion of rural household income from non-farm sources is growing, and not from urban migration but rather from local rural sources. Examples of this shift include the creation of new local markets for tourism and other service related activities.

Livelihoods: Activity Profile of Ponta Negra

In Ponta Negra individuals and households depend on both cash and subsistence income from a number of livelihood activities including fishing, horticulture, tourism, harvesting, construction, public sector employment, and paid domestic labour. For the purposes of this work livelihood activities are divided into two main categories of labour: productive labour and reproductive labour. Productive labour will be the primary focus of this chapter and refers to that which is ‘generative’ and measurable and includes paid work, self-employment and subsistence production. Reproductive labour refers to work that re-creates the worker, or the capacity to work. It is often referred to as ‘domestic labour’ and includes housework, childcare, and care of the sick and elderly.

The productive labour profile data was collected from preliminary interview and semi-structured interview data. Much of it was verified through participant observation. Figure 3.1 illustrates the productive labour profile of the preliminary 65 research participants (see Appendix C) and focuses on the productive labour activities of individuals. It

illustrates the total number of participants in all activities as well as those activities declared most economically important at the household level. In the context of Ponta Negra, the 'most economically important' activity refers to that which provides the largest amount of cash or subsistence income. In most cases cash generating activities were declared as the most economically important activities however, for some individuals and households a combination of subsistence activities provide the largest return. Because individuals participate in a number of livelihood activities, Figure 3.1 represents multiple, individual responses. Individuals were encouraged to discuss all of their activities, not only their 'main' occupation or profession.

Furthermore, the results in Figure 3.1 are based on individual responses and differ from data based on household responses. For example, the data presented in Figure 3.2, from the household survey by Hanazaki *et al.*, 2011 shows the principal economic activity declared for households (n=28) in Ponta Negra. This data shows that fishing is the principle economic activity for over half of the interviewed households. In total 51% of the households declared fishing as the most economically significant activity, 7% declared tourism, 2% declared housekeeping, and 11% declared retirement. In Figure 3.1 which is based on individual responses (n=65), only 23% of individuals declared fishing as the principle economic activity for their household, 25% declared tourism, 15% declared paid domestic labour (housekeeping) and 12% declared retirement. There is a clear difference in individuals and household responses regarding principle economic activity. There are several reasons why there may be a difference in responses at the individual (n=65) and household (n=28) levels including: 1) larger sample size for individual responses (n=65); 2) female and male household heads were not interviewed separately at the household level thus the household interview may reflect the response of only one individual; 3) individuals with relatively more decision making power at the household-level may see their income as the most economically significant; 4) the seasonal nature of individual and household livelihoods may lead people to declare their current activity as the most economically important activity.

Fishing (particularly fishing related to the *cerco*² and *embarcado*), activities related to fishing, horticulture, and tourism related activities including transportation, guiding, and paid domestic labour are the most widely practiced productive labour activities. Other subsistence activities, including fowl production and resource harvesting are also very important forms of subsistence income, however, only once were they declared, on their own, as the most economically important activity.

At the individual level fishing and tourism related activities were frequently declared as the most economically important activities for the household. It was evident through conversation with participants and participant observation that fishing and activities related to fishing were critical activities that govern much of the day-to-day work in the community. Furthermore, individual data reflects the importance of fishing, but it also shows the importance of other individual livelihood activities. On an individual level, male and female household heads often declared their own productive labour activities as those that were most economically significant for the household (particularly when they were interviewed separately). There were only a few cases where both male and female household heads declared (male dominated) fishing activities as the most economically important activity for the household. Where women also participated in fishing related activities, fishing gained further importance at the household level as an income generating (both cash and subsistence) activity.

Much of the near-shore fishing activity (in and around the community) is related to work on the *cerco*. On any given day *cerco* crews, often a team of 4-5 men, embark their canoes to check the nets for fish landings. This occurs 3-4 times/day. When the *cerco* fishers are not out on the water they are on the beach, mending nets, or preparing the

² Multispecific, unselective, floating fish trap that targets both pelagic and demersal fish. It is elliptical in structure with an anchored bottom and a leader running to the shore that herds the fish toward the trap.

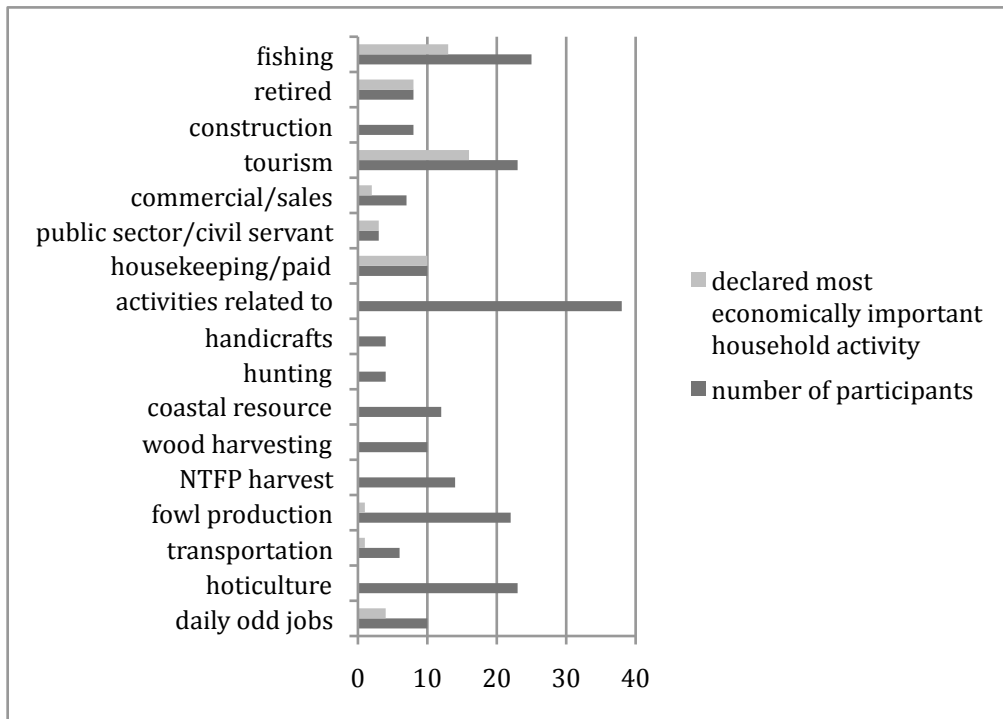


Figure 3.1 the number of individuals participating in each productive labour profile activity and the activity declared to be most economically important to the household. Interviewee may declare more than one activity (n=65) source: interview data

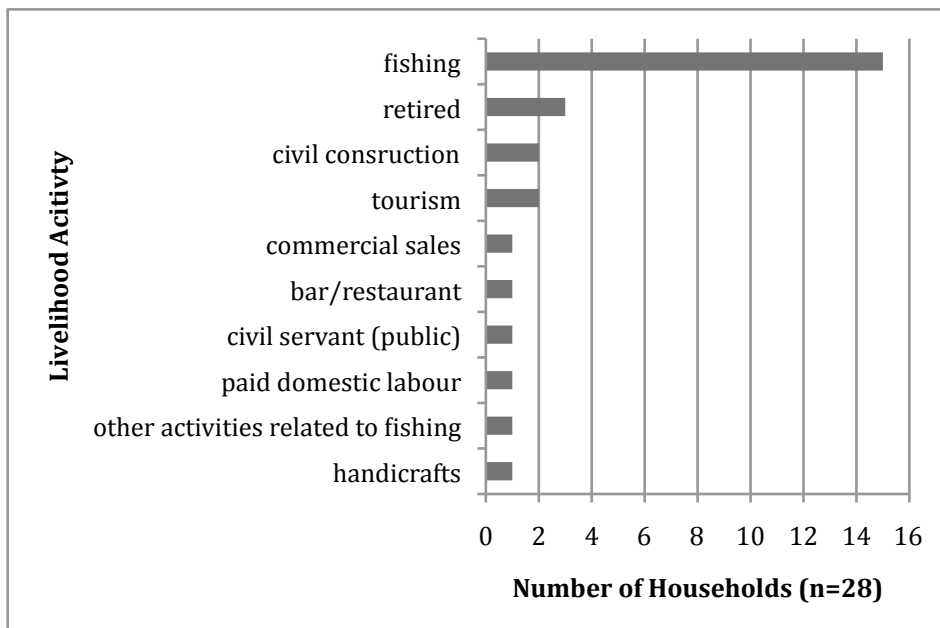


Figure 3.2 Principal economic activity declared for the household level (n=28) source: Hanazaki *et al.*, 2010 interview data

freezers for the coming catch. Although these are activities are dominated by men, there are some female participants.

Housekeeping, an activity often linked to tourism had 100% of participants (10 individuals) declare it as the most economically significant activity for their household. Eight of the 10 individuals are women and expressed that although fishing is the dominant activity in the community, tourism and the activities related to a service economy are also very important. In two instances both the male and female household heads care for someone else's house in partnership. In both cases it is a live-in situation with clear gender divisions in labour at the household level.

When [the homeowners] are not here we live in their house. When they are here we live in the [backhouse]. I take care of the *roça*³. I was fishing before [*cerco*] now I am not well enough to work on the *cerco*. [My wife] takes care of the house [cooking and cleaning] and [our] kids. She does the cooking and cleaning and I care for the *roça* when [homeowners] are in Paraty. RP 44

In this particular case the homeowners had once lived permanently in Ponta Negra and had since moved to Paraty. They were keeping their home and yard site for the occasional visit and had hired a local family to live in the home for general up-keep. Unlike all other temporary residents this particular family had a *roça*, home garden and fowl including both chickens and ducks. The female household head (of the hired family) does the cooking, cleaning and laundry while the male household head tends to the garden, and *roça*. There is overlap in activities, depending on the request of the employer and the current needs of the land. For example, during planting time all family members might work in the *roça*.

³ A land clearing where shifting agriculture is practiced.

In the majority of cases the housekeepers tended to the homes of temporary residents that purchased ‘cottage’ homes in Ponta Negra. These temporary residents were most often from Rio or Sao Paulo and only came to Ponta Negra during the holiday season.

While many women participated in paid domestic labour activities others were involved in horticulture, activities related to fishing, public employment and tourism. It was expressed by several female participants that they had more decision-making power over the money they earned themselves thus they felt that their ability to track their spending (often on food and children) contributed more to the household:

I like having my own work. I have my own money. I don’t have to wait for [male partner] to give me any. I don’t even know how much he makes. I can manage my own money and I don’t have to worry about how much he makes. RP03

I want to make my own money. It would be nice. It would help [male partner] and the kids. I want to be able to buy things for the kids. I don’t want to worry when I need new [sandals]. RP 16

I have my [account] and he has his [account]. That’s how it is. RP17

In our house we buy the groceries and then divide the money between us [RP25, male partner, brother and uncle]. RP25

All retired individuals declared retirement as the most economically important activity for the household. Five individuals (men) received a retirement income while three individuals that claimed retirement as the most economically important activity were the female partners to the male recipients. In all five cases retirement income came to those who had contributed many years of service as *embarcados*. In many cases retirement income is more than the wage of most people in Ponta Negra. It is also a secure source of income thus, many young men feel obligated to work as *embarcados* in order to secure old age retirement benefits.

Too few male-only headed households were interviewed to deduce that all male households would claim fishing as their primary activity. For the male only headed households (n= 2) that were interviewed fishing and tourism generated the most household income. No female-only headed households (n=4) declared fishing as the most important economic activity. The female-only headed households supported between two to eight children each. Often younger children (aged 6-15) participated in fishing as a subsistence activity for the household, but cash income came from paid domestic labour and tourism. Tourism and paid domestic labour were declared the most significant cash contribution to the household and were practiced along with a combination of subsistence activities including working on the *roça*, *lula* jigging, hook and line fishing and harvesting activities.

The aforementioned data looks at individual involvement in productive livelihood activities, however it does not necessarily shed light on the main day-to-day activities of individuals, or how individuals would describe spending the majority of their time. Figure 3.3 focuses on the self-declared main activity from the semi-structured interviews (n=28). The main activity can be productive or reproductive forms of labour. Individuals were not restricted to one category and in several cases gave multiple responses, particularly where their self-declared main activities were seasonal. Despite their participation in various productive and reproductive labour tasks, and although several declared more than one main activity, 14 of the 17 women interviewed declared '*dona de casa*⁴' as their main activity. In one case the male household head was permanently absent and the female household head worked full time in housekeeping (paid domestic labour) and still, she considered her primary role as '*dona de casa*', illustrating that individuals are socialized to conform to socially constructed gender roles (Fuwa, 2004). She also expressed some dependence on her absent male partners family:

I want more work. I take care of some properties but it's not really enough. I don't want to go to Paraty. I can't take [8] children to

⁴ *Dona de casa* refers to a social role consisting primarily of female reproductive labour including housework and childcare. In English it may be understood as a stay at home mother or homemaker.

Paraty. It's not safe. My [partners] family helps me a bit too. I work on the *roça* and I help make manioc flour. RP12

She went on to discuss her hopes of his return. She explained that the same hope of his immediate family meant that she was unable to move on and to establish an autonomous household (away from the absent male partner's family). The challenges for women to establish autonomous households are often due to a lack of economic opportunities, training or lack of education (Breen and Cooke, 2005). Almost half of the male interviewees declared fishing as their main activity while the other half were fairly evenly divided between tourism and horticulture. Several declared both fishing and tourism as their main activity explaining that their responsibilities change with the seasons.

Table 3.1 illustrates the total number of participants from the data set (n=65) for each aforementioned livelihood activity and the percentage of male and female participants. It is important to recognize that within each category of livelihood activities (e.g., fishing, horticulture, or tourism) the tasks that men and women perform differ. For example, Table 3.1 notes fishing as all of the self described modes of fishing in the community. It does not recognize the sectorized division of livelihood tasks. Table 3.1 shows that 52% of the interviewed population participates in fishing and that 38% of participants are women. Fifty-eight percent of the interviewed population participates in activities related to fishing and 37% of these individuals are women. While approximately 35% of participants are engaged in horticultural activities, and tourism related activities a similar number of men and women are represented. 37% and 34% of participants participate in resource harvesting activities and fowl production respectively with women representing approximately 60% of the participants in both activities.

More women than men participate in housekeeping and other forms of paid domestic labour. Although only 17% of the interviewed population identified housekeeping, out of that 80% of participants are women. There are very few participants in several of the other livelihood activities; it is notable that women dominate handicrafts and public sector jobs while men dominate transportation. The nature of the public sector jobs

cannot go unnoted in gender analysis. These three jobs are occupied by women and include, cleaning and maintenance, cooking for school children, and a health care assistant.

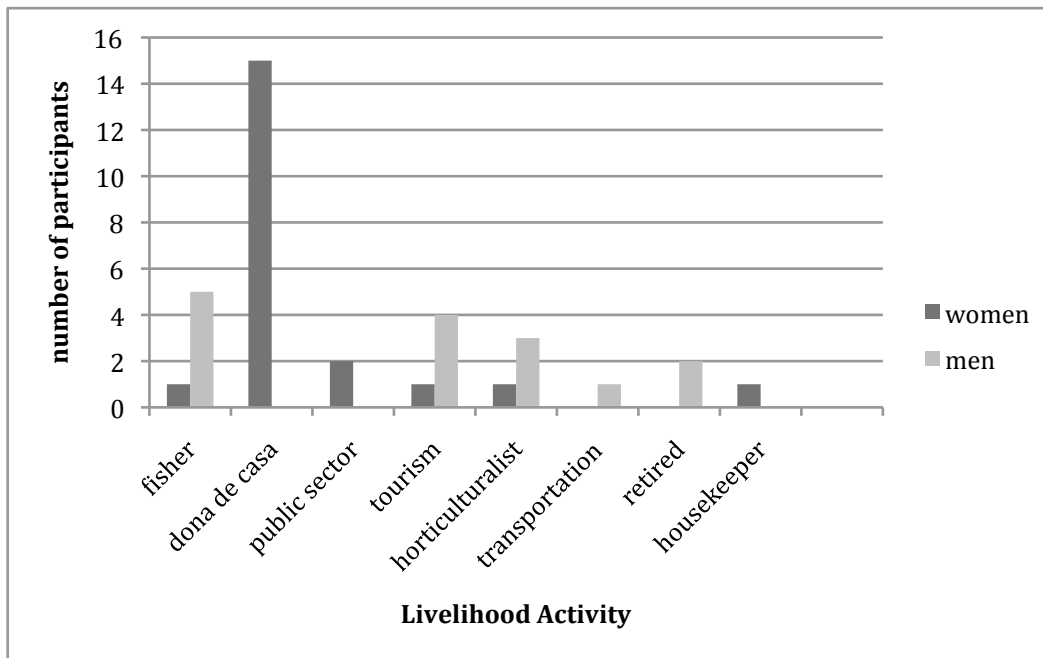


Figure 3.3 Self-declared main activity of semi-structured interview population (n=28). Interviewees may declare more than one activity source: interview data

Fishing and activities related to fishing

Fishing activities have been grouped into five categories (Figure 3.4). In order to avoid selecting only those fishing gears and techniques that represent male dominated near shore and offshore fishing (Bastos and Petrere, 2010; Weeratunge *et al.*, 2010) categories emerged in the field and include all of the self-declared fishing activities within the community. These categories were not altered or grouped together to suite already existing categories of fishing gears, rather, individuals, including both men and women, were able to self-define the fishing activities in their community. Thus, the groups are presented on the basis of fishing gear and technique, people, and species and include:

*cercos*⁵, gill net, hook and line fishing, *embarcados*⁶, and *lula*⁷ jigging. Upon arrival in the community the *cercos* appeared to be the most prominent fishing gear in the community. When the *cercos* are not in the water they can be seen sprawled on the beach. The beach is most frequently occupied by playing children while young boys and *cercos* workers mend nets, or *cercos* crews go out in dugout canoes to check the nets. *Cercos* workers are nearly all male, and thus the *cercos*-space on the beach is predominantly male.







Embarcados migrate for seasonal work and may move from one species fishery to another (sardines and shrimp) or from working away to working at home on the *cercos*, in tourism, horticulture, or construction. Movement is very common between work as an *embarcado* and *cercos* worker along with other work opportunities in the community. Not only does this occur seasonally within the year, but also individuals may also commit several years as an *embarcado* and later settle more permanently in the community as a *cercos* worker or in other work.










⁵ Multispecific, unselective, floating fish trap that targets both pelagic and demersal fish. It is elliptical in structure with an anchored bottom and a leader running to the shore that herds the fish toward the trap.

⁶ individuals that fish on board large ocean-going vessels. In this case, *embarcado* refers to industrial scale fishing including shrimp trawlers and sardine fisheries.

⁷ *Loligo plei* or *Loligo sanpaulensis* – Slender inshore squid (15-20 inches) caught in the inner shelf water off the coast of South and Southeastern Brazil during the hotter months (November-March)

Table 3.1 Livelihood activity participants (n=65) and the percentage of men vs. women from the participating population Source: interview data

Livelihood Activity	<div> <div></div> Women <div></div> Men </div>
Activities related to fishing	n=38  37% 63%
Fishing	n=35  38% 62%
Horticulture (includes shifting agriculture and home gardens)	n=24  48% 52%
Resource harvesting (excluding fishing)	n=24  58% 42%
Tourism	n=23  52% 48%
Fowl production	n=22  59% 41%

Housekeeping/other forms of paid domestic labour)	n=10 20%  80%
Daily odd jobs	n=10  50% 50%
Retired	n=8  37% 63%
Construction	n=8  12% 88%
Commercial/sales	n=7 29%  71%
Transportation	n=6  0% 100%
Handicrafts	n=4  0% 100%
Hunting	n=4  0% 100%
Public Sector	n=3  0% 100%

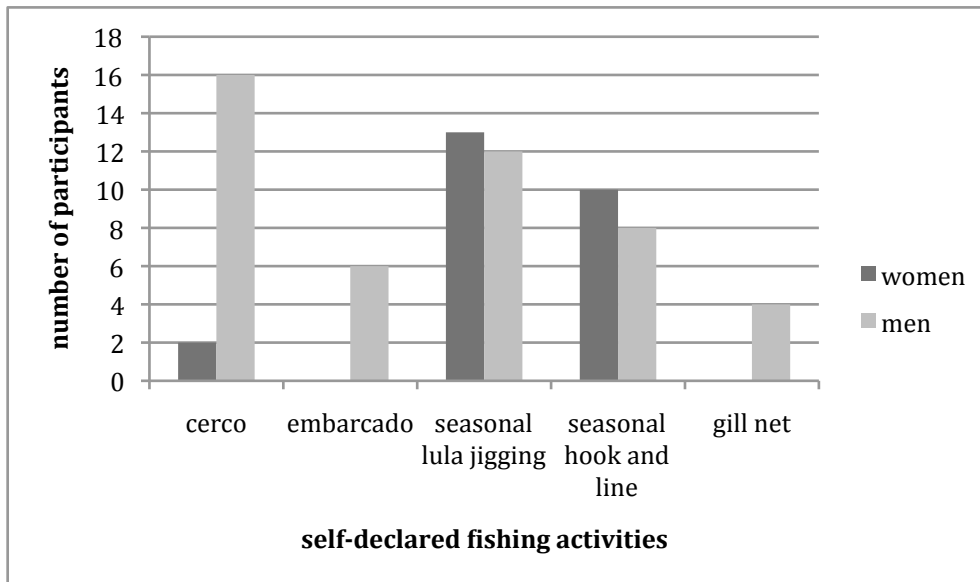


Figure 3.4 Fishing activities of men and women in Ponta Negra (n=35) Source: interview data

I was 13 or 14 when I started working as an *embarcado* [sardines]. Before that I worked on a *cerco*. I returned here and a few months later I went to work as an *embarcado* again. First sardines then *dorado* and *corvina*. After I got married I only worked one month as an *embarcado*. I was 25. I returned to Ponta Negra and I worked on the *cerco* here. I worked on a few different *cercos*. Later I started working in construction and then as a tourist guide. I took a course.
RP 15

Cercos are worked all year, with the hotter months (December-June) being more productive than the colder months (July-November). Some families pull their *cercos* from the water in September and October to work in the *roça*. *Cercos* along with *embarcados* are the most economically significant fishing activities in the community (see Figure 3.5 and Figure 3.6).

Although not recognized by means of government permits and identification cards, seasonal *lula* jiggers and hook and line fishers make up the largest proportion of fishers in the community with high proportions of men, women and children as young as six years old participating. Like the *cerco* and *embarcado* both *lula* jigging and hook and line

fishing are seasonal. *Lula* jigging is practiced between November and March with variation in start and end dates and with frequency and duration of occurrence, while hook and line fishing, although practiced sporadically all year, draws more participants during the colder months when the *cerco* catches are low. Unlike the *cerco* and *embarcados*, *lula* and hook and line fishing are not necessarily full time, professionalized activities. Rather they are practiced as both cash and subsistence activities and are often very lucrative. As a cash generating activity *lula* jigging provides more opportunities than hook and line fishing. Most hook and line fishing in the community happens along the shore where low value fish species are caught. While some individuals are able to hook and line fish from a boat or canoe for high value species such as grouper, most do not have the time or resources for such activity. This kind of hook and line fishing is much less common than hook and line fishing as a subsistence activity. *Lula* on the other hand is of high value and relatively easy to catch given access to a canoe. Tourist operators who want to sell *lula* through their tourist operations provide individuals who would otherwise not have access to a canoe with canoes and boats. Second to *lula* jigging and hook and line fishing for total numbers of participants are *cerco* workers and *embarcados*. When the participant count is divided into men and women (Figure 3.4) the largest numbers of women participants are in seasonal *lula* jigging using dugout canoes (Figure 3.6) and seasonal hook and line fishing, most frequently from the coast. Women are not represented in gill net fishers or *embarcados* and there are only two women that declare themselves as *cerco* owner or worker. In both cases where women self declared as *cerco* owners they are partnered with men who also work and manage the *cerco*.

Activities related to fishing include net making, checking the nets, repairing nets and boats, transporting fish from Ponta Negra to the nearest pick up (owners of fish markets) and bringing ice to Ponta Negra. All of these tasks, with the exception of net making, are almost always performed exclusively by *cerco* owners and workers and are often the responsibility of *cerco* workers. In instances where repairs and transportation are not related to the *cerco*, male household heads or other men/young boys in the community are reported to participate in these activities. Furthermore, *cerco* workers perform net

mending on the beach, while almost all adult members of the community perform net making at home. Individuals often referred to net making/mending as an activity performed during down time, when there was “nothing else to do”, while others dedicated a part of each day to net making. The large pieces of hand made net are sold to *cercos* owners (who provide the necessary materials) by the fathom (approximately 6 feet or an arm span) and stitched into the net by *cercos* workers.

Men fish more than women. On average men fish more days than women with the greatest amount of time spent in commercial or professionalized forms of fishing (*cercos*, *embarcados*, and gill nets). At the time of my fieldwork, one woman was actively involved in working a family *cercos*; another woman described her recent work on a *cercos* but explained that she had to refrain from working on the *cercos* because of a bad knee. She found it difficult to paddle out (done while standing) and then take on the pressure applied while trying to bring in the nets.

I used to work on the *cercos*. I worked on [RP01] *cercos* last year. I stopped because I have a bad knee and it hurts to stand in the canoe. I would work the *cercos* again if my knee were better. RP08

During the colder months of August-October, when the *cercos* landings are much lower than usual, *cercos*, particularly those that are operated by families rather than employees are pulled from the water. Efforts are transferred to other activities including horticulture, *embarcados* (going to work as crew on industrial fishing boats), and odd jobs including contract construction work and sporadic contract work and guiding in tourism during the off season. During this time subsistence hook and line fishing gains in importance. The women explained that during the fruitful months of the *cercos* it is not necessary to fish with hook and line and they either receive or (in fewer cases) purchase fish from the *cercos*:

I fish [hook and line] now [September] because there isn't much in the *cercos*. It's really [bad] right now. This time of year is the hardest. RP22

During [warmer months] we sometimes purchase fish from the cercos. We get most of our fish using [hook and line]. RP13

During these months, many men seek work and are hired to work on offshore fishing boats as *embarcados* and women and children participate in several subsistence activities including hook and line fishing.



Figure 3.5 *Cerco* workers repairing their net Photo Credit: L. Carpenter



Figure 3.6 Dugout canoes used for the *cerco* and *lula* jigging Photo Credit: L. Carpenter

Horticulture

Horticultural activities are divided into *roça* owner/manager and those that work on family *roça*. There are also individuals that manage home gardens. Home gardens here refer to gardens located around the home that are used to produce food. Figure 3.7 illustrates the horticultural activities of both men and women in Ponta Negra.

Most of the participants in horticultural activities are not *roça* owners/managers but are part of the extended family that assists with labour intensive tasks on the *roça* for a return of foodstuffs including, primarily, manioc flour. Much of the work is seasonal, including clearing, weeding, planting, harvesting and processing, thus the *roça* workers are not constantly occupied by work on the *roça*. While their efforts, including land clearing, may require lots of labour, planting can be performed by a group of five individuals within a few days (plot sizes vary – this number is based on multiple responses). After

planting several weeks pass before more work is required for weeding and several months or even years may pass before harvesting and processing (making flour).

Twice as many men as women consider themselves to be *roça* owners/managers. This is in part because plots are either 'established' by the male household head or passed down patrilineally. Where women do consider themselves as *roça* owners/managers they do so with a male partner or spouse. There are no plots managed exclusively by women. Several men manage their own plots and seek labour assistance from immediate and extended family members during clearing and planting. Inversely, there are twice as many women than men that are exclusively '*roça* workers'. Men are fishing the *cerco*, seasonally migrate to work as *embarcados*, or absent for other reasons and it is household kin networks (mostly women) that fill the labour deficit on the *roça*. *Roça* workers aid the plot owners/managers in the clearing of plots, planting, weeding, harvesting and the processing of bitter manioc into flour. While the plot owners/managers make decisions about how to manage the plots they also decide on the distribution of products from the plot with preference given to those that helped with the clearing, planting and weeding. This almost always occurred within the immediate family unit. For example, where the senior male household head was the *roça* owner, food was given to his immediate family that extended to the third generation. In some cases, family members traveled to neighbouring communities to help other family members with planting. For example, the neighbouring community of *Cairuçu* is home to only a few people; most have migrated out of the very isolated community, many to Ponta Negra. The members of one extended family unit made the two-hour hike from Ponta Negra to the community of *Cairuçu* to help plant on family land. The daughter, son-in-law and niece traveled to help their father/father-in-law/uncle. Later, these same individuals traveled to Posou da Cajaíba to help their sister/sister in-law with planting. This trip however was opportunistic. Posou da Cajaíba is fairly far from Ponta Negra (two day hike) but the male household head from Ponta Negra works as a guide for tourists who want to hike through the reserve thus creating an opportunity to stop in the community over-night to help with planting.

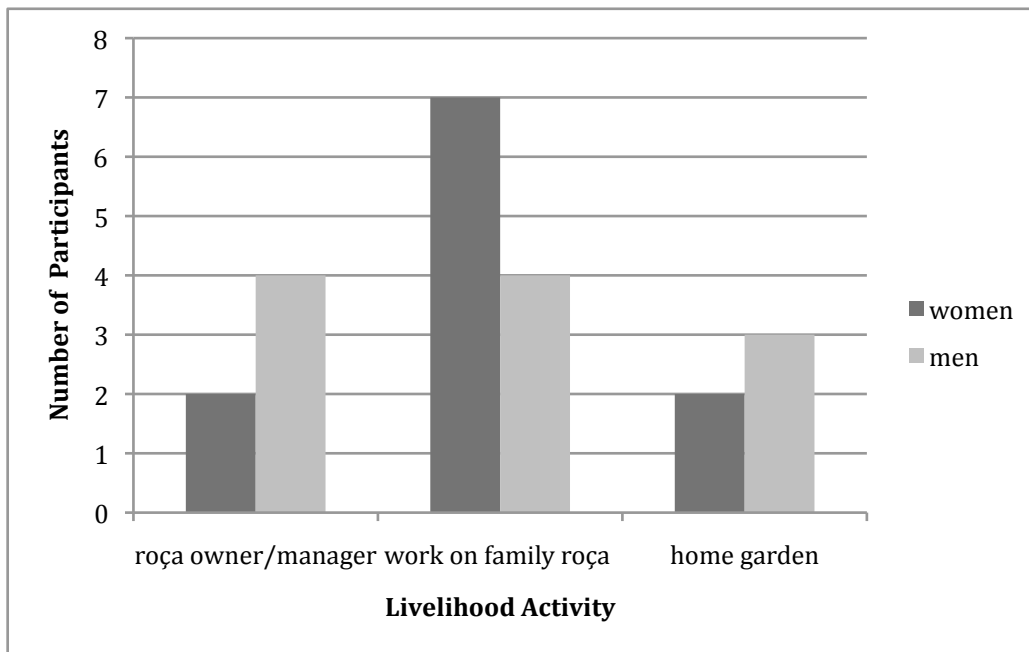


Figure 3.7 Horticultural activities of men and women in Ponta Negra (n=23) source: interview data

Home gardens that are represented under horticulture are those home gardens that provide food. In some cases home gardens resemble mini *roças* where the crops grown are limited to sweet manioc and beans. Home gardens also include cultivated fruit trees (as opposed to those that are not cultivated or cared for), greens, root vegetables, orchids and herbs. Participants generally dismissed orchards as an important source of food because of the difficulty experienced in caring for orchards and protecting orchards from vandalism. It was generally considered not worth the effort and much of the fruit that was grown was done in the yard or garden. Nearly equal numbers of men and women manage home gardens (often, where a home garden was present, both household heads declared the home garden as part of their subsistence livelihood activities). However, seasonal labour migration by men leaves women to fill the responsibility of care for the home garden when men are away. Generally home gardens do not make up a large proportion of the food consumed by the household. Individuals had different reasons for

cultivating gardens including their inability to access their own *roça* to grow manioc because of protected areas restrictions or the inconvenience of establishing a plot (distance, shortage of labour, land).

As mentioned previously several households had cultivated areas inside of their yard sites that they referred to as home gardens but that resembled mini- *roças* with only sweet and bitter manioc being cultivated.

We grow [manioc] here because we don't really have anywhere else to grow it. We can help [my father] on his *roça* and he gives us [manioc] but we like to have our own space here to have some food.
RP06

Three households had raised bed gardens where they cultivated leafy greens to supplement their diet. The soil for these gardens was harvested from the silted streambed or in areas of rock outcrops where the soil was protected from leaching by the rain. They were also covered in old fishnets to protect them from a variety of grazers including both birds and children. The most common style of home gardens are yard gardens with a variety of fruit trees including banana, jack fruit, avocado, papaya and pineapple (passively cared for) with a variety of orchids, peppers and some medicinal plants (for teas) that did not significantly increase individuals and household access to food. Unless grown close to home accessing leafy greens and fresh vegetables is difficult because they are perishable (particularly in the humid tropics). Transporting fruits and vegetables from Paraty is simply not practical for many people.

There is some uncertainty amongst the research participants about the degree to which they can practice shifting agriculture and further develop plots in the region. Ponta Negra is located in the Juatinga Ecological Reserve, an 80 sq km reserve that encompasses the entire point of Juatinga (see Figure 5.1). Under the Sistema Nacional de Unidades de Conservação da Natureza (SNUC) ecological reserves are strictly protected, with biodiversity conservation as the principle objective (*proteção integral*). However,

ecological reserves are no longer an official category under SNUC, thus the protected area in which the community is located is up for reclassification. As far as the community was concerned (nobody had any information on reclassification at the time of my fieldwork) many resource-based livelihood activities were restricted in Ponta Negra. For example, all individuals that manage a *roça* mentioned IBAMA and the protected area designation and the negative impacts of the reserve on their opportunities to expand or even continue their horticultural activities in the region. During the time of my fieldwork (June – Oct 2010) nobody mentioned reclassification of the ecological reserve, assuming that the area was still fully protected under the jurisdiction of IBAMA. Participant's felt not only restricted in their ability to develop and maintain *roças*, but home gardens as well:

We can't plant [*roça*] on virgin forest but we can on fallow plots or forest that isn't in great condition. I have my *roça* from my father.
RP28

IBAMA says we can't have a *roça* but then where do I plant. I can't just plant anywhere it has to be the right place. I plant because I have to. RP20

[IBAMA] came and told me to take my garden out. They said I could not have a garden there [in front of participants house in Ponta Negra]. I don't know. It was only a few feet from my house. I don't know where I am allowed to plant a garden. RP08

I think we have to plant gardens because we can't keep a *roça* [restricted]. RP06

The issue regarding the ecological reserve and the resulting restriction on livelihood activities came up several times throughout the research and will come up again in this thesis. Specifically, in Chapter 5, there will be emphasis placed on the perceived restrictions on harvesting activities, hunting, and community development.

Tourism, housekeeping & other forms of paid domestic labour

Tourism, housekeeping and other forms of paid domestic labour have been grouped together because there is some overlap with permanent residents performing domestic labour duties for seasonal residents of the community. A large percentage of the interviewed population is employed seasonally (December –March) in tourism. Much of the work is service based and includes transportation, guiding, and domestic work (cleaning, laundry and meal preparation). Figure 3.8 shows the tourism employment profile of men and women in Ponta Negra. Tourism profiles are subdivided into tourism operators, and tourism employees that are engaged full time and part time between December and March. Part-time tourism employees also include those individuals who rent out their home for short periods of time during the season. This has become a popular, competitive practice, with many individuals doing home renovations, and building themselves a secondary home either to live in or to rent for the short tourism season. Most individuals involved in tourism work seasonally, are part time employees working on temporary contracts as day labourers, or for several days at a time. The majority of the part time employees are women with the majority of jobs in cooking, cleaning, serving, and housekeeping. Often, this short seasonal employment makes up a large proportion of individual and household incomes. Tourism increasingly is the only employment that some individuals have all year, particularly women. Many women in the community suggested that tourism contracts provided them with the only wage labour they would find all year. This provided them with a small amount of money over which most of the women commanded decision-making power. On average, during the December-March season, and more specifically in December and January around the holiday season, women reported making R500 (CAD \$300) for 10 days of work.

There are approximately six tourism operators in the community. While four of these individuals live permanently in Ponta Negra, one lives in Sao Paulo and the other in Paraty. All of the tourism operators have a higher level of education than that which is available in Ponta Negra. Four of the operators actively advertise through web-sites and

other advertising campaigns and at least two are using social media including Facebook, making their services available to people all over the globe. These individuals are those that hire the majority of the part-time, seasonal workers in the community. Several of these individuals stated their intent of creating a more diverse economy through social enterprise but this idea was not completely developed or understood in the community. The tourism operators are those individuals who run larger tourist accommodations and provide food and transport services. Here, those individuals that rent their home opportunistically are not considered tourism operators.

Furthermore, as Figure 3.9 below shows, along with operating and running accommodations for tourists, and the related services, transportation is a lucrative business during the tourism season. During this time, specifically around Christmas (Dec), New Years (Jan) and Carnival (Feb) many of the boats normally used to transport fish are diverted and used to move people between Praia do Sono, Laranjeiras and Ponta Negra. For many families this can be the largest percentage of their annual income, surpassing the income from fishing the *cerco*, or as an *embarcado* combined. The boats are driven and owned by men. In one case a women declared ownership over a boat, however, either a male family member or community member drove the boat. The transport service is either contracted out to someone in the community with 50 percent of the proceeds going to the boat owner and the other 50 to the driver, or done by the boat owners themselves.

In this case, again all the drivers are men. On their own boat several individuals reported making R3000-5000 (CAD 1800-3000) in two weeks, surpassing what they might make working a whole season as an *embarcado*. This total does not include the cost of gas and if this were a rented boat the income would be split between the driver and the owner. Furthermore, there are only a few (approximately five) individuals/households who have boats to provide this service. Nevertheless, several individuals made more money from the short tourism season than their annual fishing income.

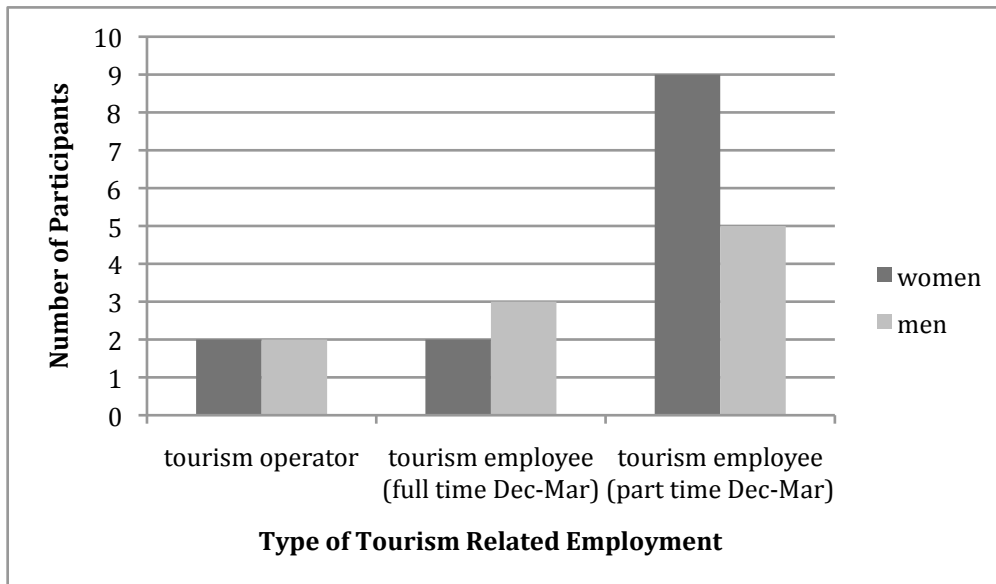


Figure 3.8. Tourism profile of men and women in Ponta Negra (n=23) Source: interview data

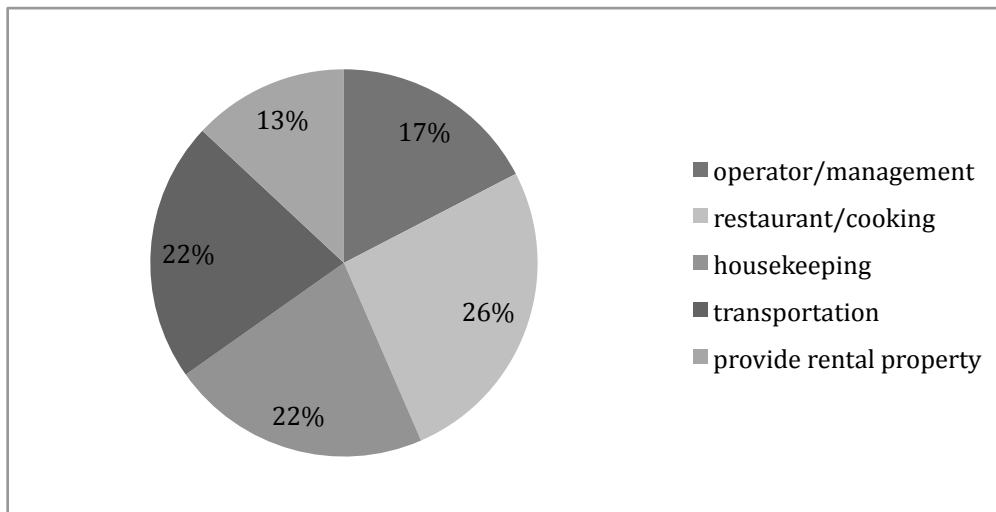


Figure 3.9 Tourism profile of Ponta Negra (n=23) Source: interview data

Many women reported housekeeping as an important livelihood activity. For some women housekeeping is performed all year, for either temporary residents and in fewer cases, permanent community residents. During the tourism season, more women are employed in housekeeping, either for tourism operators (those who own bars, restaurants,

and rental properties), or as housekeepers for their own homes, rented out opportunistically during the high tourism season (Dec-Mar). During this time, if a family rents their house they will either stay with other family members, or move to a secondary home constructed for this purpose. Participants also reported that if these options are not available they could stay in the community centre.

Resource harvesting

Figure 3.10 illustrates the number of individuals involved in specific resource harvesting activities in Ponta Negra. The different uses of Non-timber forest products (NTFPs) for food, medicinal use, wood for home construction, furniture, agricultural implements, canoes, paddles, kitchen tools, and artisanal crafts, are present along with coastal resource harvesting (crabs, mussels and sea urchins), and hunting. Because fishing has been categorized separately, resource harvesting does not include fishing. When asked to talk about what they harvested participants provided multiple responses and illustrated when and with whom these harvesting activities took place.

Overall, the majority of individuals that reported resource-harvesting activities reported collecting NTFPs for food consumption. The collection of *coco preto*⁸ and *palmito*⁹ were reported more frequently than any other harvesting activity (Figure 3.10). *Coco preto* and *palmito* are both harvested for home consumption and *palmito* is often used as a substitute for fish, chicken or other protein. Through participant observation I observed *palmito* harvest being practiced: 1) for community celebrations or other special occasions; 2) opportunistically while already in the forest, or when individuals had free time; and 3) for meal supplementing when no other food was available or where there was a preference for *palmito*. Nearly equal numbers of men and women reported harvesting both *coco preto* and *palmito*.

⁸ unidentified spiny palm species with small coconut-like fruits

⁹ *Euterpe edulis* Mart. - Heart-of-palm is a wild, edible palm with a wide distribution throughout the Atlantic Rainforest.

Palmito harvest was seen as an activity that was restricted or prohibited by the protected area designation. On several occasion, and during harvesting trips individuals expressed grievances over the restriction and fear of the consequences of *palmito* harvest:

Only *Caiçara* can collect palm. We can only collect what we are going to eat. I've heard we aren't supposed to take any, but I think we can take it [for consumption]. RP09

We can take what we will eat. People worry most about taking *palmito*. RP17

Other harvesting activities had fewer participants and were more gendered. Generally men do the harvesting of wood for construction purposes, and for canoe and paddle making. While only men reported hunting activity, higher numbers of women are involved in coastal harvesting activities. Many of the harvesting activities reported below were practiced opportunistically. Second to *coco preto* and *palmito* is wood harvesting for personal home construction and contracted work. Wood harvesting for tools, agriculture implements and handicrafts was regularly practiced but only to fill personal and community needs. Wood is also harvested for canoes and canoe paddles however this is not as common and, like other harvesting activities, is seen as restricted under the ecological reserve designation:

I rent a canoe to get *lula*. I can't make [my own] canoe. IBAMA restricts us from using wood to make canoes. I'm afraid of getting in trouble with IBAMA, and I am afraid that if I [harvest wood for a canoe], others in the community will be mad. RP22

If we want to make a canoe we have to use a tree that has fallen down. The trees we need [*Inga*] do not just fall down. RP10

The people who live here were not considered when the reserve was established. Sometimes I think we have been cut of from our resources intentionally. They [government and condo residents] don't want any more growth here. I don't fish, but if I wanted to I would have to build a canoe. If people can't build canoes then how can they fish? RP26

For many the collection of coastal resources was also practiced as a pastime, performed when there was “nothing to do” and for “something to do”. Often costal harvesting activities were treated as an outing, performed most often during a full moon when tides were at their lowest. Harvested coastal resources were either consumed during the harvesting trip (away from the community) or shortly after returning. Not only did individuals treat coastal harvesting as a leisure activity but it was also a way to access specific, culturally appropriate foods or to supplement the household diet particularly at specific times of year when there was less fish available.

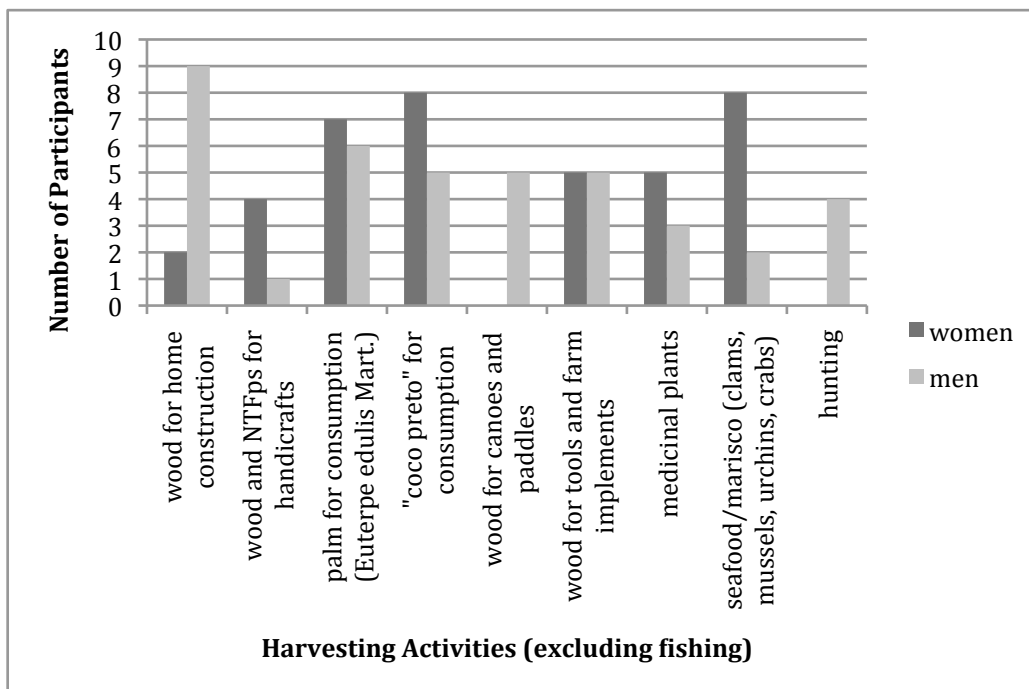


Fig 3.10 Resource harvesting activities in Ponta Negra (n=24) Source: interview and field data

Remittance Income: Seasonal, Temporary and Permanent Migration

Several forms of labour migration are present in the community including: seasonal migration (practiced by *embarcados*), temporary migration where individuals and complete households leave Ponta Negra to work in Paraty and surrounding nearby communities, and permanent migration where individuals have made permanent and

semi-permanent (no planned return date) moves to Paraty and the surrounding area, or larger urban centers such as Rio de Janeiro and Sao Paulo. The majority of these individuals send home some form of remittance income.

Although there are some individuals and families who migrate more permanently for work, the greatest amount of remittance income comes from seasonal labour migration of *embarcados*. Although not all working *embarcados* were available for interview, several individuals through preliminary interviews and informal conversation were able to provide insight into the role of *embarcados* and the resulting income in the community. Furthermore, many of the men that participated in semi-structured interviews had once worked as *embarcados* and at least five people were living off of the resulting pension income:

It is common for young people [men] to go work as *embarcados*, make some money and then come back and invest in the community [*cerco*] later. When you have young kids you have to make money somehow. RP28

I don't want to do it [work as an *embarcado*] anymore, but what can I do. I have two kids and a wife. I send money home. I will do it for one more year, maybe two and then that's it. It's hard to be away from your kids. You know? I can work on the *cerco* or something. Or we [female partner] can open a small bar. The money in tourism is better. RP55

Most people [men] work as *embarcados* at some point in their life. It's one way to make money. RP24

He [male partner] sends money home when he can. Sometimes they [*embarcados*] make more, sometimes less, but he always sends some through a bank transfer. He will call me and then I have to go to Paraty to get it [at the bank]. RP03

The importance of remittance income was not obvious from the onset of the fieldwork as the actions of those individuals were not apparent through participant observation but rather through informal conversation and interviews. Remittance income was designated

as an important form on cash income for the community. *Embarcados* was a frequently self-identified fishing category in the community (often inclusive of *cerco* worker). In fact, many of the elders in the community (of one family in particular) had found there way to Ponta Negra by means of industrial fishing boats. As *embarcados* from the sate of Bahia they had landed in Ponta Negra, only to call it their home base as they continued to be employed by industrial fishing boats in the region. Most of the industrial fishing boats and community *embarcados* leave from the port in Santos, a three-hour bus ride from Paraty.

Men are not the only ones that send home remittance income. Several informal conversations with one female participant who worked as a health care aide just outside of Paraty discussed her experience with permanent migration from Ponta Negra to Paraty. These conversations took place in Paraty:

We have a house in Ponta Negra [male partner lives their alone]. I came to Paraty to help my daughters [living in Paraty]. They couldn't pay for everything themselves, especially with the kids [both daughters are single and have young children]. I go home [Ponta Negra] once every two weeks and on holidays. I live here [Paraty]. I'm not sure if I can afford to move back [Ponta Negra] yet. I don't give money [male partner] much money but I spend money on our business, up-keep of the house and food when I go. RP 00

Conversations were had with other women who saw a need for employment outside of Ponta Negra so they could send money back to their families. For some individuals this was something they had done in the past, for weeks, months or years at a time, in order to help their households.

I worked in Santos before I was married. I worked in someone's house as a housekeeper for two year. I would send some money home for my family. Since I've been married I haven't worked away. RP16

This study does not have detailed information on household out migration and remittance receipt, however research participants did talk about the importance of migrating for

work and the lack of employment opportunities in the community. It has been argued that remittance may change the hours worked and/or the type of work performed in the receiving economy (Amuedo-Doranted and Pozo, 2006). In Ponta Negra increased amounts of remittance income, earned by young migrant workers, may lead to decreased investment in subsistence income by both male and female household heads. While individual's sought work opportunities outside of the community for cash income, they did not seek the same return in subsistence income from work opportunities in the community.

Reproductive labour

Reproductive labour, sometimes referred to as domestic labour, in this study includes the various tasks of maintaining a household and providing care for others, namely children, the sick and the elderly. The community reproductive labour profiles are complex with several reproductive tasks falling to several members of the household. For the purposes of defining reproductive labour, individuals were asked to outline the tasks performed by a '*dona de casa*' (self described as 'those that take care of the home and children' and a 'primary' activity of nearly all women interviewed), and to discuss the responsibilities of care, either for children, the sick or the elderly. After outlining the particular tasks, (e.g., washing the dishes and clothes, cooking, cleaning, and caring for children) participants, both male and female, were asked whether or not they performed these tasks.

When given the opportunity, almost all of the women who participated in the semi-structured interviews declared '*dona de casa*' as their 'main' activity. When asked to describe the daily tasks performed in their role as '*dona de casa*' most individuals spoke about caring for their home. Despite having children, generally only women with young children (younger than school age) spoke directly about child-care. Others spoke about child-care indirectly, suggesting that their responsibilities for child-care were performed indirectly through doing the family laundry, cooking meals for the family, and keeping the home clean. However, when children were old enough that they did not require

constant supervision. In many cases, in households with older children (above the age of 5) household duties and responsibility of care were divided amongst the children. Those women with young children, or fewer (one or two) children generally spent more time doing 'housework' or tasks related to care for the home and children. Women who had older children, and more children (three or more) often spent fewer hours performing 'domestic' duties. In some cases older children also became responsible for the care of young children and female household heads would perform other livelihood functions, including productive labour tasks.

Most female household heads suggested they spent a few hours (3-4) a day performing reproductive labour tasks involving general duties including cooking, cleaning and laundry. More difficult for the women was defining the terms and conditions of the 'care' work they perform. For some this work was ongoing, particularly for those individuals with small children or elderly parents, while for others whose children had grown it was easier to define. Laundry days were often more involved and could take all day in some cases. Men were never seen participating in particular domestic duties including laundry. As mentioned earlier, women with older children performed other tasks throughout the day. Although these tasks contributed to the overall livelihood activity profile of the household (horticultural activities, harvesting, fishing), many women considered these activities to be secondary, opportunistic, or leisurely. Other paid activities such as housekeeping were viewed as important opportunities for wage employment and although not necessarily designated as primary, were nevertheless very important to those who managed that income and thus important for the overall well being of the household.

Although the majority of domestic labourers are women, men did also participate. Particularly, young men, who were not household heads helped with several domestic activities although young women were more likely to be active participants. In cases where female household heads and children were absent from the household men performed domestic duties or they would employ someone in the community to perform these tasks for them. In several cases, when women left the home for paid work the

reproductive activities in the home were not renegotiated and are still performed predominantly by women and children. In some cases women expressed ease at renegotiating household tasks based on seasonal livelihood activities, whereas others expressed that only if they fell ill would they be able to renegotiate specific livelihood tasks. Only in their physical inability to perform their tasks had domestic labour been negotiated. Both old and young participants alike expressed this sentiment:

I cook and clean. He knows how to make coffee. Once, I was away from the community. I was ill and had to go to a doctor's appointment. He didn't eat for two days. If I am sick though, [male partner] will make coffee, rice and beans and do some cleaning. RP23

[Male partner] helped with housework when I was pregnant. I do most of the work though. RP04

I cook and clean when [female partner] is in Paraty. I don't make anything special though. Usually just rice and beans. Sometimes fish or chicken. RP19

Only in the physical absence of, or the illness of the female household head did male household heads take on the majority of domestic activities. Again, almost all women in the semi-structured interviews identify their main activity as 'housewives' and the associated activities suggesting that only in their physical absence will someone else take on these roles.

Conclusion

This chapter has argued that the sustainability of rural/coastal livelihoods depends on a diversity of activities and resources. The focus of this chapter has been on the livelihood portfolio of individuals in Ponta Negra with some emphasis on the division of livelihood tasks among men and women. Both cash and subsistence activities are important to the community. Although individual subsistence activities (e.g., harvesting and horticulture) may not contribute vast amounts of cash income to the household the combined return of

household subsistence activities can significantly contribute to household net income. It is also critical to recognize the importance of remittance income in creating sustainable livelihoods for the region. Remittance income is not always apparent in the context of natural resource based livelihood dependency however, seasonal, temporary and permanent migration are an important part of livelihoods in the region.

While at the household and community level, fishing, tourism and agriculture are all very important components of the productive labour profile, reproductive forms of labour also need to be discussed and explored as part of the larger livelihoods picture. Women, the primary reproductive labourers have a diverse set of livelihood activities, combining the responsibilities of productive and reproductive labour. These gendered livelihood activity profiles are explored in detail in Chapter 4.

CHAPTER 4: GENDER ROLES AND RELATIONS



Planting manioc (stem cutting) in the family *roça*.

Sketch: Laurie Carpenter 2011 ©

There is a clear gender division in livelihood activities between the men and women of Ponta Negra. Not only is there a division between both productive and reproductive labour, where women are more involved in reproductive labour, but there is also a clear gender division in livelihood activities within sectors (e.g., fishing, tourism, horticulture). Like men, women practice occupational pluralism and frequently move from one livelihood activity to the next. Unlike men, women are less likely to link themselves predominantly to one productive labour sector (e.g., fishing) and often have a more diverse livelihood portfolio, participating in a number of productive and reproductive labour tasks over the year.

In addressing Objective 2, this chapter explores the influence of gender roles and relations and the gendered division of labour in livelihood activities, with particular focus on gender effects within the household or family unit. Firstly, I will review gender theory and the use of gender analysis frameworks. I will then focus on the livelihood portfolios of the women of Ponta Negra, focusing on reproductive forms of labour including housework and childcare, and productive forms of labour including fishing, activities related to fishing, horticulture, tourism, domestic activities related to tourism, and resource harvesting activities including NTFPs and coastal harvesting. I will also explore issues relating to gender relations and bargaining power. I will conclude by discussing seasonal and life course changes in livelihood activity portfolios as they relate to gender.

Overview of Gender Theory

Sex refers to the biological differences between men and women while gender refers to the socially acquired notions of masculinity and femininity by which women and men are identified (Momsen, 2004). Gender is defined as:

... the relations between men and women, both perceptual and material. Gender is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. It

is a central organizing principle of societies, and often governs the processes of production and reproduction, consumption and distribution. (FAO, 2005: 13)

These notions are reinforced by traditions that continue to socialize individuals around these respective constructions of gender roles and relations (Helmore and Singh, 2001). Gender is a concept that aids in our understanding of how society operates, through the study of the negotiation of power and influence between men and women (Bennett, 2005). Because gender is a socio-cultural construct it changes with time and space, and through human interaction, is constantly created and re-created (Lorber, 1994).

The application of a gendered perspective to livelihoods challenges the unitary model of the household. When considering intra-household dynamics such as gender, it becomes apparent that household members may not share common preferences and interests (Agarwal, 1998) nor do men and women have the same ownership or control over assets (Ellis, 2000a). Ownership and control over land is a critical attribute to individual livelihood capabilities. Worldwide, women tend to have less ownership and control over assets, the most fundamental asset in many cases being land (Ellis, 2000a). In her book *A field of one's own: gender and land rights in South Asia*, Bina Agarwal (1994: 2) argues that "...women's struggle for their legitimate share in landed property can prove to be the single most critical entry point for women's empowerment." This is just one example of the control of physical capital that can be important for future income streams (Ellis, 2000a).

Exploring male and female gender, or masculinity and femininity, means looking at divergent trajectories and the different life courses of men and women. This allows for a better understanding of how both intra- and extra-household relations change over time (Murray, 2002). In the context of Ponta Negra, this was discovered repeatedly when male and female household heads responded differently to questions regarding, for example the 'most economically important household activity'. In several cases male and female respondents of the same household provided different answers. Where this occurred,

each household head regarded their own livelihood activity/activities, for which they had more control, as more important than livelihood activities performed by others.

Agarwal (1998) argues that the unitary household model used in development policy has directed economic resources mainly to male household heads, and has assumed that the resources will be shared, and shared equitably among household members. However, income-spending patterns of men and women of the same household have shown significant gender differences in control and decision-making power. Women's spending tends to focus on their family's basic needs and men spend a significant portion of their income on personal goods. Women and men are likely to differ also in their capacity, authority or availability to participate in livelihoods analysis or livelihoods interventions.

In informing the larger IDRC funded project, and thus focusing on fisheries as one aspect of the livelihood portfolio, it must be acknowledged that in most countries, fisheries management is based on the relationships of individual resource users with government agencies (Jentoft, 2000) and has historically ignored community, household and intra-household level dynamics in strategic planning. Marine fisheries are commonly held to be the domain of men with the analysis of socioeconomic structures of fishing reflecting a male centered bias (Bennett, 2005; Thiessen *et al.*, 1992; Williams, 2010). The lack of a gendered analysis of coastal livelihoods, including, but not limited to fishing, can lead to mismanagement as policy interventions that will inevitably miss their target of creating sustainable livelihoods at the household and community level (Bennett, 2005). Therefore it is important to focus on the larger livelihood picture as it relates to intra-household, gender issues. In the past, in the fishing 'sector', policy makers and researchers have often overlooked the social space of women (Bennett, 2005; Chapman 1987; Jentoft, 1999) even though gender dynamics are central to understanding livelihoods and bringing to light the central role of women in resource management (Bennett, 2005).

The work that has been done regarding gender and fisheries has shown that women significantly contribute to the community work that supports the fishing economy, household work that provides a support system for fishers, and various activities directly related to fishing (fishing, harvesting, processing, marketing) (Bennett, 2005; Bennett *et al.*, 2004; Binkley, 2005; Grant, 2004; Maneschy and Alvares, 2005; Nayak, 2005). Although the aforementioned work has been done regarding gender and fisheries, Bennett (2005) outlines three reasons for the lack of literature on women's roles in fisheries. First, the goals of solving problems of 'over-exploitation' are a dominant part of national policy agendas that address marine resources. The type of work and research that looks at 'over-exploitation' is focused on the catching sector, which is male dominated, rather than on the processing or household sector which is female dominated (Bennett, 2005; Choo *et. al*, 2008; Harrison, 2000; Williams, 2008). This would hold true for Ponta Negra, where sector based studies do not necessarily recognize the diversity of livelihood activities upon which the community depends, with fishing only making up a small part of individual livelihood portfolios. Secondly, researchers in the field often miss the bigger livelihood picture. Often research that purports to be gender neutral misses the female narrative (Bennett, 2005; Jentoft 2000). There is work that focuses exclusive on 'women and fisheries'. Although this provides information on what women do such work can also further marginalize gender issues (Harrison, 2000; Williams, 2008) by not focusing on the gender relations of men and women. Cultural norms and assumptions about gender roles may leave the researcher with only the male perspective. Lastly, information gathered regarding fisheries is often not divided along gender lines, making it difficult to collect information regarding gender roles in the fisheries sector.

Gender Roles and Relations: Decision Making and Bargaining Power

The examination of gender in a livelihoods context suggests that different tasks are divided along the lines of socially constructed gender roles (Fuwa, 2004). Gender roles are often conditioned by household structure, access to resources, as well as locally relevant factors including ecological conditions (FAO, 2005). Gender roles, along with

being socially constructed, are learned, dynamic, multi-faceted, and influenced by class, age, ethnicity and religious practice (FAO, 2001).

Gender relations refer to the ways in which a society defines rights, responsibilities, and the identities of men and women in relation to one another (FAO, 2005). A focus on gender relations aids in understanding why roles take the forms they do, and help to define gender in relational terms as the power relations between women and men or between femininity and masculinity (Gregson *et al.*, 1997). An important component of gender relations and gender theory is the concepts of bargaining power (Agarwal, 2001). Bargaining interactions between parties, (i.e., men and women) contain elements of both cooperation and conflict where the outcome depends on the bargaining power of each party (Agarwal, 2001). Furthermore, "...livelihoods and well-being are increasingly conceptualized as partly the outcome of negotiations and bargaining between individuals with unequal power within households" (Murray, 2002: 495). Understanding the determinants of bargaining power can create an understanding of individual power and control over particular resources and different asset categories.

Valdiva and Gilles (2001) argue that different assets, and forms of capital, crucial to livelihood and survival strategies, are clearly gendered. The five asset categories outlined in the livelihoods approach; human, natural, financial, social, and physical capital are obtained through the investment of time and resources by individual household members. Much of one's power to obtain each form of capital depends on power of negotiation (bargaining power) in the household and the gender relations within the household (Valdiva and Gilles, 2001). In much of the world, men retain greater access to each form of capital, particularly natural, financial and physical forms of capital. This allows men to increase their ability to diversify their livelihood and increase their bargaining power at the micro (individual and household) and macro (community) level (Ellis, 2000a).

Valdiva and Gilles (2001) suggest that women's roles in reproductive activities, where time is invested directly in the production of goods destined to increase household

wellbeing, play an important role in increasing human (nutrition and education), social (strengthening social relations) and cultural capital. Furthermore, several studies have found that where women exercise increased control over other forms of capital, including economic income, predominantly through their own paid employment, the more effective her care for herself and her children (Engle, 1993; Lamontagne *et. al.*, 1997; Smith *et. al.*, 2003). For example, in a study by Lamontagne *et. al.*, (1997: 403) that looks at maternal employment and child nutrition in Managua, Nicaragua, concluded that “... children of employed mothers (56%) fared *better* in weight/height than those whose mothers were not employed, with and without controlling for socioeconomic status and maternal education, paternal financial support, child care adequacy, and sex and age of the child.”

Other studies, including one done by Okwuani and Sychindran (2003) acknowledge that many women working for cash income are absent from the home and thus household well-being may be decreased due to women’s absence from the home. However, they also argue that where women are present in the home and experience increased bargaining power at the household level there is an increase in household well being, particularly for women and children.

Productive Labour and Reproductive Labour

Production and reproduction is a division between the monetary “productive” economy and the non-monetary “reproductive” (Pearson, 2000). Reproductive labour is most often equated to housework but might also include ‘emotional work’ or ‘care work’. For the purposes of this thesis the term reproductive labour will include ‘emotional work’ including caring for children, the elderly and those that are unfit to care for themselves. The difference between reproductive labour (domestic work, child care and care for the sick and elderly) and productive labour (paid work, self-employment, and subsistence production) comes originally from the work of Karl Marx and Friedrich Engels, who suggested reproductive labour was necessary to maintain productive labour (Duffy, 2007).

Reproductive and productive forms of labour are often used in gender analysis to identify gendered occupational segregation with women performing the bulk of the reproductive labour tasks and men performing the bulk of the productive labour tasks (Duffy, 2007). Both productive and reproductive labours are forms of ‘work’ (Gregson *et al.*, 1997). The importance of reproductive work cannot be understated. As stated in Acker (2004: 25), productive and reproductive forms of labour depend on each other, “The ability of money to mobilize labour power for ‘productive work’ depends on the operation of some non-monetary set of social relations to mobilize labour power for ‘reproductive work.’”

The history of production and reproduction as it relates to the state and the history of capitalism, particularly in Euro-American countries is much too large to be covered in this thesis. It is nevertheless an important aspect of the gendered nature of livelihoods in a globalizing world and an important area of work that addresses underlying issues of patriarchy and an economic paradigm of privatization and profiteering.

Gender Analysis Framework

Gender analysis is defined as:

...the study of the different roles of women and men to understand what they do, what resources they have, and what their needs and priorities are.”(FAO, 2001: 2)

The aim of gender analysis as a research tool is to make social roles and relations explicit; to make clear how ‘male’ and ‘female’ are defined in a given context and their normative roles, duties and responsibilities (Meijerink *et al.*, 2001). Gender analysis can be done using several different frameworks, and can be made to fit the scope or scale of different projects (Meijerink *et al.*, 2001). This thesis used a gender analysis framework adapted from the Asian Development Bank (2006), as detailed in Chapter 2 on methods. Understanding what it is that individuals do (livelihood activities), and what resources individuals have access and control over is an essential point to begin gender analysis work. While gender analysis can include gender issues with respect to social relations,

activities, access and control, and needs, the primary focus of my research was on the activity profile with attention paid to access and control issues and needs. For the purpose of my research, activities refer to the gender division of labour in productive and reproductive work within the household and community.

Elmhirst and Resurreccion (2008) discuss two frameworks for gender analysis that are commonly used in recent gender and development-related literature: liberal correctness to gender-blind scholarship within development policy, and practice and relational perspectives that emphasize binary power relations between men and women. Davis and Nadel-Klein (1992) go further to outline three different frameworks for gender analysis that are present in maritime ethnographic literature. These approaches include two binary approaches and a third approach that does not see gender as a binary divider of society. These approaches are:

- 1) focusing on the lives of women as separate or distinct from the lives of men;
- 2) focusing on gender, as signifies the differences between power and marginalization;
- 3) seeing gender as simply the description of the spheres around which society operates. (Davis and Nadel-Klein, 1992: 51)

These frameworks can be used to illustrate that men and women hold gender-differentiated interests in natural resource management through their socially constructed distinctive roles, responsibilities and knowledge. Gender is thus understood as a critical variable in shaping processes of viable livelihoods and the prospects for sustainable development (Elmhirst and Resurreccion, 2008).

Guided by the Sustainable Livelihoods (SL) framework (Carney, 2002; DFID, 2004), I used a gender analysis tool that follows a binary approach, focusing on the lives of women as separate or distinct from the lives of men (Figure 2.2) (Davis and Nadel-Klein, 1992). A binary approach to gender analysis is not appropriate in all cultural contexts. Gender is a socio-cultural concept that is largely based on European, western

philosophical traditions (Bennett, 2005), and so is binary approaches. However, within the context of Southeastern Brazil and the Paraty region, where previous studies have demonstrated fisheries as a male dominated sector (Begossi *et. al.*, 2009), using a binary approach allowed for clear classifications of both men's and women's work, with regard to the domestic and productive activities of women within and for the household.

Where the Women Are: From the Landscape to the Seascape

Results from the livelihood activity gender analysis, the “who does what?” questions, show that the women of Ponta Negra often have a more diverse livelihood portfolio than the men of Ponta Negra. Although both women and men share in many livelihood activities, there is a clear gender division in relation to productive and reproductive labour.

Figure 4.1 outlines women's work and men's work as reported by the interviewed population (n=28) and illustrates primary, self-declared activities. Activities are divided into unpaid reproductive labour (domestic labour), domestic tasks in the wage economy and productive labour. Raw data showing specific tasks can be found in Appendix E and Appendix F. Women were sometimes hesitant to declare housework and childcare as ‘work’ but it was the number one response when participants were prompted for their primary activities. When prompted to identify their individual productive and reproductive labour activities, as opposed to their primary activity (generally associated with the social role of *dona de casa*) women had a wider variety of activities than men. In many cases men were quick to declare fishing as their only ‘primary’ livelihood activity, even when probed for further activities. Here, fishing includes the use of various types of gear including, predominantly *cerco*, hook and line and gill nets. It also includes *embarcados*. In most cases resource harvesting, hook and line fishing, and *lula* jigging were not declared as ‘work’ activities although, many individuals frequently practiced them. In requesting primary activities these activities were rarely acknowledged, but were later mentioned when discussing ‘secondary’ livelihood activities. Interview data

suggests that the reason for this are four-fold: 1) in asking participants to declare a primary activity, the research undermines the diversity of individual livelihood portfolios and creates a ‘professionalized’ category of livelihood activities i.e., fishing; 2) the aforementioned activities identified as ‘secondary’ are predominantly female activities; 3) the activities are seasonal and sometimes opportunistic in nature; and 4) the activities are seen by many as ‘non-professionalized’-‘non-work’ activities and thus are not mentioned as primary livelihood activities.

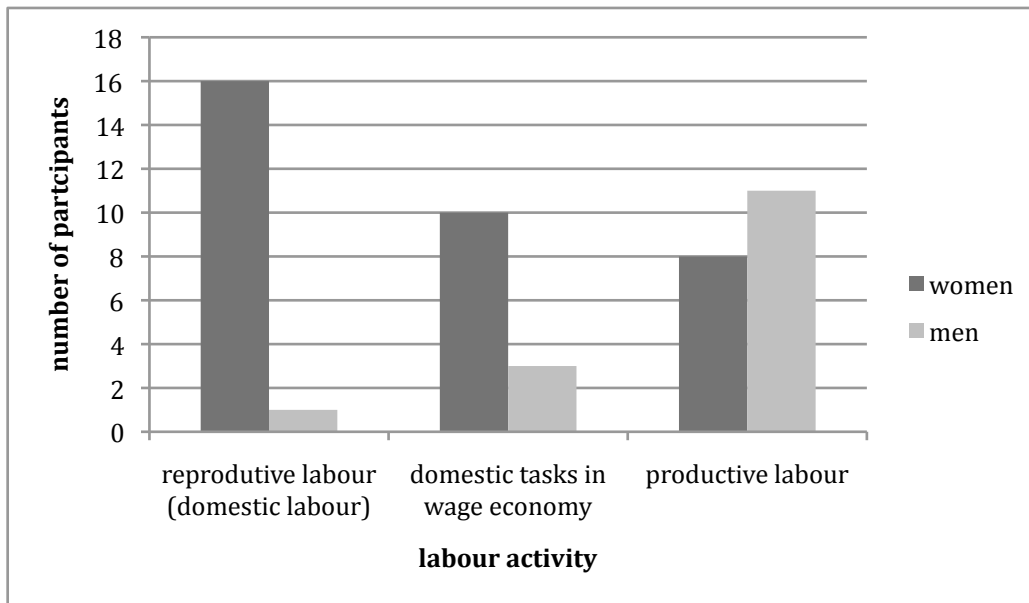


Figure 4.1 women’s work and men’s work as reported by the interviewed population (n=28) (women n=17; men n=11)

Also, *cerco* net making was rarely declared as a livelihood activity although almost all individuals interviewed are involved in making nets. Whether or not individuals declared activities as primary was also dependent on whether or not they were included in a ‘professionalized’ livelihood. For example, where individuals worked a *cerco*, despite their involvement in other activities, they were unlikely to consider anything but the *cerco* as primary. Working a *cerco* is time consuming. *Cerco* workers check the nets at least three times per day. When they are not checking the nets they are mending nets, collecting ice, repairing and moving canoes etc., leaving little time for other activities.

Although *cerco* workers participated in other livelihood activities these activities (i.e., harvesting) took up such a small percentage of their time and provided only a small amount of subsistence income. Both men and women (mostly women) that were not involved in fishing or other ‘professionalized’ activities were more likely to describe several activities both primary (i.e., those of a *dona de casa*) and secondary, including several subsistence activities or activities rarely considered economically important by others, including net making. While productive wage-based labour, specifically that which is more secure and constant (i.e., fisheries) is predominantly male work and considered primary, predominantly female productive work tends to be that which is non-professional, temporary and opportunistic. It is often seen as more leisurely and part of domestic life and was not always identified by the participants without prompting. It was seen as a different form of work from that which is performed within the productive realm.

Housework & Childcare

The majority of women who participated in the semi-structured interviews identified their primary activity as ‘*dona de casa*’. This was irrespective of the diversity of their livelihood portfolio. Although the activities of a ‘*dona de casa*’ are not exclusive of other livelihood activities, many individuals, when given the opportunity declared ‘*dona de casa*’ as their ‘main’ or primary activity. This is a social role as well as representative of a range of domestic activities. As described by the participants, their duties as housewives include childcare for young children, house cleaning and general home maintenance, doing dishes, food preparation and cooking (including cleaning fish), and doing laundry. In several cases, where women were occupied by productive labour outside of the home male household heads, older children, or hired help would perform reproductive labour activities (the latter two being more common). Where both male and female household heads were occupied full time by wage labour, or other forms of productive labour much of the reproductive labour tasks still fell to the female household head or older (often female) children. In two out of 18 households of which the research participants were

part of, the renegotiation of household work was discussed. In one case the female household head had work that took her out of the community for days at a time. The male household head took on the duties of cooking and cleaning. In one other case, in a family without small children, the female household head worked outside of the home and the male household head assumed cooking duties. The male household head also ran a cerco and a tourism operation along with his female counterpart. Another woman in the community was hired to do the cleaning and to help with the other domestic duties of the house. Food preparation and house cleaning were, at times, more easily negotiated between men and women in some households, however, it was apparent through participant observation that childcare for young children and laundry were in all observed cases the exclusive domain of women.

Women did not report spending more than a few hours a day on the aforementioned reproductive livelihood activities, excluding of course care for young children, and care of the sick or elderly. Laundry days (once a week) were often more involved and could take all day in some cases. For women who did not have young children, they did not report spending more than 3 hours a day on the aforementioned tasks, leaving them with free time to participate in other productive livelihood activities including paid domestic labour, paid activities related to tourism, working in the family *roça* or home garden, and fishing.

Some women expressed having lots of free time. During much of this free time women would socialize in and around the home with neighbours and other women. Less often women would go to the beach to socialize. Men on the other hand spent much of their social time on the beach. In some cases, women would finish their reproductive livelihood tasks and then aid other family members, both male and female, with their reproductive and productive labour tasks. In this way, women could be found aiding their male counterparts on the beach with fishing related tasks (i.e., passively mending nets). It was not uncommon to see women labouring with their husbands where work was available. Women were also found in the homes of other family members or friends

aiding with reproductive activities such as cooking and childcare. Also, more often than men, women were in the local school helping the children with school events such as making banners and streamers for community gatherings. Women were also the main volunteers for community parties/gatherings doing much of the cooking and preparation. Although the local teacher was male and was also very active in planning events for the school, he was posted from Paraty and did not live permanently in the community.

In many cases participants alluded to the idea that there was a practical division of labour and that the gender roles were what made sense for the community. The practicality of gender roles is not to suggest that men and women have equal decision-making power over what is practical. Women expressed an interest in having their men help them with reproductive labour activities, but also suggested that in most instances, they did not have time because they were occupied with other, necessary, work. As suggested by Davis (1983) the sexual division of labour appears to be complementary as opposed to hierarchical (although this may be changing), with women's 'domestic' work being no less productive or essential than the economic contributions of men. This was particularly evident where the household experienced a shortage of wage labour and depended on the daily combined efforts of men and women inside and around the home to make a livelihood. Where this was not as evident, and perhaps where there is a shift in gender relations, is when one family member was removed from the local context (*embarcados*), or where individuals were employed full time in wage labour that removed them from the community or from performing multiple livelihood activities. The structure of the local economy impacts gender relations. There are several different economies at the household level: 1) Where the economy is centered in and around the home; 2) Where the economy is centered less in and around the home and is becoming more dependent on wage labour accessible from the community; and 3) Where the economy is centered on inputs from external capitalist-economies. All women who declared themselves as housewives were "...full fledged and accomplished workers within the home-based economy" (Davis, 1983) however, this sentiment was stronger among women who were part of a household that depended more heavily on subsistence income and the economy

was centered in and around the home. Davis (1983) discusses the pre-industrial era when the economy was centered in and around the home. Some parallels can be drawn between Ponta Negra and other pre-industrial economies where the economy is centered in and around the home. Ponta Negra is a transition economy where household economies and gender roles are changing with increased access to external markets and wage labour:

...during the pre-industrial era, the economy itself had been centered in the home and its surrounding farmland. While men had tilled the land (often aided by their wives), the women had been manufacturers, producing fabric, clothing, candles, soap and practically all other family necessities. Women's place had indeed been in the home – but not simply because they bore and reared children or ministered to their husbands needs. They had been productive workers within the home economy and their labour had been no less respected than their men's. (Davis 1983: 32)

Men's ongoing participation in reproductive labour seemed to be isolated to collective, community childcare. Both observational data and interview data suggest that men are active in collective childcare at the community level of older (>5 years old) children however, ultimately they are not responsible for the children. For example, when children are on the beach, individual community members take on supervisory responsibility of those children. This may occur with the biological parents, extended family members or neighbours. In the home however, women and men considered women the primary care givers of children young and old.

Horticulture

As mentioned in Chapter 3, horticultural activities include both work done on the *roça* and work done in home gardens. While both men and women participate in both *roça* and home garden work, including sharing in the same activities (clearing, planting, weeding, harvesting and making flour) (see Figure 4.2) it is clear that in Ponta Negra women make up much of the labour needed to maintain a shifting agriculture plot. Women are the predominant labour at hand, as part of an extended family unit that helps to maintain the

plots. With a shift from the land to the sea (i.e., banana export to fish export) and towards a wage based economy (*embarcados* and *cercos*), and more recently because of uncertainties around the protected area designation, individuals began working in the professionalized fishing sector (predominantly men), leaving more women and children to work and maintain the plots.

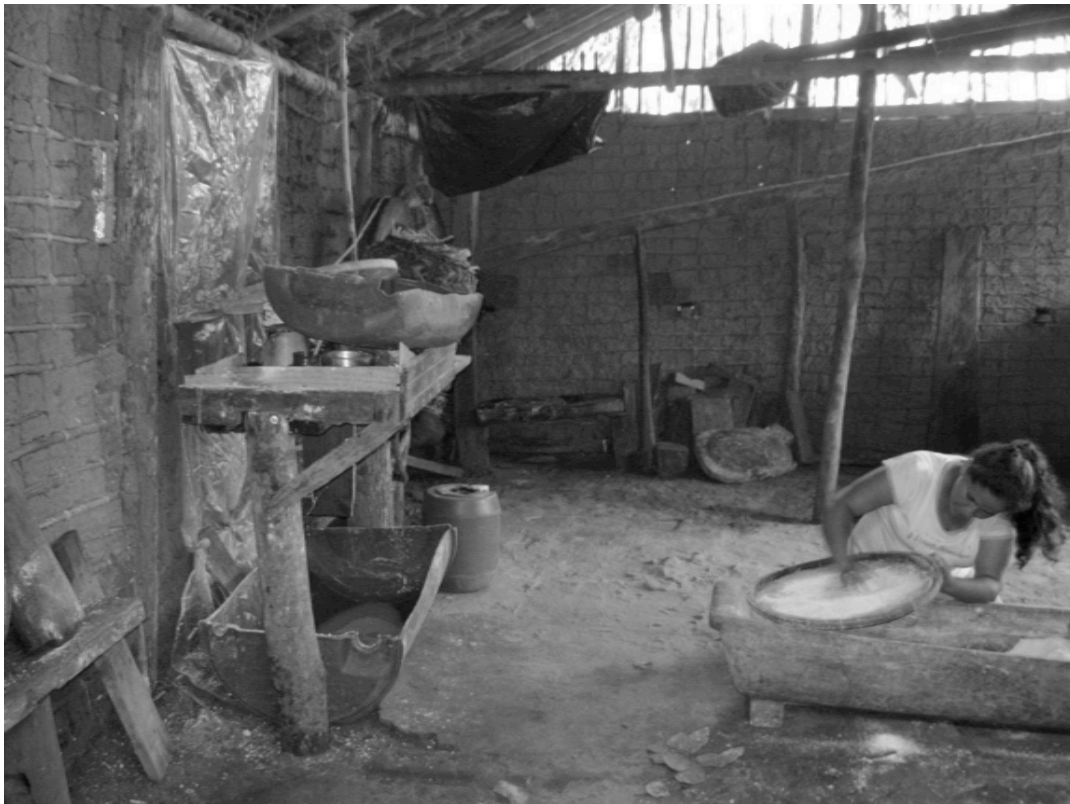


Figure 4.2. Resident of Ponta Negra making manioc flour from bitter manioc produced on her family *roça*. Photo Credit: L.Carpenter

This is consistent with global trends outlined by Pearson (2000) suggesting that a gendered redistribution of labour in agriculture is occurring in much of the developing world. The feminization of agricultural labour reflects the expanding opportunities for men outside of agriculture in higher paid off farm work, and as migrant workers. While more women than men are workers on their family *roça*, more men than women still consider themselves to be *roça* owners/managers. In three cases the *roça* owners are older men. In two other cases the *roça* has been passed to a younger (30s) male family

member. Several of the individuals who are *roça* owners /managers consider themselves to be from the ‘old’ generation with more than half of the plots owned and managed by individuals over the age of 60.

Much of the help needed to maintain the plot comes from the next generation of female family members and their children, with a clear shift in livelihood activities occurring between one generation and the next. In other words, there are fewer young men willing or able to take on the responsibilities of a plot, or that find there is a need for it. Although there seems to be a general trend away from shifting agriculture, a couple of young families are attempting to start/continue with their *roça*. This is happening in spite of the protected area designation and a general lack of labour to help in clearing and planting.

Individuals gave several reasons for maintaining their family *roça*: 1) it is their way of life; 2) They do not have enough money to purchase food all year (most people buy their staples from Paraty); and 3) eco-cultural tourism (income from tour groups coming to see manioc flour processing). Extended family members, including both women and children, and some men aid the plot owners/managers in the clearing of plots, planting, weeding, harvesting and the production of goods such as manioc flour. Much of the work done on the plot is done in exchange for a portion of the harvest, which in most cases is manioc flour. Several female headed households that helped in the *roça* suggested that this was a necessary means to obtain much needed food supplies, while others suggested it was something to do when no other work was available and only until they could find employment elsewhere. *Roça* workers and those that had ownership over the plots were almost always part of the same immediate family unit (not necessarily the same household), with some extended family member participation.

Nearly equal numbers of men and women manage home gardens (see Figure 4.3). In some cases one home garden is managed and cared for by both household heads. Because of the garden’s proximity to the home, where male household heads were not available to attend to home gardens, either because they worked outside of the community or were

employed full time working on a *cerco*, women managed the gardens. It was made clear, through participant responses and participant observation that there was not a clear gender division in managing home gardens and that convenience of care (i.e., whomever was available) dictated who cared for the garden.

Paid domestic labour and tourism

At least 17 women in the community, as part of their productive labour profile have found employment in paid domestic labour for both permanent and temporary residents of Ponta Negra, as well as for tourists and tourism operators. Paid domestic labour refers to those tasks considered to be ‘housework’ or ‘housekeeping’ and includes cooking, cleaning and laundry. ‘Housekeeping’ was reported by many women to be an important livelihood activity, one where they were able to receive payment and manage their own income. In most cases, it was the only area where they could find paid employment in the community. This is due largely to the general lack of paid employment in the community and because of community isolation. For some women, housekeeping is performed all year, for temporary residents and in fewer cases, permanent community residents. During the tourism season, more women are employed in ‘housekeeping’ either by tourism operators (those who own bars, restaurants, and rental properties), or as ‘housekeepers’ for their own homes, used periodically as rental properties during the high tourism season (Dec-Mar).

Under the guise of tourism, an industry that is becoming very important in Ponta Negra, the importance of paid domestic labour, including housekeeping, cooking and laundry might be lost. In fact, paid domestic labour is one of the most important ‘paid’ livelihood activities for many women in Ponta Negra (Figure 4.4). At the community and



Figure 4.3. Home garden in Ponta Negra Photo Credit: L. Carpenter

household level (for most households, particularly those with a male and female head) it makes up a large percentage of community and household income however, at the individual level it is the only income over which many individuals (8/10 female participants) have full control. Although the tourism season is relatively short (December-March) the homes of temporary residents and absentee tourism operators must be cared for. Monthly, these homes and accommodations are aired out, and their linens put out in the sun or washed. The local climate and extreme humidity make it necessary for these properties to be periodically opened up. Often the women that do these jobs are paid a monthly salary (e.g., R200¹⁰) to perform these tasks and keep an eye on the properties. Thus, when asking individual participants to declare the most important productive livelihood activity for their household several women reported their paid domestic labour activities, despite the male heads of the same households reporting this to be fishing.

¹⁰ Brazilian Real is the local currency. One Brazilian Real is \$0.56 Canadian as of October 2011.

Resource harvesting from the land

Resource harvesting from the land includes timber harvest for the construction of homes, canoes, paddles, artisanal handy-crafts, and horticultural implements, hunting, and non-timber forest products (NTFPs) including: *palmito*, *coco preto*, medicinal plants, flowers, lianas for basket making, etc. Overall, the majority of individuals that reported resource-harvesting activities reported timber and NTFPs for food consumption including both *coco preto* and *palmito*. These two plants were reported more frequently than any other NTFP. Nearly equal numbers of men and women reported harvesting both *coco preto* and *palmito*. Other harvesting activities including timber harvest and hunting were more gendered than the NTFP harvest. Men dominate timber-harvesting activities although women do accompany men to harvest timber. While men do most of the felling, on two occasions women reported helping transport timber. Only men reported hunting. Because of the exclusivity of hunting in the community, and the consequences of hunting under the protected areas designation, it was not readily discussed, thus it is difficult to understand the gendered nature of this activity. Only a very small number of individuals were willing to discuss the nature of hunting in the community. Only two of the participants (both men) said they actively hunted, while other participants, upon being questioned about hunting suggested that very few people still practiced hunting. On one occasion, while overnight on the *roça* I observed several young men in the community out on a hunt. These individuals, because of their age, were not included in the interview process although they were related to one of the ‘active’ hunters. No female hunters were identified, nor did I observe any female hunters.

Gathering of *palmito* for consumption and *coco preto* were performed for various reasons including home consumption when there was a lack of other foods (fish, other meats), for festivities and for leisure. Interview data suggested that both men and women practice the harvesting of *coco preto* and *palmito* equally. During field observations women seemed



Figure 4.4 An example of a tourism/temporary residents dwelling in Ponta Negra. Local residents often care for these properties. In most cases women are contracted for this work.

the primary harvesters of *coco preto* and *palmito*, however observation was only done with a small group of women who harvested frequently. Others in the community, although they declared harvesting *coco preto* and *palmito* were not seen actively participating. Seasonal labour migration may have attributed to lower numbers of individuals harvesting during the time of my field season (winter). However, participants suggested that even lower participation rates occur during the summer months during the tourism season and when the *cercos* are at their most productive. While *coco preto* was more openly harvested in the community by men, women and children, *palmito* was less widely harvested over-all. Through several opportunities to see the harvesting of *palmito* for home consumption it seemed that a core group of female harvesters are responsible for the bulk harvest of NTFP foodstuffs (including *palmito*) in the community. On several occasions harvesting was treated more leisurely however, on at least three occasions three female harvesters identified household food shortages. This may reflect

what Agarwal (1998) was suggesting when discussing that women's spending tends to focus on their family's basic needs while men spend a significant portion of their income on personal goods. In this case, energy expenditure is invested in providing for the households basic food needs when other forms of food, including fish from the *cerco* are not available. Instead of investing times in other income generating activities, women focus on food procurement to ensure the immediate food needs of the household.

Resource harvesting from the sea: Hook and line, *lula* and coastal harvest

Women play an important role in fisheries not only as supporting the fishery through other forms of productive and reproductive labour, but also as active participants in fishing related activities. Women's work, as it relates to fishing is not explicit within the self-identified primary tasks but women do play a significant role in resource harvesting and fishing related activities. Throughout the study it became apparent that while women do not dominate work on the *cerco* (although a small number do participate) or as *embarcados*, women do play an important role in hook and line fishing (done mainly for household consumption) and *lula* jigging. Women also participate in large numbers in net making and in smaller numbers in coastal harvesting. As mentioned in Chapter 3, fishing activities have been divided into five categories. These categories were established in the field and include all of the self-declared fishing activities within the community whether or not they were declared as 'primary' and include: *cercos*, *embarcados*, gill nets, *lula* jigging, and hook and line fishing.

As noted, men dominate the commercial and professionalized forms of fishing (*cercos*, *embarcados*, and gill nets), while women play a particularly important role in *lula* jigging and subsistence fishing using hook and line (see Figure 4.5). Children are also important participants in the female dominated categories of fishing. Many key community members including fishers, community organizers and tourism operators describe *lula* jigging as financially lucrative, fun and intrinsically important. They expressed the importance of *lula* in both economical terms and in terms of the food security it provides

to both community residents and tourism operators. It is an important time of year and in the month leading up to the start of the season it was discussed often.

The price of *lula* fluctuates depending on supply. Near the beginning of the season *lula* can sell for up to R9/kilo (CAD 5.00). When quantities increase prices decrease both at the local and regional levels down to R5/kilo (CAD 3.00) with higher prices being received at the local level. On a good day it is possible to retrieve 10-20 kg. The best *lula* jigger in the community (a woman) is reported to have harvested 40kg in one day. This creates incentive for people to start jigging as soon as the season opens in order to secure higher prices and also to catch *lula* to be sold locally rather than transported. Almost all of the *lula* caught can be sold locally to tourism operators and local consumers. This means that the *lula* does not have to be stored and put on ice before sale, nor does it have to be transported by motorboat to Laranjeiras (30 minute boat ride). Only the use of a canoe and a *lula* jig is needed.

Lula jigging is seasonal, occurring periodically between November and March depending on the weather. Jigging is most commonly done from a canoe, with individuals handling up to four lines at a time (two in each hand). Female participants described this as an activity that “everybody” participates in, with more than one individual per canoe. Where individuals do not have access to a canoe (either through ownership, kinship, or a rental agreement) participating is difficult if not impossible. Where women did not participate they were not accustomed to the practice, lacked access to the proper gear, or had very little experience on the water and thus lacked the necessary skills, did not need the financial return, or as in several cases, did not enjoy the activity. Several women suggested that jigging, unlike other forms of fishing, was also possible with very young children. On good days, *lula* jigging is a full day (12 hours) activity, with participants preparing for a full day on the water. Jigging is adaptable however, and individuals come off the water as necessary as explained by two female participants:

I jig. I still have to work the *cerco* though so I go early in the morning to jig, around 6. Then at 8 I check the *cerco*. I go out to jig

again. I come and go maybe 3 times during the day. We have to check the *cerco* three times. RP25

During the season I catch *lula* all day. I would go out all day if I could. Sometimes people are out all day...for 8-12 hours. I have to come back for the kids. Sometimes I can take them out twice in one day but they can't be out all day. If I can get someone to watch them then I can go longer. RP09

Community members were enthusiastic about the *lula* season and expressed an eagerness to get out on the water. When asking women about *lula* jigging even those who did not participate were enthusiastic and excited for the onset of the season. In some cases, where women did not participate, their children did. Several responses were given for why women participate in *lula* jigging:

It's fun and the money is good – some days I can catch 20 kilos. Some people make more money on *lula* than on other things. RP25

It's easy. I like it and I can sell it here [in Ponta Negra]. Sometimes we go all day – we take all of the food and coffee we need and we stay out from 6am-5pm. RP09

Money – and it is fun. *Lula* likes calm waters. I like calm water too. It is easier to come and go in a canoe when the water is calm. I can even take [baby]. RP22

It's fun. Things here are different when it is time for *lula*. Everybody goes to jig *lula*. Everybody! Women and children go. RP16

Several other research participants expressed some of the barriers they face in *lula* jigging:

We don't jig because we don't have a canoe. Sometimes, if someone will let us use their canoe we jig, but it doesn't happen often. RP13

I don't *lula* jig anymore because I don't have anyone to go with. I used to fish with my dad – when I was young. Now [my husband] doesn't go much so I don't go. Sometimes if [6 year old son] goes

then I go with him. Imagine, he knows how to come and go in a canoe better than I do. RP03

Through observation and interviews with both men and women it was evident that women are not systematically excluded from other forms of fishing. However, many did not obtain the skills, at an early age, necessary to remain safe out on the water. It could be argued that girls don't learn because they are excluded at an early age, however, it was expressed that this is not the case and in fact there are several young girls who do know how to use the canoes and several young boys who do not. Rather it seems that young girls are not encouraged to participate at a young age, nor are they expected (like young boys) to begin to work in the fisheries once they are out of school (only primary school is available). Also, the observed trend is that while young boys go to help their father with their livelihood activities (fishing), girls do the same with their mothers (work around the home). Other activities, including harvesting activities and *roça* activities are performed by larger family groups and thus include all members of the family, whether male or female, young or old. Because many women lacked experience on the water many described the difficulty in taking a canoe out on the water, and the inherent danger in working a *cerco*, often for very little financial return. There were only a few women in the community who were experienced *cerco* workers and thus able to safely manage a canoe. From two women in the community who had experience working on a *cerco*:

Women don't work *cercos* because they don't know how. The most difficult thing about the *cerco* is coming and going on a bad ocean. Many people don't know how to do it, and it's dangerous. RP25

I used to work on the *cerco*. I worked on [RP01] *cerco* last year. I stopped because I have a bad knee and it hurts to stand in the canoe. I would work the *cerco* again if my knee were better. RP08

RP08 discussed the necessity of a diverse livelihood in order to survive in Ponta Negra:

There is not a lot to do [wage labour] here. [I] take what work is available. It is good to do lots of different things because you can't depend on one thing. RP08

Research participants who did not work the *cerco* explained that the risk of working a *cerco* was not worth the financial gain. Both men and women suggested that they would rather participate in more lucrative activities not related to fishing (e.g., tourism). Many women felt that fishing was a male dominant activity, and expressed that they were not interested in participating, suggesting that although they did not necessarily feel excluded they had very important things to do at home that would contribute to overall household well-being. In many cases women suggested they would like to find other forms of work, not related to fishing, or that they found their domestic labour to be equally important to fishing activities.

Coastal harvesting, including the harvesting of crabs, mussels and sea urchins is practiced in Ponta Negra (Figure 4.6) but is more infrequent than the other fishing and land harvesting activities. Again, through participant observation and interview data it became apparent that this is a female dominated activity. It is not exclusively a female livelihood activity and several men also participate. Several participants described coastal harvesting as a family activity that includes women, men and children.

Harvesting is infrequent, occurring at low tide (full moons) and during the times of year when fish are scarce (July-October). Coastal harvesting is also practiced as a past time, with participants referring to harvesting trips as ‘camping’ trips that include collecting and consuming the harvest. These can be either a single or a multi-day trip. For day trips harvesters frequented the rocks surrounding Ponta Negra and the neighbouring Bay of Galhetas. Sometimes harvesters ventured further, to the neighbouring beach of Antigos for both harvesting and hook and line fishing. For individuals who did not have other foodstuffs available, particularly during the low fishing season (also the low tourist season) some families resorted to coastal harvest of crabs, mussels and sea urchins to supplement their diet. While a few harvested out of necessity, others harvested opportunistically. Leisure coastal harvesting was not possible at other times of the year because the community became busy with tourists and *cerco* fishing. Several reasons

were provided for why more women than men participate in coastal harvest including: 1) Traditionally it was the women who harvest while men fished; 2) Because many women in the community have more free time they are able to spend the day harvesting. Many of the men have to work on the *cerco* or are otherwise unavailable; 3) Coastal harvesting becomes important at times of the year when *cerco* catches are low; this is also the time when men are away working as *embarcados*, so there aren't as many men to participate; and 4) It is a time that some of the women can get away and socialize.

Household division of livelihood tasks

Figure 4.1 illustrates women's and men's self declared primary livelihood activities respectively, however they do not illustrate the division of livelihood activities between men and women at the household level and do not make intra-household dynamics explicit. Using the data from 18 households and 30 individuals, Appendix G illustrates the household division of self-declared livelihood activities for dual female and male headed households, female only headed households, and male only headed households. Table 4.1 also illustrates the sectorized division of livelihood tasks between men and women. In micro-economic theory and for the purpose of this research the household is defined as "the social group which resides in the same place, shares the same meals, and makes joint or coordinated decisions over resource allocation and income pooling" (Ellis, 2000a). This data does not make age and intergenerational distribution of livelihood tasks explicit. It should be noted that although adult gender roles are fairly clear, in households with children, particularly young children (under 13) there is not a clear gender division of livelihood tasks for those children. However, a general trend is that young children help with the reproductive and subsistence work while children over 13 begin to fall into similar gender roles to that of their adult counterparts. Appendix G presents 18 household and 25 of 28 individuals from the semi-structured interviews. Household 1-12 have both



Figure 4.5 Community resident hook and line fishing with her granddaughter in Gallhetas
Photo credit: L. Carpenter



Figure 4.6 Community women harvesting *pinda* (sea urchins) Photo Credit: L Carpenter

Table 4.1 Gender roles within sectorally defined livelihood activities Source: field data and interview data

Men	<p>Fishing: Men dominate in the areas of <i>cerco</i> workers and <i>embarcados</i>. Men also participate in hook and line fishing, although most of the hook and line done by men is from boats (fishing grouper). Men also declared participating in <i>lula</i> jigging.</p> <p>Tourism: There is a clear division between the work of men and women in the tourism industry. Generally during the high tourism season men are involved in guiding and transportation</p> <p>Horticulture: In almost all cases the plot managers are men. In two cases where the plot is owned by a married couple, the female spouse might also refer to herself as plot manger. Other then the issue of ownership both men and women participate in many of the same tasks relating to the plots including, clearing, planting, weeding and food processing.</p>
Women	<p>Fishing: Although there are a couple of women who work on <i>cercos</i> the majority involved in fishing are involved in <i>lula</i> jigging, hook and line fishing from the shore</p> <p>Tourism: During the high tourism season women are involved in domestic work including cooking, cleaning, and food and bar service.</p> <p>Horticulture: Women often laboured on the plots of immediate and extended family. Women made up over half of the plot labourers and also aided with the processing of manioc into manioc flour</p>

female and male household heads, while households 13,14,15, and 16 are female only headed households and household 17 and 18 are male only headed households.

Many livelihood activities that were not denoted as primary are nevertheless very important to the overall livelihoods of individuals and households in the community. Some activities lose importance, or are hidden, because of restrictions on the activity or decreased dependence at the community level (e.g., *palmito* and *coco preto* harvesting). Despite this, they remain very important at the household and individual level. Other activities, including *lula* jigging were not reported as a ‘primary’ livelihood activity

however, this activity remains important for individuals, household and the community, supplying much needed income and calories to individuals and households and providing a desired, fresh, food supply for tourists during the high tourism season. Other activities, including net making were rarely reported as livelihood activities although almost everyone makes nets, either for their family or for sale to other *cerco* owners.

There is a clear division of livelihood tasks at the household level where both male and female heads are present. In dual female and male headed households women's roles are around the household while men's roles are in wage and subsistence labour. In some dual headed households women also take on productive labour activities. In female only headed household women take on more productive labour activities including wage labour. In male only headed household men take on less reproductive activities and in some cases hire women to perform domestic tasks. One female participant, who acted as a key informant, spoke about what she saw as a 'practical division of labour' in dual male and female-headed households and the community:

Men fish and women, for the most part, work at home. Together we do everything else. That is how it has been and that is how it has to be. It makes the most sense. There are not many other options here.
RP17

While discussing the practicality of gender roles she did not elaborate on the livelihood tasks designated as 'secondary' saying only that, the gendering of tasks is exclusionary but practical. Many women in the community shared this sentiment suggesting that where both men and women are available they will participate in necessary 'secondary' activities however, it was also suggested that men are unwilling to participate in the majority or reproductive tasks:

Housework? [laughter] I do it. I cook, I clean and I take care of the kids. I think [male partner] made me coffee once. RP03

[Their fathers] didn't help me. My mom raised my kids, except for [youngest child] RP22

At home we share tasks. When the kids were young I took care of them. Now we all do everything together, except for laundry, only the women do the laundry. RP25

I [female] do all of the domestic work at home and when we rent the chalet [secondary home]. [Male partner] helps very little with the work around the home. It's normal that women cook, clean, and take care of the kids. There are men in the community who do not eat when their wives are away. Once [community member] didn't eat for two days. Things are changing though. I've heard that in some places [outside of Ponta Negra] things are changing. RP16

Another sentiment felt by many in the community was that a lack of work opportunities decreased their ability to make decisions at the household level. This sentiment was predominant among younger women aged 25-45 who wanted to generate cash income outside of the home, but felt that the opportunities were not available, or that for them, seasonal labour migration was simply not possible, either because their children were still too young or because their husbands/male partners did not approve. Several women expressed this sense of disapproval from either their male partners or males within their extended family unit. In five cases women suggested that both community isolation and the resulting disapproval from their male partners regarding seasonal labour migration kept them from seeking employment outside of the community:

I can get a job at a hotel in Paraty. My cousin works there. I would like in the hotel. I would make my own money then but [my husband] doesn't want me to go. He thinks the kids are still too young. I think they are fine. I would be gone five days and then be here two days. But it doesn't matter. I'm not going. RP16

In two cases women suggested the same disapproval from their in-laws. In two other cases women suggested that although they would like to seek employment in the future, having very young children kept them from perusing wage labour. In another nine cases women were content with their work in the community (both productive and

reproductive) and were not interested in leaving the community or actively seeking employment.

Many women felt excluded from opportunities in seasonal and temporary labour migration, however at the local level participants suggested that exclusion from any activity is determined by self- motivation rather than specific gender roles. Several women in Ponta Negra, who had migrated as a family from *Cairuçu*, a neighbouring, more isolated community discussed their experience of working on a *cerco*:

In *Cairuçu* we (the women) all worked the cerco. We had to work because our help was needed. Even women with small children worked the *cerco*. They would leave their children with other family members. PR16

Through participant observation, it quickly became apparent that this group of women had more diverse livelihoods than other women in the community, perhaps because they had obtained, through necessity, the skills required for fishing, planting and resource harvesting. These women also claimed higher decision-making power at the household level suggesting that their activities were necessary to the wellbeing of the household. This sentiment was not only expressed by the women of *Cairuçu*, but also expressed by other women in the community and seen through participant observation. It seems that bargaining power is a function of diversity but it also relates to the assets of both male and female household heads, the capital they possess, and how others perceive their skills and capital in the household and community. Where the work that one does can be seen as a benefit, to the household bargaining power was greater. For example bargaining power increased where skills easily translated into income, particularly where this is obvious and visible. In some cases, monetary income was more valued than subsistence income. In other cases subsistence income was highly valued. In households where monetary income was more valued than subsistence income, and where women's skills did not always translate into monetary benefits, women had less bargaining power at the household level. Furthermore, the more shared skills men and women had, particularly as it related to local, natural resource based activities (i.e., fishing, harvesting, and

horticulture) the greater women's bargaining power. The bargaining power of women also increased with higher levels of education and resultant cash employment. This however, was not the reality of most individuals in Ponta Negra.

Gender: Seasonality and Life Course

Both seasonality and individual and family life courses determine available assets and the possible livelihood activities of both men and women. In economic terms, seasonality refers to "...returns to labour time, that is, income that can be earned per day or week worked." And it means, "... that continuous household consumption needs are mismatched with uneven income flows"(Ellis, 2000: 58). In Ponta Negra seasonality occurs in economic and geographic terms. Clearly geographic seasonality impacts economic seasonality, specifically in the case of fishing, *lula* jigging, horticultural activities, offshore fisheries and tourism.

Life course refers to an individual's life from birth to death as it plays itself out in social and historical contexts. The field of life course analysis theorizing focuses on age and gender, how they intersect over time, and their institutionalized and structured dimensions (Heinz and Kruger, 2001). The gendered aspect of life course is linked to several key areas and institutions including educational systems, the family, labour markets and welfare (Heinz and Kruger, 2001).

Considering life course is important for understanding livelihood activities as an individual's opportunities to take risks, diversify or participate in productive and reproductive labour activities will be influenced and possibly dictated by the gendered experience of life course stages. Life course is linked directly to livelihood strategies as they relate to access to resources. Resource access affects the way women participate in the larger economy and thus the livelihood choices they make. In a conversation with

one participant that talked about the death of her first husband, raising 6 children on her own and her subsequent remarriage said:

When [first husband died] it was hard. I don't work and we didn't have any money. [RP65] is my second husband. The kids aren't his but he is very good to them. He takes care of us. I don't work. I sold the house [first husband's] and the land last year for R 7,000 to someone from Sao Paulo. The house has been torn down. It was falling apart. I think I sold it for too little. [second husband] helped me sell it. RP02

Women may alter their activities to accommodate changing productive and reproductive roles along their life course (Elder, 1994; Hapke and Ayyankerlin, 2004). In Ponta Negra it was clear that many women, with young children, who would otherwise be involved in productive labour activities were busy with reproductive labour tasks. Nearly all of the interviewed women with children under the age of five expressed their inability to seek education, training or employment because of their reproductive responsibilities. The male heads of these households did not express feeling the same constraints on their livelihood choices:

I went to Paraty to study. I got up to the 5th grade and then I got pregnant so I came back to Ponta Negra with [male partner]. My family wasn't very happy at first. Now I will have to wait until my kids are older before I can study or work. RP04

Birth rates are one factor influencing women's availability for productive labour activities illustrating that reproductive roles is one part of life course and influences access to education, labour markets (Hapke and Ayyankerlin, 2004; Hezin and Kruger, 2001). Momsen (2004) found that because of women's reproductive roles there are obvious regional patterns of age-related economic activity amongst women. These same patterns were not present in the respective male populations. The life course of men is also influenced by reproductive roles although to a lesser degree than that of women. Coltrane (2004) illustrates that men's share of housework is predicated by age, marital

status, and children, however men are not as affected by changes in reproductive and productive activities over their life course.

Seasonality is important in determining individual's livelihood activities. Individuals in the community outlined several important livelihood activities that depend on seasonality. These include fishing using a *cercos*, hook and line fishing, *lula* (squid) jigging, tourism, and horticultural activities as they relate specifically to the *roça*. Also various offshore fisheries that provide external employment also operate seasonally, employing community members for 3-4 month terms throughout the year. Tourism, a very important source of income for many households in the community is also seasonal, with the high tourism season occurring between December and April, coinciding with Christmas, New Years, Carnival, and Easter. Furthermore, the school year ends in December and resume in early February coinciding with the southern hemisphere summer.

Throughout the year, *cercos* spend much of the time in the water, and provide steady employment for the *cercos* workers. November through to July is generally the most productive time while there is generally a significant decrease in fish landings from August until October. During these months, several families will pull their *cercos* from the water and focus on other livelihood activities that include, transport, tending to the agricultural plot, line fishing and net mending. In one case, where the *cercos* owner has other means to make a livelihood, the *cercos* is left in the water throughout the year in order to maintain employment for *cercos* workers that may have little opportunity to participate in other livelihood activities. Reportedly fish landings are smallest throughout September and October with increases beginning in November and improving throughout the summer months as water temperatures increase. Hook and line fishing commences while the *cercos* catches are low. This coincides with the off shore fisheries as well as the clearing and planting times for the agricultural plots.

The tourism season begins in December and continues into April coinciding with summer break, Christmas, New Years, Carnival, and Easter. During the high tourism season the focus of activities changes with a decrease in fishing and resource harvesting activities and an increase in service related livelihood activities. Tourism places extra demands on transportation, service provisions such as housekeeping, cooking, restaurants, and the sale of goods, and managing of rental properties. Often individuals will take up temporary work (for 5-10 days) serving the tourism economy. *Lula* is caught and sold locally to the tourism operators while extra fish has to be brought in from Paraty in order to provide sufficient amounts of food needed by the influx of tourists (not only is there a demand for more fish, but because of the high return on tourism, several *cercos* operators bring their *cercos* out of the water for 5-10 days which decrease local supply). During this season the community dependence on Paraty for provisions, including fish, is increased: 1) because of the influx of people in the community; and 2) because of the movement of labour from the resource harvesting (namely fishing) to services. The tourism season does however coincide with the *lula* jigging season, which is also very important to the local economy and for local food provision.

Lula jigging is highly seasonal with most of the jigging occurring between November and May (Tubino *et al.*, 2007). Community members in Ponta Negra reported that much of the jigging occurred between December and April with hot temperatures and calm waters providing the best conditions for long jigging runs. Most community members, including men, women and children are involved in *lula* jigging. The high market value makes *lula* an important fishery resource (Tubino *et al.*, 2007). Fresh *lula* is desired both in the community and by local vendors and is consumed throughout the country. The highly seasonal nature of *lula* means it is not always available. Not only can *lula* be sold to fish markets in Paraty for a profitable price but also (and most frequently) sold to local buyers in Ponta Negra who use it to supply tourist demand. This provides a larger return for local *lula* jiggers. During the summer months the residents of Ponta Negra become so busy with tourism and *lula* jigging that there is little time left for other productive labour activities including harvesting and horticulture. Fortunately, horticultural activities are

also seasonal in nature, with the planting time falling in the southern hemisphere winter (August and September) a time when residents are not as busy with other seasonal activities including tourism, *lula* jigging, and the most productive catch time for the cercos.

The *roças* are cleared and planted in August and September. The plots are generally dominated by sweet and bitter manioc but also contain other dietary staples including, beans, sugar cane, and bananas. After they are planted they will be cleaned, weeded and checked every week for three weeks while germination is occurring. They will then be checked every month for three months and then every three months. The initial stage of land clearing and preparation is extremely labour intensive and is often (if not necessarily) done by members of an extended family; as noted previously, mostly female extended family.

While several livelihood activities were distinctly seasonal, and others had some seasonal variability, others happened throughout the year with individual participation based independently of seasonal restriction but rather based on other opportunities and trends. For example, several resource harvesting activities, including the collection of both *coco preto*, and other flowering fruits, depend on seasonal variability while other resources, available throughout the year, such as *palmito* and different woods are collected throughout the year as needed, independent of season.

Conclusion

The chapter has demonstrated the gender division in livelihood activities between men and women in Ponta Negra and has focused on gender roles and relations as they relate to livelihood activity profiles at the individual and household levels.

Women practice occupational pluralism and are involved in a variety of productive and reproductive activities. Generally, the primary productive activities of women are those that relate to subsistence household income and paid domestic labour while men are

almost exclusively involved in productive labour including both the wage economy and subsistence economy related to natural resources.

Because of the gendered nature of current livelihood portfolios it can be hypothesized that changes to the nature, and availability, of specific livelihood activities, including those linked to fishing, horticulture and tourism, will have differential impacts on men and women. Chapter 5 will explore livelihood diversification, the challenges to current and future diversification and the potentially differential impacts of diversification on men and women.

CHAPTER 5: DIVERSIFICATION CHALLENGES AND OPPORTUNITIES



Fisherman and their catch: Ponta Negra

Sketch: Laurie Carpenter, 2011 ©

This chapter will address Objective 3 and explore prospects for future livelihood diversification that is gender-sensitive at both the household and community levels. After exploring the literature on the importance of rural/coastal livelihood diversification, attention is given to the local opportunities and challenges for diversification. The fact that the future of diversification directions will have differential impacts on men and women will be explored, as will the challenges and opportunities for future livelihood diversification as it relates to gender.

Importance of Rural Livelihood Diversification

Rural livelihood diversification is defined as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living (Ellis, 2000a). Diversification is generally recognized as an important strategy for decreasing livelihood vulnerability and is also important for achieving success under improving economic conditions (Ellis, 1998; Niehof, 2004). Barrett *et al.* (2001) suggest it is a form of self insurance that reduces the risk of failure by spreading risk across more than one asset category or income source (Allison and Ellis, 2001).

According to Barrett *et al.* (2001) and Ellis (2000b), diversification is the norm and most households have truly multiple income sources. Few people collect income from just one source or hold all of their wealth in the form of a single asset (Barrett *et al.*, 2001). Rural households in the Paraty region almost always have multiple sources of income. For example, among households that list fishing as their main livelihood activity, there is on average three other livelihood activities reported (Hanazaki *et al.* in progress).

From a household point of view, motivations for diversification vary. Barrett *et al.* (2001) considers that diversification is related to “push factors” and “pull factors”. The term “Push-Pull Factors” is often used in geography to refer to motivations for human migration. The push factors involve a force that acts to drive people away from a place

and the pull factor is what draws them to a new location (Barrett *et al.* 2001). “Push factors” for diversification include risk reduction, reaction to crises, or diminishing returns (on labour or land). “Pull factors” include realization of strategy complementarities between activities, comparative advantage, skills, endowments, increased access to resources, etc. The ability or willingness of a household to diversify depends on these “push-pull factors” but also on vulnerability related considerations. From a livelihood study of four communities in economic decline, Moser (1996) provides some insight into the ability of a household to reduce vulnerability:

The ability of households to avoid or reduce vulnerability and to increase economic productivity depends not only on their initial assets, but also on their ability to transform those assets into income, food, or other basic necessities effectively. Assets can be transformed in two distinct ways: through the intensification of existing strategies and through the development of new or diversified strategies. How – and how effectively- assets are used and what strategies are adopted to cope with economic stress are determined by household, intra-household and community factors. At the household level internal lifecycle events that affect the structure and composition of households – birth, death, marriage – can affect their ability to respond to external changes. Within the household asymmetries of gender and age translate into differences in the ability to cope with economic difficulties (Moser, 1996 p. 2).

In this example Moser (1996) demonstrates that available assets must be considered first and will lead to “push-pull factors”. Moser (1996) acknowledges, “How – and how effectively- assets are used and what strategies are adopted to cope with economic stress are determined by household, intra-household and community factors” (Moser, 1996: 2).

Much of the literature on livelihoods discusses the importance of diversification (see Barnett *et al.*, 2001; 2001; Ellis, 1998; Ellis, 2000a; Ellis 2000b; Niehof, 2004) in reducing vulnerability. It cannot be assumed that diversification by itself will lead to reduced vulnerability or add to household well being, however. Also, asset portfolios to a certain extent may reflect choice rather than constraints (Block and Webb, 2001). In other words, diversification can be reactive or opportunistic (Marschke & Berkes, 2006)

and preference might be given to a diverse portfolio over specialization, or vice versa, because of cultural norms and expectations as well as individual, household and community well being considerations which could be value-laden and/or politically or socially motivated.

Diversification: Focusing on small-scale fisheries

Much of the literature on livelihood diversification focuses on rural communities economically dependent on agriculture (Agarwal, 1998; Barrett *et al.*, 2001; Bebbington *et al.*, 2007; Block & Webb, 2001; Ellis, 1998; Ellis, 1999; Ellis, 2000a; Ellis, 2000b; Frances, 1998; Rigg, 2006). Fewer have examined rural fisheries, however Allison and Ellis (2001) looked at the role of diversification in small-scale fisheries and found that diversified livelihoods are also an important feature in fishing households. Other studies, including case studies in Brazil (Hanazaki *et al.*, 2007), Cambodia (Marschke & Berkes, 2006), Finland (Salmi, 2005), and West Africa (Bennett, 2005) found diversification to be an important component of livelihoods inclusive of small-scale fishing. In Southeastern Brazil, *Caiçaras* depend not only on fishing but also on horticulture, tourism and the extraction of NTFPs as primary economic activities (Hanazaki *et al.*, 2007). Because of the importance of multiple activities in making a livelihood it is important that policy and management encourages or enables part-time fishing as opposed to 'professionalizing' small-scale fisheries (Allison and Ellis, 2001). These authors point out that the 'professionalizing' strategy of management regimes takes a resource-centered approach to management as opposed to a people centered approach that focuses on what matters to people, their current livelihood strategy, and social environment as promoted by the Sustainable Livelihoods Approach.

Livelihood Diversification and Gender

The different socially prescribed gender roles of men and women mean that they have different options and responsibilities in the process of livelihood generation and thus different options and priorities for livelihood diversification (Niehof, 2004). Gender is a factor in one's ability to access income-earning opportunities, access to natural resources and to decision-making control over various assets, and access to kinship inheritance (Valdiva and Gilles, 2001). In the case of income-earning opportunities, men and women will be differentially impacted by market demands for employment depending on the nature of the work required. For example, in Ponta Negra there are more income-earning opportunities in fisheries for men than there are for women. Because of the limited number of *cercos* there is a limited opportunity, thus men also go to work as *embarcados*. As the tourism industry strengthens women are finding more income-earning opportunities as their domestic skills are required within the industry and thus move from being only unpaid skills, to paid skills. Because this work requires little capital investment on the part of the employed women, these women are able to, at little risk, take on paid employment in the community, in neighbouring communities and larger centers including Paraty.

Niehof (2004) argues that women's roles in the subsistence and reproduction of the home means that their ability to take risks and behave opportunistically is different than that of men. Because of their different roles in the livelihood system, men and women will deal differently with risk (Niehof, 2004). Men's and women's different attitudes to risk are likely to influence the choices they make in taking up diverse livelihood activities. Thus, while men are able to migrate to work for cash as *embarcados*, women are driven to defend the subsistence basis of family survival (i.e., food production). In Ponta Negra, as men migrate for work, women take on reproduction of the house through child-care, housework and horticultural and harvesting activities. Men, on the other hand, stand to make personal gains from cash generating activities, including working as *embarcados* (Niehof, 2004). Conversely, and in a few cases in Ponta Negra, where it

made the most economic sense, and where risk was limited (children were grown up – life course influence - and the family did not depend on subsistence activities to survive) men stay in the community to fish, while women have more income-earning opportunities in the city in paid domestic labour and care work (childcare and health care) and thus out-migrate for work.

Ponta Negra: Challenges for the Future

Diversification is generally recognized as an important strategy for decreasing livelihood vulnerability (Ellis, 2000a) and can be seen as an important strategy to maintaining a viable livelihood. In Ponta Negra diversification is the norm and most households have truly multiple income sources.

There are several barriers to the existing diversity of livelihoods in the region, and more specifically in Ponta Negra. These include restrictions (real or perceived) thought to be brought upon the community by the protected areas status, including restrictions on the harvesting of wild vegetation in the Atlantic Forest, timber harvesting, horticultural activities including both *roça* and home gardens, hunting and restrictions on infrastructure development. Other barriers include the degree of isolation that impacts the availability of services including electricity, ready access to external markets, and access to education and skills training. These factors have an impact on existing livelihood diversity and will inevitably have an impact on individual and household abilities to diversify further.

Barriers to Existing Diversification

Ponta Negra is one of several communities located within The Juatinga Ecological Reserve (*Reserva Ecológica da Juatinga*), a conservation unit of the Atlantic Forest Biosphere Reserve (see Figure 5.1 and Figure 5.2). Sistema Nacional de Unidades de Conservação da Natureza (SNUC) defines and regulates protected areas at the federal,

state, and municipal levels and is under the jurisdiction of the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio). There are only two general classifications for protected areas under SNUC: 1) strictly protected, with biodiversity conservation as the principle objective (*proteção integral*) and 2) sustainable use areas (*uso sustentável*) (SNUC, 2000). Under SNUC Ecological Reserves are strictly protected and only ‘secondary’ resource use is allowed (including uses relating to tourism).

As of 2002 Ecological Reserves are no longer an official category under SNUC (SNUC, 2002), thus the protected area in which the community is located has, for some time, been up for reclassification. Although the ecological reserve status is not officially recognized, policy documents still state that the Juatinga Ecological Reserve’s main objective is to protect the local ecosystem by permitting the indirect use of natural resources (INEA, 2011).

The majority of research participants had only a partial, if not confused understanding of the law and policy around the protected area. Nobody mentioned the reclassification process and participants erred on the side of caution on issues relating to the use of the forest for resource harvesting and planting for fear of prosecution now or in the future. Community members also discussed their unwillingness to invest in a future that was uncertain, thus a drive towards wage labour and external economies rather than investing in the subsistence economy.

When exploring the diversity of livelihoods in the community it was apparent that individuals and households depend, primarily, or in large part, on the primary use of natural resources to make a livelihood. Although people expressed some understanding of what it is they are permitted to do within the reserve as it related to primary and secondary resource use there was much confusion, and individuals expressed anger and frustration, finding the classification to be too restrictive and a hindrance to sustaining viable resource-based livelihoods in the region. Individuals expressed feeling bullied and unable to negotiate their resource-use needs.

There are several areas where perceived restrictions on livelihood activities do impact individual choice of livelihood activity. The emphasis from research participants suggested the restrictions on some activities are greater than on other activities. For example, in discussing the implication of the protected area designation individuals often spoke about the illegality of hunting, *roça* activity, timber extraction and *palmito* extraction. Other NTFPs and home gardens were not frequently mentioned, however two participants were told to remove their home gardens because they were too close to the forest. Many of these activities, including harvesting and horticultural activities, are still widely practiced but are losing importance with the younger adults who no longer see these as viable livelihood activities for the future. Compounding “push” and “pull” factors influence these decisions. Perceived restriction on land-based livelihood activities “push” individuals from these activities while at the same time they are a “pull” towards cash generating activities.

Discussion around the ‘older’ *roça* plot/hunting generation surfaced when discussing the future of some of these livelihood activities, suggesting that many of the younger generation (18-30) do not necessarily see these activities as part of their future. Specifically, preference is shown for store bought foods rather than wild game or food grown on the *roça*. Furthermore, where it was not absolutely necessary, because individuals had access to other foods, maintaining a *roça* under the protected areas designation was a risk many people did not want to take. While some individuals saw keeping a *roças* as a choice, others saw it as a matter of necessity suggesting that when it is no longer necessary (they have other from of income) they will not continue with it.

Community members expressed confusion and frustration over their inability to harvest wood to build canoes. This was seen as a major barrier to maintaining artisanal fishing as part of a diverse livelihood. Canoes are used for *cercos*, hook and line fishing, gill nets and *lula* jigging. Canoes are also used as a mode of transportation to access productive coastal harvesting areas. The restriction on the use of local woods to build canoes impacts

those individuals who do not have the money to purchase the materials to build a canoe, or a boat. Many individuals expressed that the lack of access to a canoe, either because they lack money to purchase a canoe, the skills to build a canoe, or are unable to build



Figure 5.1 The Ecological Reserve encompasses the entire point of Juatinga including the communities of Praia do Sono, Ponta Negra, Cairuçu, and Pouso da Cajaíba.



Figure 5.2 The Juatinga Ecological Reserve: looking south from Ponta Negra towards Praia do Sono Photo credit: L. Carpenter

canoes because of the ecological reserve designation restrictions, greatly restricts their ability to fish using hook and line, gill net, and jig *lula*. Although individuals expressed the lack of a canoe as a reason for non-participation in many activities individuals did not necessarily express a desire to build or acquire a canoe. Individuals suggested that because they lacked the skills they need to handle a canoe on the water, the funds to purchase a canoe or because they did not want trouble with IBAMA they had lost interest. For several individuals that were not actively involved in fishing, a canoe was not necessary for their current livelihood portfolio, while others, *cerco* workers for example, who sought some autonomy and better pay from *cerco* owners, were unable to invest in their own boats, for a combination of the reasons mentioned above.

Community members also use various types of wood for home construction. Although this is widely practiced, community members still expressed some concern and hesitation as to whether or not they are permitted to construct homes with local materials. Others questioned whether or not they could build new constructions at all. Individuals expressed varying degrees of understanding over the restrictions with responses varying from: 1) only locals, not foreigners could build houses; 2) locals could use local materials; 3) houses could be built with a permit and could or could not use local materials; 3) the practice of new construction was completely prohibited but one was or was not permitted to harvest local materials for renovations and additions. Participants discussed the impacts of these restrictions:

We have a certain amount of land we can use. [My son] is building his house there [only a few feet away] because we aren't supposed to build out anymore from our yard site. RP12

People steal fruits and vegetables. It is not worth planting. You have to live where you are cultivating but IBAMA won't let [people] construct houses outside of Ponta Negra. [IBAMA] comes to check on house construction. You need a permit to build. RP15

Foreigners can buy land but they can't build on it. If there was a building there before maybe they can fix it. We help people to build

because it's money for us here. We can sell property and rent property and do the construction work. Some people [residents] have an easier time selling land and constructing buildings than others do. Some people don't get much money for their land. They don't know what it's worth. They sell [their land] and then they don't have enough money to buy anything in Paraty or anywhere. They become working poor somewhere. RP55

The reserve designation has several impacts on horticultural activities. Some individuals in Ponta Negra expressed an understanding that shifting agriculture and the clearing and burning involved in shifting agriculture is restricted. The restriction is not widely understood and there is confusion in the community around *roças* and home gardens. It remains as one factor precluding individual's involvement in horticultural activities. Many individuals demonstrated a reluctance to participate in activities that might be impacted by land use restrictions. The investment of time and labour was not worth the effort, should they later be forced to leave their plot. *Roças* are a long-term investment, with manioc taking eight months to one year to mature. The soil of the *roça* is also used as storage areas where manioc can be left in the ground for up to two years. The investment in time and labour is large.

The reserve designation is only one reason for individuals to not invest in a *roça*. Others include out-migration for paid labour and education and a growing dependence on goods from the city centre of Paraty. Individuals are unable to predict the viability of this livelihood activity in the long term. Because shifting agriculture is a laborious activity requiring many hands during the clearing and planting process the continued movement of people from subsistence to wage labour means that current plot owners and managers lose labour (labour provided largely by family members) and thus must manage smaller plots, plant fewer crops (e.g., manioc is less labour intensive than beans) or leave the activity all together.

Furthermore, restriction on home construction within the protected area and the restriction of shifting agriculture work in tandem. Not only do community members feel

they are restricted from establishing *roças*, they also feel they are restricted from construction on their *roças*. Shelters built on the *roças* are constructed using local materials. They provide shelter for individuals when they are at their *roça* (often for days or weeks at a time) and also serve as a *casa de farinha*¹¹ (flour house) (Figure 5.3) used to process bitter manioc into manioc flour. Individuals worry they cannot construct the necessary shelter near their *roças* should they establish one. The member of one family also discussed issues of vandalism, suggesting that even if an individual established a *roça* near to their permanent home it would have to be close enough so they could keep a watchful eye on it. Otherwise, the only other way to protect the plot from vandalism and theft is to live there.

People steal fruits and vegetables. It is not worth planting. You have to live where you are cultivating but IBAMA won't let [people] construct houses outside of Ponta Negra. [IBAMA] comes to check on house construction. You need a permit to build. RP15

In order to avoid conflict plots are established further and further away from Ponta Negra. People must travel further between their home yard site and their *roça*. This works to discourage continued horticultural activities.

Only a couple of individuals discussed their hunting activities and suggested that hunting might be forbidden within the reserve. Not uncommon in the past, hunting provided food to community members. Several individuals recalled hunting experiences while at the *roça*, suggesting that it is and was more common when families were working their plots. Although not all participants were willing to speak about park restrictions, particularly those related to hunting, many were able to make their concerns known. In fact many research participants were unsure of specific restrictions and only had a general idea, often based on second hand information, regarding the reserve.

¹¹ Where bitter manioc is processed into manioc flour. The direct translation is “flour house”.

In relation to the protected areas not a lot changed initially but people are scared of prohibition. I'm not sure what is prohibited, but I have heard [community members] mention wood, including big trees for canoes and hunting. RP19

It is important to protect the environment. But [we] are not hurting the environment. I don't think people should be able to sell things from the forest, but I think they should be able to make things [with forest products]. RP19

Hunting is prohibited. You can't be caught with an animal. People do it because they need it. RP15



Figure 5.3 inside a *casa de farinha* where bitter manioc is processed into manioc flour. Photo credit: L. Carpenter

Although fishing, raising livestock, tourism and transportation/freight are not viewed as systematically restricted by the protected area designation, this designation has indirect impacts on the aforementioned livelihood activities. For example, because there are restrictions on home construction this impacts both individuals who make their livelihood

from freight and transportation and also those involved in tourism. In the long term, this restriction may cause greater numbers of individuals to migrate out of the community. Restrictions on land use will make it nearly impossible for the younger generation to settle in the community.

When asked about restriction on fishing activities, individuals did not see this as an issue. Because the protected areas designation is land based participants did not feel restricted in their marine based livelihood. In fact, many community members saw a need for Marine Protected Areas only so far as they protected artisanal fishers from the ‘over-exploitation’ of the industrial fishing fleets.

Barriers to Future Diversification

Like the clear barriers to existing livelihood diversity there are several barriers to future diversification. Future opportunities for education, literacy training and other skills training, the degree of community isolation and thus lack of employment opportunity inside the community, a lack of services, including electricity, and community organization were all mentioned. Community members expressed several concerns regarding their future and that of their children in regards to livelihood activities.

Primarily, research participants expressed their need for further education and literacy training in the community, basic services including electricity, and stronger community organization regarding the ecological reserve designation and what it means for their future (this could be linked to literacy and education). When asked about change, participants expressed that the lack of services provides obstacles to future diversification with emphasis on education and the resulting opportunity for labour migration. Many participants also expressed a need to change the reserve designation (without mentioning the pending reclassification) in order to allow them to continue with their resource based livelihood activities including horticultural and harvesting activities.

In regard to future diversification, education was the number one concern of nearly all of the research participants. Primary school (up to the 4th grade) is available in the community. Students attend half days, attending either in the morning or afternoon depending on their age and their grade level. One teacher attends to all of the students. After students complete the 4th grade those who want to continue with their studies must leave Ponta Negra for Paraty. While many community members have attended school up until the 4th grade, literacy remains low. Most community members over the age of 40 have either never attended school, or only attended the 1st grade. The majority of individuals over 40, who have not studied outside of Ponta Negra, are illiterate. Over 70% of the research participants were not functionally literate and were very concerned with the future of their children and grandchildren who lacked access to further education:

This is a place that lacks access [to education]. [Ponta Negra] has an entrance but no exit. RP21

The kids have to go to school. We have to make money so we can take them to Paraty [in 5 years]. We have some property to sell.”RP04

I learned to read here from [teacher’s name]. It’s hard to learn because we keep getting different teachers. They come here on very short-term contract so sometimes there are 2 [teachers] each year. It is really hard to learn anything. RP19

I want my kids to go to school but I don’t want to leave Ponta Negra. We are trying to plan ahead. We want to sell some property, buy a boat, make money in tourism and then maybe buy property in Paraty. RP04

With no other opportunities outside of the school for literacy training many individuals never learn to read and write. Adults have the opportunity to take evening classes in basic math, geography and reading and writing, however attendance rates are very low. For those students that do not continue with their studies after the 4th grade the prospect of creating a livelihood outside of the community is diminished because they lack the

necessary skills required by most outside employment. These skills are also important to local tourism markets and fish markets where literacy provides agency and allows individuals to manage their own assets. One young woman in the community, who acted as a key informant for the research, discussed some of the challenges faced by those adults who lack a basic education. She pointed out that without basic reading and writing skills community members lack confidence and are at times unwilling to seek further education or training. She felt that this left the community with a lack of capacity for real change.

For a long time the position [nursing assistant] was vacant. Some people want work but [everybody] knew that for this job they needed to know how to read and write. Most people didn't feel confident enough to do it. I didn't feel confident but [RP43] convinced me I could do it RP03 (grade 5 education)

As described earlier, Ponta Negra is one of, if not the most isolated community in the region. Very few individuals make a daily commute out of Ponta Negra for work. In a few cases, individuals make a semi-daily commute to work in the condo community of Laranjeiras, while *cercos* workers transport fish to the docks of Laranjeiras. If a highway were built to Ponta Negra, individuals would be able to access both Laranjeiras and Paraty for both employment and education, and would bring more tourists to the community.

I want to leave [Ponta Negra] so I can find work. I have nothing to do. If there were work here, I wouldn't leave. RP11

I want to go to Paraty to work, but it's not safe there. My kids are better here. I'd rather be poor and safe. I don't want my kids to be drug dealers. RP12

Both out-migration and increasing access to the community was discussed by research participants who were frustrated with employment opportunities in the community and the desire for more opportunities for wage labour. However, participants also expressed their deep concerns for increasing access to the community suggesting that with road

access, the community would be changed forever both positively and negatively. Reference was made to the rapid change in other communities, including Trinidad after road infrastructure in the 1990's changed to community from a fishing town to a tourism centre. Since, houses have been changes into tourist villas, shops and restaurants.

While participants seek opportunities for further livelihood opportunities they also understand the implications of increased access to their community. Because residents lack control and decision making power over their resources (their own use and that of outsiders), they fear increased access to outsiders might marginalize them further. Until the community (collectively) is able to make decisions regarding their own land and resources, they feel that increased access to tourist, temporary residents, government officials, researchers etc, may increase the marginalization of particular individuals. Individuals are also able to see the benefits of increased access to their community. Some individuals spoke about road access, while others focused on the two current available routes to the community. One is to hike several hours from Laranjeiras; a condominium community located at the head of the trail that leads to Ponta Negra via Praia do Sono. The other way to reach the community is to go through the condominium community to the community dock. The condominium controls how many people can pass through the condominium property at any given time, thus restricting the number of people that can be transported by boat between Laranjeiras and Ponta Negra. This is seen to be a major restriction on potential tourism revenues in the community.

The degree of isolation also explains the lack of services including electricity and limited cell phone reception. The neighbouring community of Praia do Sono (1.5 hour hike or 20 minute boat ride) has electricity and the residents of Ponta Negra have seen the impact this has had on individual community members, suggesting they are better able to serve tourists, and access outside information through television, computers and telephones.

As mentioned earlier, diversification can be reactive or opportunistic, and in both cases are important in creating sustainable livelihoods for the residents of Ponta Negra. It is

important to consider and understand that preference might be given to a diverse portfolio over specialization and it is important to make these livelihood options available for individuals. Informed by research participant responses regarding barriers to existing and future diversification, and what is needed to create sustainable livelihoods, Table 5.1 illustrates possibilities for future diversification and the potential constraints faced by the people of Ponta Negra

Table 5.1 Opportunities and constraints to livelihood diversification

Livelihood Activity	Diversification Opportunity	Constraints
Fishing	use of gear other than <i>cercos</i> : fishing for other species further away	Difficulty accessing wood to build canoes, cost of additional nets, individual unwillingness to invest in fishing
Horticulture	Increasing the number of plots to support the community Encouraging individuals to participate Home gardens	IBAMA restrictions
Education and skills	-Increased literacy training -Individual access to information pertaining to protected area designation in the region. -Access to higher education in Paraty	Very little capacity for increased training. The community lacks personnel, and materials. Community isolation No electricity
Timber harvest and NTFP harvest	- Timber needed to build canoes - NTFP needed for food	IBAMA restrictions Identification skills Loss of knowledge
Tourism	- Training: tourism marketing - Focus on 'niche' market or participatory community based-tourism - Literacy training - First aid training - Guiding training (not contract work) - Electricity in the community	Community isolation Individual's agency and skills - Increased numbers of individuals need education and training (including literacy training) in order to act with agency should niche tourism increase. Community interest

Gender and Livelihood Diversification

Work opportunities vary depending on several factors including skills, education and gender (Ellis, 2000b) thus future diversification direction and work opportunities will have differential impacts on men and women; they will experience different “push-pull” pull factors. Several examples of the gendered impacts of diversification direction can be seen in horticulture, harvesting and tourism.

Firstly, the number of individuals participating in labour intensive shifting agriculture has decreased. While men migrate seasonally to work as *embarcados*, work fairly exclusively in the *cerco*, or find other employment outside of the community, women tend to make up the bulk of the labour on the shifting agriculture plots. For men and women alike the protected area designation and the associated risks acts as a “push-factor”, in tandem with “pull-factors” including paid wage labour in fisheries for men, and paid domestic labour in tourism, which is predominantly done by women.

It was suggested by several research participants that in the past men and women worked the *roça* but that more recent changes in men’s work, including out-migration and professionalization in fishing, means that women make up the majority of the available labour for the *roça*. While men find work outside of the community women are often pulled into *roça* work in order to produce subsistence goods for the household. Interestingly though, although women make up the majority of the available labour for the *roça* it is male household heads that manage the plots.

Furthermore, women do much of the NTFP harvest. Again, participants suggested that the professionalization of men’s activities and the out-migration of *embarcados* result in a situation where women are left to fill activities. While the gendered nature of the activities were not historically female more women than men are around to participate in such activities.

NTFPs are not collected for sale, they are collected for home consumption, and thus it can be decided that NTFP harvest is for the general well being of the household (for example, when food is needed). Both the activities related to the *roça* and NTFP allow women to secure food provisions at the household level. The protected areas designation prohibits many NTFP harvesting activities and thus some individuals feel particularly vulnerable. This differentially impacts women who: 1) work the *roça* to help meet the household food needs, and 2) do much of the food related NTFP harvesting. Furthermore, as men engage in more professionalized wage-based jobs that take them away from the community women are left the less lucrative horticultural and reproductive work. Increasingly the value of this work is lost as the capitalist wage economy demands more productive/wage labour. Female labour remains engaged in local subsistence and reproductive labour that becomes increasingly undervalued in the capitalist economy.

As mentioned earlier, NTFPs are not sold and most individuals did not express an interest in commodity markets. Some women suggested that they are not interested in harvesting, or may harvest less in the future should they be able to find employment elsewhere including paid domestic labour, and tourism. Several individuals also expressed decreasing the frequency of harvest, and finding other (often external) food sources, for fear of regulations under the protected area designation. Thus, the protected areas designation acts as a push factor towards more wage based work within the capitalist system. This in turns leads to a decrease in subsistence activities and increased dependency on external (tourist) dollars. While women are more frequently seen to be participating in harvesting and horticultural activities for household consumption women are also seeking wage labour inside the community. As individuals are able to find employment outside of horticulture and harvesting, and are able to purchase food outside of the community these activities might become less important. For example, as the tourism industry grows women may move away from subsistence activity to more secure wage labour. This trend can be seen in Ponta Negra, as tourism becomes more important.

Restriction on resource harvesting activities means that individuals become more reliant on external economies to make their livelihood. Women, being displaced from other forms of productive labour (NTFPs, *roça* work, coastal harvesting) are available to actively participate in the tourism sector, providing necessary domestic skills and services. Not only are women pushed from resource harvesting activities, but they are also pulled toward wage labour. Their existing domestic skills are desired for the tourist industry. The work becomes more valued as productive work than reproductive work. Men, on the other hand still hold the responsibilities of fishing. Although they are involved in tourism transportation they are not as readily involved in domestic labour (cooking, cleaning, and laundry). It can be assumed that the demand for domestic labour services will increase as there are an increasing number of tourists. Many tourists arrive by trail from Praia do Sono and do not necessarily require the transportation services provided by men in the community. Therefore, as the demand for tourism-related services increases, and as long as individuals don't have the skills to market and manage their own enterprises within the tourism industry (literacy etc), women may take on the majority of the new available employment opportunities in paid domestic labour.

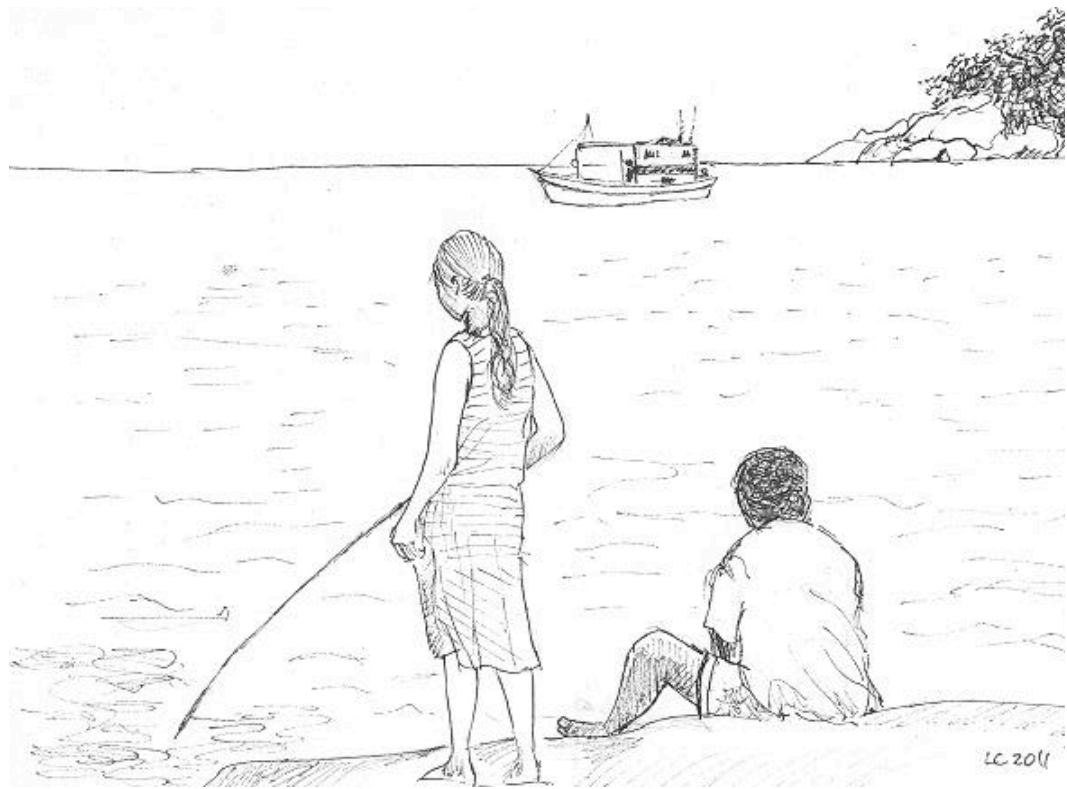
Conclusion

This chapter has argued that supporting the current diversity of livelihood in Ponta Negra and creating opportunities for future diversification are important to maintaining sustainable, diverse livelihoods within the community. Several factors, including the protected areas designation and its impact on community development, horticultural and harvesting activities, need to be explored further. Also a focus on the compounding impacts of various “push and pull” factors must be considered particularly as they relate to the changing aspirations of the residents of Ponta Negra as they relate to fishing, horticulture and especially tourism. These issues are important in supporting and creating current and future diversification in Ponta Negra and several surrounding communities. Also, community isolation and thus the availability of services will impact the nature of both current and future livelihood diversification. Particularly, it will be important to

focus on education and skill building in the community as well as providing services deemed necessary by the community, including electricity and better road transit. Diversification opportunities will impact men and women differently as circumstances change including increased demand for male wage labour in the fisheries, and the resulting shortage of local subsistence labourers, increased demands for women's domestic labour in tourism, and the resulting renegotiation of reproductive work. It is important to continuously include all members of the community when focusing on diversification direction because of the differential impacts that diversification will have on men and women.

Supporting the current diversity of livelihood portfolios in Ponta Negra and creating opportunities for future diversification are important to maintaining sustainable livelihoods within the community. Several factors, including the protected areas designation, community isolation and thus the availability of services impacts the diversity of both current and future livelihood diversification with differential effects on men and women.

CHAPTER 6: CONCLUSIONS



Kids fishing off the rocks: Ponta Negra Sketch: Laurie Carpenter, 2011 ©

Main Findings: Revisiting the Research Objectives

Based on the three research objectives: 1) to examine how people in a small coastal community make their livelihood 2) to analyze the influence of gender roles and relations and the divisions of labour in livelihood activities with particular focus on gender effects within the household or family unit and 3) to explore prospects for future livelihood diversification sensitive to the effects of gender within the household/ community, there are several main findings.

Objective 1: to examine how people in a small coastal community make their livelihood

In Ponta Negra, while fishing, tourism, and reproductive labour were most frequently declared as the primary activity of any given individual, other livelihood activities including but not limited to horticulture, harvesting activities, activities related to fishing and paid domestic labour are also important as both cash and subsistence activities. At both the household and individual level diversity was an important characteristic for viable livelihoods.

The most economically important productive labour activities, for both men and women in the community were those that related to fishing and tourism. Productive fishing activities include those related to both the catching sector (*cercos*, *embarcados*, gill nets, *lula* jigging) as well as *cercos* ownership, fish transport and activities that support the fishery including net weaving. Within tourism the service industry is gaining in importance with many individuals (many of them women) finding their only source of wage labour in domestic labour activities related to tourism.

Reproductive labour is also a very important and often misrepresented part of individual and household livelihood profiles. Women are doing most of the reproductive labour. Reproductive tasks as defined by the community are those performed by 'housewives' a social role declared by nearly all of the female research participants. Reproductive labour

includes cooking, cleaning, childcare, and care for the sick or elderly. Outside of the *cercos* fishery women also acted as the primary subsistence food gatherers and harvesters for the household including NTFP harvest (*palmito* and *coco preto*), coastal hook and line fishing, coastal harvest and horticultural activities related to both home gardens and *roças*.

Objective 2: to analyze the influence of gender roles and relations and the division of labour in livelihood activities with particular focus on the gender effects within the household or family unit

There is a clear gender division in livelihood activities with men dominating the fishing sector of gill nets, *cercos*, and *embarcados*, and women dominating reproductive labour activities (waged and unwaged respectively). Although there is an obvious division it is not exclusive and men and women participate in livelihood activities in various sectors. This is limited however, with more women participating in male dominated livelihood activities including fishing than men in female dominated activities including reproductive labour.

Furthermore, there is a clear gender division in livelihood activities within sectors (i.e., fishing, tourism, horticulture). In fishing, men are active in the use of all fishing gears while the majority of women are active in coastal hook and line fishing and *lula* jigging which are characterized as more social/leisurely. In tourism women are not involved in the male dominated activities of guiding and transport, however more women than men are involved in paid domestic labour including cooking, cleaning and serving. In horticulture, while plot inheritance is patrelineal and historically both men and women worked the plots, more women work the plots, now filling in for their male counterparts who are busy with other livelihood activities including seasonal labour migration for industrial fisheries or for men who are otherwise absent from the community.

Women often have a more diverse livelihood portfolio than men. Like men, women practice occupational pluralism and are able to easily transfer their skills and time from

one livelihood activity to the next. Unlike men, women are less likely to link themselves to one sector (e.g., fishing) and often have a more diverse portfolio, participating in a number of productive and reproductive livelihood activities over a year.

Although women are involved in fishing, horticulture and NTFP harvest, women's work is most often practiced in and around the household or in paid tasks that relate to domestic forms of labour, including housekeeping, cooking, laundry and childcare.

There is also a link between livelihood diversity, wage labour and decision making power. Much of the decision making power or bargaining power at the household level seems to be determined by the diversity of the individual livelihood portfolio and the sectorized nature of the livelihood activity. Generally the more specialized cash-generating activities allow individuals more bargaining power, whether or not they are women or men. When individual livelihood portfolios are more diverse for both male and female household heads (of the same household) bargaining power is shared more equitably at the household level. When livelihood portfolios become more specialized with men labouring in the wage-economy, and where there is less incentive for subsistence labour the diversity of household livelihood decreases and female bargaining power decreases. Where women also labour in the wage-economy their bargaining power increases.

Objective 3: to explore prospects for future livelihood diversification sensitive to the effects of gender within the household/community

The future of livelihood diversification is important for the sustainability of livelihoods in the community. Opportunities for diversification differ for men and women because of their respective gender roles relating to current livelihood activities, the gendered nature of various life courses and various “push and pull” factors. Diversification direction will also have differential impacts on men and women at the individual and household levels.

There are several “push” and “pull” factors that will affect future diversification directions including the status of The Juatinga Ecological Reserve and the opportunity for wage-labour in industrial fisheries and tourism respectively.

The protected areas designation has a significant impact on both the current and future diversity of livelihoods in the region. Both real and perceived restrictions include restrictions on the harvesting of wild vegetation in the Atlantic Forest, timber harvesting, horticultural activities including both *roça* and home gardens, hunting and restrictions on infrastructure development in the community. As men are drawn to the wage-economy and women become more involved in subsistence production they are vulnerable to land use restriction in the area. Women are also beginning to move from the subsistence economy to the wage-based economy through local tourism and domestic labour services required by the tourism industry and temporary community residents.

Other diversification strategies include migration for gainful employment, education, healthcare and marriage. Individual community members suggested that migration is often a necessary diversification strategy because the required services and assets needed for diversification including increased employment opportunity, education, healthcare services and partnership or marriage are not available in Ponta Negra.

Policy Implications

Several factors, including the degree of isolation of the community, lack of education and training opportunities, and limited access to external markets means that opportunities for diversification within the community are important to maintaining sustainable livelihoods within the community. Important areas of diversification include, various fishing activities, horticultural activities, timber harvest, NTFP extraction, tourism, and seasonal, temporary and permanent migration and the resulting remittance income. In many cases these livelihood activities occur within a system of dependency. For example, because of the isolation of the community the tourism industry is only sustainable with the ongoing

support of the natural resource base including fishing, horticulture and harvesting activities yet these are the very uses that have been restricted by the protected area designation. Furthermore, fishing depends on timber harvest to build canoes and paddles.

Limitations to diversification include unclear and inaccessible information around protected areas designation and the pending reclassification. Another limitation is the high rate of illiteracy and lack of training opportunities. Lack of access to external markets (and thus available capital) means that many individuals and households within the community are unable to comfortably diversify their livelihood for a sustainable future. A lack of policy transparency, access to information, and agency, compounded by illiteracy, mean that most individuals in the community do not have a clear idea of what livelihood activities are prohibited under the protected areas designation.

The pending reclassification of The Juatinga Ecological Reserve and the communities' inclusion in the reclassification process is extremely important for community members. For many in the community, restrictions placed upon resource extraction in the region are unclear, and policy has not been inclusive. It is critical that moving forward as per the 2002 decree (SNUC, 2002) the community be involved in order to secure continued use of the natural-resource base and thus sustain viable livelihoods in the region. Meaningful participation should address individual awareness of what each classification criteria means for livelihood options. Based on current livelihood strategies and natural resource dependency, sustainable use issues should be addressed. The SNUC decree should allow for sustainable use, but at the time of the study, there was very little room for individual community members to negotiate their livelihood within the protected area system. As well, the new law should allow for the co-management of locally important resources, but at the time of the study, there clearly was no co-management.

Research participants did not face restrictions in fishing practices, however, concern was expressed over the ever-increasing exploitation by industrial fishing fleets with fears that in the near future local fishers will have nothing to catch. In some cases, these ideas were

so pervasive that when asked why it is not lucrative to invest in fishing, many individuals mentioned the precarious future of the fishing industry under such high levels of exploitation. They suggested that Marine Protected Areas, designed to protect fish from large industrial fishing fleets but not artisanal fishing is the best way forward. While research participants felt disenfranchised by the protected area status of the land, they also felt disenfranchised by the lack of protection for the large fishing stocks, suggesting that they were being attacked both on land and at sea.

Individuals in the community with access to information through literacy, access to education and external markets, are able to navigate the legalities of tourism development including construction and marketing. While the majority of residents are confused and often frightened by the consequences of clearing a *roça*, or building a home or tourist accommodations, some recent developments in the community would indicate that a very small group of individuals (most of which do not live in Ponta Negra) are able to navigate the legislation, or secure the proper support to further develop tourism in Ponta Negra.

On the issue of differential impacts of diversification directions on men and women, it is important to look at the larger livelihood picture and not take for granted that fishing is the only, or necessarily the most important, livelihood activity in the community. Participant observation and interview data demonstrate women's contributions to livelihoods occur not only in fishing (*lula*), but also in horticulture, harvesting, tourism and reproductive labour. Policy changes for one sector do have impacts on other sectors. The impact of policy changes on the diversity of livelihoods is important because results show that in some cases women's bargaining power at the household level is decreased with decreased livelihood diversity at the household level. Women's bargaining power also decreased where men moved from the subsistence economy to the wage-economy but increased where women's participation in wage-economy (domestic labour) also increased.

It is important to acknowledge that while future diversification directions will have differential impacts on men and women the current issue of unclear legislation and a lack of skills and education has a significantly negative impact on the livelihoods of both men and women. The inability for individuals to negotiate their livelihoods means that the sustainability of livelihoods in the region is at risk. Those that are most disenfranchised by the current legislation are those unable to access the information that might allow them to understand the new opportunities to diversify their livelihoods. These same individuals are those that lack the education and skills that would allow them to diversify beyond that which includes the local natural resource base (specifically land based natural resources that fall within the protected area). Thus it must be recognized that within the differential impacts of diversification on men and women there is a class issue, with community residents who lack access to education, external markets, further skill building and a reliable transportation network being those most disenfranchised by the protected area designation.

This research set out to analyze how gender roles and relations impact livelihood activities at the household level and opportunities and barriers to livelihood diversification. In so doing I found that diversity is critical to the sustainability of livelihoods in the region. Understanding both the activities of men and women is essential in understanding opportunities for sustainable livelihoods in the region. A sectorised approach will not work in the context of small-scale fisheries management or the sustainable livelihoods and livelihood diversification in the region. Decreased diversity and increased specialization, particularly in male dominated economic sectors, may decrease female bargaining power at the household and community levels. Furthermore, skill building and education are essential to building capabilities for seasonal labour migration that may provide significant remittance or investment funds for the fisheries and other resource harvesting and tourism related activities in the region. Specifically, both men and women need the necessary assets to make decision around tourism, fisheries, and natural-resource extraction management.

Reflections and Concluding Thoughts

Throughout the research continual analysis of the research process and the use of critical reflexivity to enhance self-awareness was just as, if not more important than the continual and ongoing process of data analysis in the field. Being critical of the self and the research process allowed for new and important questions to arise regarding epistemologies and ethics as they relate to research and working in a cross cultural context, an important step for me in the research process.

The Research Process

Several limitations, including working in a cross-cultural context and my identity as a researcher meant that an adaptive approach was necessary. An adaptive approach allowed me to adjust my techniques based on study site limitations, changing circumstances, personal reflection and community feedback (Nelson, 1991). Critical reflexivity was a difficult but necessary process that allowed me to adapt my approach to better suit the needs and circumstances of the community. However difficult, critical reflexivity was absolutely necessary because it helped me not only to realize myself as a subjective being, but also to address this 'limitation'. Once I was comfortable with the ongoing process of constantly scrutinizing the research process and myself I found strength in my ability to move forward. Rather than a 'limitation', understanding the process of critical reflexivity allowed me the opportunity to explore the difference in worldviews and epistemology creating an awareness of the inherent vulnerabilities in the research process. Critical reflexivity allowed me to approach the research from a new direction (Dowling, 2000), one no less rigorous or systematic but more thoughtful and inclusive.

Dealing with the challenges of the research and the research process were a necessary and important part of this work. Ultimately, acknowledging the shortcomings of the process aided in strengthening not only the work, but also my own rapport with the community.

The Research

It is important to explore further issues of current and future livelihood diversification with specific attention given to the differential impact of diversification on men and women based on current and future trends in gender roles and relations within the community. Although the household unit provides an easy unit for analysis when exploring the larger livelihood picture it is important to explore intra-household dynamics, focusing on the roles and relations of individuals and how individuals within a larger unit make a livelihood. When focusing on the household, important information may be lost. Focus on intra-household dynamics (the individual) provides information pointing towards larger trends that have significant impacts on livelihoods and individual, household and community well being.

Ponta Negra is one of the most isolated communities in the Paraty Region, dependent not only on fishing but also on a number of resource-based livelihood activities. There are clear gender roles and relations in Ponta Negra that impact individual's livelihoods and also diversification directions for the future. One of the main issues facing the community regarding livelihoods and future diversification direction, that does have an impact on gender roles and relations in the region, is the issue of The Juatinga Ecological Reserve and the pending reclassification. Care must be taken to include all community members in addresses issues related to local livelihoods and issues that directly impact important livelihood activities in the region. Furthermore, services, including increased access to education is essential for all community members and will allow both men and women greater access to the wage-economy (including tourism related activities). As tourism increases and more community members have access to education and skill building more research needs to be done to look at the increased changes in gender roles and relations and bargaining power as the community becomes more dependent on external capitalist economies.

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APPENDIX A: ETHICS APPROVAL



Ethics
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APPROVAL CERTIFICATE

May 31, 2010

(Advisor - Fikret Berkes)

TO: Lydia Carpenter
Principal Investigator

FROM: Wayne Taylor, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2010:068
"Livelihoods and Gender in a Coastal Artisanal Fishing Community
Paraty, Brazil"

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Eveline Saurette in the Office of Research Services, (e-mail eveline_saurette@umanitoba.ca, or fax 261-0325), including the Sponsor name, before your account can be opened.
- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/ors/ethics/ors_ethics_human_REB_forms_guidelines.html) in order to be in compliance with Tri-Council Guidelines.

Bringing Research to Life

APPENDIX B: PRELIMINARY INTERVIEW QUESTIONS

This is a basic set of questions that served to illicit information to aid in selecting the semi-structured interview participants.

1. Individual Code ____
2. Household Code ____
3. Age
4. Sex
5. Level of education
6. How long have you lived in the community?
7. What are your primary livelihood activities (What do you do each day to contribute to the household)?
8. What are the primary activities of other members of your household (What do other members of your household do each day to contribute to the household)?
9. Can you please discuss how you are involved in: fishing, harvesting, horticulture, tourism, and reproductive labour?
10. What assets do you have access to i.e., human capital (level of education, literacy, training opportunity, health and physical ability), financial capital (saving, bank loans, work), physical capital (land, house, boat, fishing nets), social capital (family relations, community relations etc), natural capital (land access, harvesting capabilities, food production).

APPENDIX C: SEMI-STRUCTURED INTERVIEW SCHEDULE

Interview guide preamble:

Where necessary I began each interview by introducing myself. In most cases research participants knew who I was and we had already built some rapport. After the necessary introductions I explained the purpose of the interview. I then addressed terms of confidentiality and address any questions or concerns by the research participant. I proceeded to explain the format of the interview, how long the interview would take (approximate time) and the method used to record the interview (note taking). Upon completion of the interview I gave the research participant the opportunity to ask questions and clarify any doubts about the interview or the interview process. I then provided them with my contact information (place or residents) should they have any concerns or want to meet again.

Through the interview process I sought to understand the ways in which individuals within the household contribute to making a livelihood. I sought to understand gender roles and relations in making a livelihood, how women contribute to livelihood, and the livelihood portfolio of both men and women.

Because my interviews were adaptive in nature and were informed by participant observation this interview schedule served as a guide following main themes. The direction of the interview and thus the questions asked followed the main themes however the specific of each interview differed according to the participants interests and information gathered from other data gathering procedures.

Note: Interview will begin with introductory questions including questions related to age, education, literacy, place and length of residence, birth place etc.

Objective1: To examine how people in a small coastal community make their livelihood.

What do men and women do?

Where (location/patterns of mobility)?

When (daily and seasonal patterns)?

Productive roles: paid work, self-employment, and subsistence production

Reproductive roles: domestic work, child care and care of the sick and elderly

Community participation: voluntary work for the benefit of the community as a whole

Community politics: decision-making/representation on behalf of the community as a whole

Example Questions:

1. Please tell me what your daily responsibilities include (inside and outside the home).
 - How many hours per day (on each activity)
Por favor, me fale (ou me conte) quais são as suas responsabilidades diárias (dentro e fora de casa).
 - Quantos horas por dia

Probe:

Do you receive payment for any of your work?

Você recebe pagamento por algum dos trabalhos que faz?

Have you done any paid work in the past year?

Você fez algum trabalho pago no ano passado?

Please tell me about any seasonal work you do.

Por favor, me fale (ou me conte) sobre qualquer trabalho temporário que você faz.

Do you ever fish, clean fish, or maintain boats or equipment?

Você pesca, limpa peixes, ou cuida de barcos ou equipamentos?

Please tell me more about...

Por favor, me conte (ou me fale) mais sobre...

2. Who in your household works and generates money/sustains the household?
Quem na sua casa/família trabalha e gera renda pra família?
Quem na sua família trabalha para o sustento da casa?

What other means do you have for providing for yourself and the household?

Que outros meios você tem de sustentar a família e você mesmo?

Can you tell me more about....

Você poderia me falar (ou me contar) mais sobre...

3. What are the major sources of food for your household?
Quais são as maiores fontes de alimento (ou de comida) para a sua família?

Probe:

Where do you purchase food?

Onde você consegue comida?

OU

Onde você compra comida?

Tell me about how you are involved in food production.

Me conte sobre como você está envolvido(a) na produção de alimento (ou comida).

How do you feed your family when there aren't any fish caught?

Como você alimenta a sua família quando não pesca? OU

Como você alimenta a sua família quando não dá nada na pesca?

Can you tell me more about...?

Você poderia me falar (ou me contar) mais sobre...?

4. Do you share food or money with other households?

Você divide alimento ou dinheiro com outras famílias?

Probe:

Who?

Com quem?

How often?

Com que frequência? OU De quanto em quanto tempo?

How do you feel about sharing (food or income) with other households?

Como você se sente dividindo (comida ou dinheiro) com outras famílias?

Objective 2: To analyze the influence of gender roles and relations and the divisions of labour in livelihood activities with particular focus on gender effects within the household or family unit.

What livelihoods assets/opportunities do men and women have access to?

What decision-making do men and/or women participate in?

What decision-making do men and/or women usually control?

What constraints do they face?

Example Question:

1. What would make your work easier?
O que tornaria o seu trabalho mais fácil?
2. How do you maintain good relationships with other community members?
Como você faz para manter boas relações com os outros membros (ou pessoas) da comunidade?

Probe:

Do you do any work (paid or unpaid) with members of the community?

Você trabalha com outros membros (ou pessoas) da comunidade? OU Você faz algum trabalho (pago ou não) com outros membros (ou pessoas) da comunidade?

Objective 3: To explore prospects for future livelihood diversification sensitive to the effects of gender within the household/community

What are women's and men's needs and priorities?

What perspectives do they have on appropriate and sustainable ways of addressing their needs?

Example Questions:

Do you see a need to increase your income or improve your access to food?

Você sente necessidade de aumentar o quanto ganha ou melhorar o seu acesso à comida?

If your family needed more money what would be your first option for making more money?

Se a sua família precisasse de mais dinheiro, qual seria a sua primeira opção para ganhar mais dinheiro?

What would you do for paid work?

O que você faria como trabalho pago?

OU

Que trabalho você faria?

If you had more money, what would be your priority for spending?

Se você tivesse mais dinheiro, qual seria a sua prioridade para usá-lo?

If your family needed more food what would be your first option for accessing more food?

Se a sua família precisasse de mais comida (ou alimento), qual seria a sua primeira opção para conseguir mais comida (ou alimento)?

What kinds of things would you like to see your children doing in the future?

Que tipos de coisas você gostaria de ver seus filhos fazendo no futuro?

OU

O que você gostaria de ver seus filhos fazendo no futuro?

What do you consider to be important for your children's future? (or for children in the community).

O que você considera importante para o futuro dos seus filhos? (ou para as crianças da comunidade).

Tell me about any changes you have noticed in your community.

Fale sobre as mudanças que você notou na sua comunidade.

Why do you think these changes are occurring?

Você acha que mudanças estão acontecendo?

Will these changes impact your ability to provide for your family?

Você sente que essas mudanças vão influenciar (ou impactar) na sua habilidade de sustentar a sua família?

OU

Você sente que essas mudanças vão influenciar (ou impactar) no sustento da sua família?

How do you think your daily activities
might change in the future?

Como você acha que as suas atividades diárias devem mudar (ou mudarão) no futuro?

Tell me about how you hope to see your community improve.

Como você espera ver a sua comunidade melhorar

APPENDIX D: DETAILED RESEARCH PARTICIPANT INFORMATION

CODE (Research Participant)	Sex	Age	Preliminary interview date	Semi-structured interview date
	M	49	July 9th	July 9th
	F	42	July 9 th	Aug 7th
	F	26	July 6th	Aug 8th
	F	26	July 7th	Aug 9th
	F	37	June 29th	Aug 12th
	F	39	July 7th	Aug 12th
	M	41	July 7th	Aug 12th
	F	57	July 7th	Aug 21st
	F	27	June 29th	Aug 21st
	M	34	June 29th	Aug 21st
	F	20	Aug 23 rd (informal)	Aug 23rd
	F	32	July 7th	Aug 23rd
	F	52	June 29th	Sept 1st
	M	57	June 29th	Sept 1st
	M	37	June 29th	Sept 8th
	F	32	June 29th	Sept 8th
	F	46	July 9th	Sept 11th
	F	62	June 29th	Sept 11th
	M	29	July 27th	Sept 14th
	M	70	June 29th	Sept 15th
	M	66	July 7th	Sept 15th
	F	36	July 7th	Sept 15th
	F	77	July 7th	Sept 15th
	M	77	July 7th	Sept 15th
	F	28	September 16 th (informal)	Sept 16th
	M	40	June 30th	Sept 16th
	F	27	September 16 th (informal)	Sept 16th
	M	42	September 23 rd (informal)	Sept 23rd
	M	70	June 29th	
	F	67	June 29 th	

	M	40	June 29th	
	F	24	June 29th	
	F	22	June 29th	
	M	34	June 29th	
	M	20	June 29th	
	M	64	June 29th	
	F	39	June 30th	
	F	41	June 30th	
	M	47	June 30th	
	M	21	June 30th	
	M	19	June 30th	
	M	50	June 30th	
	F	46	June 30th	
	M	40	June 30th	
	F	30	June 30th	
	M	29	July 6th	
	F	48	July 7th	
	M	47	July 7th	
	F	56	July 7th	
	F	37	July 7 th	
	M	46	July 7 th	
	M	21	July 7 th	
	M	19	July 7 th	
	F	18	July 7th	
	M	32	July 7th	
	M	50	July 7th	
	F	42	July 7th	
	F	66	July 7th	
	M	25	July 7th	
	F	31	Sept 16th	
	M		Sept 16th	
	M		Sept 16th	
	M		Sept 16th	
	M		Sept 16th	
	M	42	July 9th	

APPENDIX E: WOMEN'S WORK IN PONTA NEGRA, BRAZIL (2010) – SELF-DECLARED LIVELIHOOD ACTIVITIES (N=17) SOURCE: INTERVIEW DATA

Housework & childcare
Housework & childcare/nursing assistant/catalogue cosmetic sales (e.g. Avon)
Housework & childcare/ catalogue cosmetic sales (e.g. Avon)/ housekeeping for tourism rental property/ sells clothing out of home
Housework & childcare/cleaner for community centre buildings (2)
Housework & childcare/housekeeper for tourism operator/garden for home consumption/raises chickens for sale/helps on family <i>roça</i>
Housework/housekeeping/artisanal handicrafts from home (directed to tourists)/ hand sewn clothing from home/net making (<i>cerco</i>), wage labour in Paraty
Housework & childcare
Housework & childcare/ housekeeping & cooking during high tourism season (Dec-Mar)
Housework & childcare/ work on family <i>roça</i> / housekeeper/ net making (<i>cerco</i>)
Housework/ baby sitting/ housekeeper and cook for tourism operator
Housework & childcare/housekeeper (own rental property), cook during high tourism season
Housework/School cook (government)/tourism operator / runs restaurant (small grocery store)
Housework/housekeeping
Housework & childcare/ cooking and housekeeping during high tourism season
Housework/retired
Housework and childcare/fisher/ <i>roça</i> / cooking and housekeeping during high tourism season
Housework/housekeeping/artisanal handicrafts from home/laundress – from home/ <i>roça</i>

APPENDIX F: MEN’S WORK IN PONTA NEGRA, BRAZIL (2010) – SELF-DECLARED LIVELIHOOD ACTIVITIES (N=11) SOURCE: INTERVIEW DATA

Fisher (<i>cerco</i>) /tourism operator/ runs restaurants and small grocery store (cooks, cleans)
Housekeeper for tourism operator/garden for home consumption/ helps on family <i>roça</i>
Fisher (<i>cerco</i> , hook and line, gill net)/construction/odd jobs
<i>Roça</i>
Fisher (<i>cerco</i> , hook and line, <i>lula</i>)/guide/construction/rental property
Transportation (for locals and tourists)/freight
Fisher (<i>embarcado</i> , <i>cerco</i>)/ <i>roça</i> /retired
Fisher (<i>embarcado</i> , <i>cerco</i>)/retired
Fisher (<i>embarcado</i> , <i>cerco</i>)/retired
Housework, construction, builds furniture, cooks/bakes for tourists
Fisher (<i>cerco</i> , hook and line)/ <i>roça</i> /woodwork

APPENDIX G: GENDER DIVISION OF LIVELIHOOD TASKS BY HOUSEHOLD

Household (HH) and Research Participant (RP)	Self declared activities	Other tasks – not declared primary by the research participant
HH 1 M	Fisher (<i>cerco</i>) /tourism operator/ runs restaurants and small grocery store (cooks, cleans)/	Housework (cooking)
HH 1 F	Housework/School cook (government)/tourism operator / runs restaurant (small grocery store)	Community volunteer (school, events planning)
HH 2 M	Housekeeper for tourism operator/garden for home consumption/ helps on family <i>roça</i>	
HH 2 F	Housework & childcare/housekeeper for tourism operator/garden for home consumption/raises chickens for sale/helps on family <i>roça</i>	
HH3 M	Fisher (<i>cerco</i> , hook and line, gill net)/construction/odd jobs	
HH3 F	Housework & childcare	Fishing – hook and line, <i>lula</i> Coastal & NTFP harvest
HH4 M	<i>Roça</i>	
HH4 F	Housework/ baby sitting for daughter/ housekeeper and cook for tourism operator	
HH5 M	Fisher (<i>cerco</i> , hook and line, <i>lula</i>)/guide/construction/rental property	NTFP harvest
HH5 F	Housework & childcare/housekeeper (own rental property)/ cook during high tourism season/ volunteer – community parties, school parties and events	Community volunteer Fishing – hook and line, <i>lula</i> Coastal & NTFP harvest Home garden Raise chickens and ducks
HH6 M	Fisher (<i>embarcado</i> , <i>cerco</i>)/retired	
HH6 F	Housework/retired	
HH7 M	Fisher (<i>cerco</i> , hook and line)/ <i>roça</i> /woodwork	<i>lula</i>
HH7 F	Housework/housekeeping/artisanal handicrafts from home/laundress – from home/ <i>roça</i>	Fishing- hook and line and <i>lula</i> Raise chickens and

		ducks
HH8 M	Fisher (<i>embarcado, cerco</i>)	
HH8 F	Housework & childcare/nursing assistant/catalogue cosmetic sales (e.g. Avon)	Coastal harvesting Raise chickens and ducks
HH9 M	Fisher (<i>embarcado, cerco</i>)	Coastal harvesting
HH9 F	Housework & childcare/ catalogue cosmetic sales (e.g. Avon)/ housekeeping for tourism rental property/ sells clothing out of home	Home garden Home garden Raise chickens and ducks
HH10 M	Fisher (<i>cerco</i>)	
HH10 F	Housework & childcare	
HH11 M	Fisher (<i>embarcado</i>)	
HH11 F	Housework & childcare/ cooking and housekeeping during high tourism season/	Community volunteer (school, community events) Fishing- hook and line, <i>lula</i> Coastal & NTFP harvest
HH12 M	Fisher (<i>cerco</i>)/ <i>roça</i>	Hunting NTFP harvest Fishing – hook and line, <i>lula</i>
HH12 F	Housework and childcare/fisher (<i>cerco</i>)/ <i>roça</i> / cooking and housekeeping during high tourism season	Coastal harvest NTFP harvest Fishing - <i>lula</i>
HH13 F	Housework/ baby sitting/ housekeeper and cook for tourism operator	
HH14 F	Housework/housekeeping/artisanal handicrafts from home (directed to tourists)/ hand sewn clothing from home/net making (<i>cerco</i>)/ wage labour in Paraty/ fishing (<i>cerco</i> , hook and line)	Coastal harvest NTFP harvest Fishing – <i>lula</i> Odd jobs
HH15 F	Housework & childcare/ housekeeping & cooking during high tourism season (Dec-Mar)	
HH16 F	Housework & childcare/ work on family <i>roça</i> / housekeeper/ net making (<i>cerco</i>)	
HH17 M	Fisher (<i>embarcado, cerco</i>)/ <i>roça</i> /retired	NTFP harvest
HH18 M	Housework, construction, builds furniture, cooks/bakes for tourists	

APPENDIX H: CONSENT FORM



Natural Resources Institute
Clayton H. Riddell Faculty of
Environment, Earth, and Resources

Research Project Title: **Livelihoods and Gender: A Case Study on the Coast of Southeastern Brazil**

Researcher: **Lydia Carpenter**

Sponsor: **International Development Research Centre (IDRC) – Research Chair for Community-Based Resource Management**

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Project Summary: This research is being done through the University of Manitoba in Canada and is funded by the International Development Research Center (IDRC), a Canadian Crown corporation that works in close collaboration with researchers from many parts of the world. The purpose of this research is to explore how people make and sustain their livelihoods in artisanal fishing communities of coastal Brazil, and how gender divisions of labour and gender roles and relations at the household level influence how livelihoods are made. Through this research I hope to contribute to the literature on the gender dimension of fisheries and the role of women in securing livelihoods in such environments. I will also address issues of future livelihood diversification, particularly exploring the notion that diversified livelihoods are a feature of household strategies in securing a livelihood.

My research objectives are threefold: 1) Examine how people in a small coastal community make their livelihood. 2) Explore the influence of gender roles and relations and the divisions of labour in livelihood activities with particular focus on gender effects within the household or family unit. 3) Explore prospects for future livelihood diversification sensitive to the effects of gender within the household/community.

Research Timeline: Data collection (interviews, focus groups, and participant observation) will be carried out from June 2010 to October 2010

As a participant, you will be involved in individual semi-structured interviews and/or group interviews. Semi-structured interviews are expected to take approximately one hour. Group interviews are expected to last between one to two hours.

Data Gathering and Storage: Interviews will be documented through note taking. Notes and transcripts will be stored in password protected computer files and be stored in a locked cabinet. No photographs will be taken during the interviews without consent from all participants involved in the interview.

Risk and Benefits: No information will be used in a way that could put at risk the integrity or safety of participants. This research will help to inform the larger 5-year IDRC funded project that aims to aid the community to develop integrated approaches to manage local resources and to diversify their income sources, and thus increase food security.

Expected Outcomes: A Master's thesis and other academic publications will result from this research. Your name, your direct quotations, nor your photographs will be used in any publication without your consent.

The information resulting from this interview/focus group will be kept confidential. If you wish to retain anonymity, a participant number, rather than your name, will be used to identify you on transcripts and any other reproductions of the information you provide. I am the only individual that will have access to the real names of interviewees who choose to remain anonymous.

The findings from this research project will be made available to community members. A copy of the Master's thesis, a summary of findings, as well as any other publications resulting from this research will be shared with the community, as well as any participant requesting these materials.

Compensation: No financial compensation will be provided either directly or indirectly to participants for their contributions to this research project.

Please indicate whether or not you agree to the following:

Yes No	/	2. I agree that the researcher may take notes during this interview/group interview.
Yes No	/	3. I agree that the researcher may cite my name and directly quote me in future publications. I understand that as a result it will be possible for others to recognize me. (Please, feel free to answer this item at the end of the interview)
Yes No	/	4. I agree that the researcher may directly quote me using pseudonym rather than my real name (Please feel free to answer this item at the end of the interview)
Yes No	/	5. I agree that photographs of myself may be taken and used in reports and publications connected to this research
Yes No	/	6. I wish to receive a summary of this interview/group interview.
Yes No	/	7. I wish to participate in both the semi-structured interview and the group interview. (if no proceed to next question)
Yes No	/	7. I wish to participate <u>only</u> in the semi-structured interview
Yes No	/	8. I wish to participate <u>only</u> in the group interview

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Lydia Carpenter
lydiacarpenter03@yahoo.ca
1 (204) 669-6704

Fikret Berkes
1 (204) 474-6731
berkes@cc.umanitoba.ca

This research has been approved by the Joint-Faculty Research Ethics Board of the University of Manitoba. If you have any concerns or complaints about this project you may

contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

|

Participant's Name (Printed)

Participant's Signature

Date

Researcher's Signature

Date

Natural Resources Institute
Clayton H. Riddell Faculty of
Environment, Earth, and Resources