

**Local Manifestations of Social and Environmental
Policy in the Urban Brazilian Amazon**

**Brenda Baletti
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**Center for Latin American Social Policy
Lozano Long Institute of Latin American Studies
University of Texas at Austin**

I. Introduction

The image of 21st century Brazilian Amazon has changed significantly from the 19th and 20th century depictions of a vast land of untamed nature (Stepan 2001). Urbanization has occurred in the region as economic and social opportunities draw people to cities (Browder 2002). Urban economic development, however, over the past several decades not been equal to the rate of urbanization which has resulted in the “over-urbanization” of the region and the exacerbation of social problems including lack of urban housing and employment (Browder and Godfrey 1997, WinklerPrins and Souza 2005). Even as growth rates in the major cities such as Belém have slowed, inequality has continued to increase, manifesting in increased socio-spatial segregation within the cities (Lima 2001).

Illegal occupation of land has been a commonly practiced, socially, and often ultimately legally sanctioned strategy adopted by the urban poor in order to maintain their livelihoods. In these occupied spaces on undeveloped land, people have established agroforestry¹ plots, or practiced extractivism of resources from urban natural spaces such as urban forests². Protected environmental spaces within cities such as urban forests provide a variety of services to myriad stakeholders and are spaces created and maintained through the complicated intersection of environmental and social policy. When these forests are occupied, conflict often arises between inhabitants and government agencies. This research used documentary, interview, and actor-interface

¹ The collective word for all land-use systems and practices in which trees and shrubs are deliberately grown on the same land management unit as crops and/or animals.

² Urban Forests are defined as all trees and associated plant species that live within and on the periphery of the city.

methodologies to examine how social and environmental policy in the Brazilian Amazon manifest at the municipal level through an investigation of the conflict surrounding an illegal occupation within an urban forest in Belém, Brazil. Specifically, it investigates the conflict between the need to improve urban environments through conservation, and the need for the urban poor to have access to inexpensive and productive land.

Over the past several decades, the Brazilian government has at times encouraged migration into the Amazon region and from urban to rural areas through the construction of road networks and the institution of economic incentives for development. In encouraging rapid urban expansion, it often ignored environmental issues, especially in urban areas, turning a blind eye to sanitation and pollution issues, and to the proliferation of illegal settlements without urban infrastructure. Growing international environmental awareness manifest in concern over worldwide biodiversity loss and climate change over the past few decades has focused international attention on the Amazon region and affected government policy there—environmental regulations have become increasingly legislated and enforced. Additionally, the popular trend in many developing countries towards decentralization of natural resources management has been partially implemented in the Brazilian Amazon, and municipalities have gained more responsibility for environmental management. A growing concern for the “new poverty”, emerging forms of social exclusion, and demands for social justice manifest in new social policies has also resulted in the regularization of some illegal urban settlements. The combined effect of these processes is that the urban forests of Belém have become highly regulated spaces with restricted access and a complex group of stakeholders that have multiple and often conflicting interests.

The purpose of this research was to analyze the political and social dynamics of this conflict over forest space in Belém, through both a discussion of environmental and social policy in the region and an investigation of stakeholder perspectives. Drawing on research completed for my master's thesis that identified urban forest change and the major social issues affecting that change, this research investigated more profoundly the conflict surrounding one particular contested site within a unit of conservation in the municipality of Belém. By examining the management of Belém's urban forests from the perspective of multiple actors, this study demonstrates that the participation of local people and institutions in forest management is a complex situation and that current management practices fail to provide access to the management discussion for affected communities. It further demonstrates that the conflict surrounding resource management in the urban forest is largely one of access, both to the natural resources themselves, and to a voice in the decision making process.

During the course of this research conducted in July and August 2004, I conducted interviews with leaders and members of the community organization, NGOs, and government agency employees. I attended various meetings of an NGO working on urban environmental issues, and facilitated and participated in a meeting of the community organization and an NGO. With the members of the community, I measured and surveyed their home gardens. Finally, I conducted documentary research on the conflict, the park history, and Belém by consulting academic works, newspaper articles, and statistical information.

Section 2 of this essay provides a brief summary of the political, economic, and social context that informs this conflict. Section 3 outlines the specific conflict, and the

situation of the community living within the forest. Section 4 discusses the implications of this type of conflict for social policy. Finally section 6 discusses future research that would further develop this theme.

2. Political, Economic, and Social Context

Development Policies

Myriad social processes have shaped Amazonian development over the past several decades including state power in its various forms, resources exploitation interests, commodity flows, social movements, environmental interests, and urbanization. Each of these processes has occurred on multiple scales and has included action by a variety of actors. As much research has discussed these processes in detail (see Hect 1985, Hect and Cockburn 1990, Browder 1988, Simmons 2004, Brown and Purcell 2005), this work will only briefly summarize these processes here, focusing on the Eastern Amazon, in order to emphasize their shifting nature..

Until the mid-20th century, Brazil was a highly decentralized country. Amazonia remained largely disconnected from the Brazilian economy, though its richness in natural commodities, particularly rubber, allowed the region to forge relationships with international markets. Between the mid eighteenth hundreds and early 1900s, the rubber boom, arguably the largest economic boom in Amazonian history, allowed the eastern port city of Belém to expand and establish regional dominance. In 1914, with the expansion of Asian rubber plantations, the boom collapsed and the region suffered a depression (Trinidad 1998).

The military forcibly instituted a new government, installing Getúlio Vargas as its leader in 1930. Vargas had a more nationalist vision for Brazil's future, which resulted in

a shift in power over development from the regional to national scale (Brown and Purcell 2005). A primary element of Vargas' plan for national development included expansion into Amazonia, then seen as a panacea of agricultural and natural resource potential (Hecht and Cockburn 1990). In order to implement this agenda, he established relationships with international capitalist interests, particularly during World War II.

In the 1964, the military took control of the country for a period that would last two decades, opening the country to international investment in order to achieve economic development and industrialization. During this period, the military implemented Operation Amazonia, creating a regional organization, the Superintendency for the Development of Amazonia (SUDAM), which remains Amazonia's primary development agency. Fitting with the political climate of the time with regard to development, the program of SUDAM included development of a regional highway system to link the disparate parts of the Amazon region to each other as well as to the rest of the nation³, hydroelectric systems, acquisition of wood and other forest products and many others, as well as a program of economic incentives to attract businesses from the south of the country and international corporations to invest in the area, along with programs to encourage migration (Bordelo 1998). Development in the Amazon was in fact part of a larger international project to develop the global south and much capital for this development was supplied by international organizations including the World Bank and the InterAmerican Development Bank (Simmons 2002, Brown and Purcell 2005). SUDAM's interests in cattle development programs reflected the interests of both domestic actors and also global interest in livestock production in the third world and

³ the Belém-Brasília, Cuiabá-Porto Velho, Transamazon, and Northern Perimeter Highways were all constructed during this period

money from these organizations (World Bank, the Food and Agriculture Organization, and US financial corporations) often funded such programs (Simmons 2002).

Throughout the seventies, eighties, and nineties, the focus of economic development was variously on mineral exploration, agricultural activities and forest resource extraction. At times, development policy shifted towards populist concerns as well, implementing land reform policies to benefit small farmers. With the advent of the 1990s and the proliferation of ideas of sustainable development, there was much social and environmental legislation, but few actual results. Though the population of the Amazon, both rural and urban doubled between 1970 and 1990, and government policies shifted between an emphasis on commercial interests and on populist concerns, the majority of development aid benefited the commercial sector (Simmons 2002).

Environmentalism

Growing international environmental awareness manifest in concern over worldwide biodiversity loss and climate change focused international attention on the Amazon region and affected government policy there. International non-governmental organizations (NGOs), primarily environmental and human rights oriented and based in the US and Europe criticized alliances between international aid organizations and national governments, and forged alliances with “local” people, calling for greater participation in government for local interests in part resulting in policy changes within these organizations that at least on paper acknowledged their problematic environmental and social processes.

Environmental activism in Brazil actually has a history dating back to the 1930s (Simmons 2002). The first forestry code, established as part of the 1934 constitution

protected some areas of forests for future use. The 1965 (federal law 4771/1965) forest code expanded on this legislation to create national parks and other types of reserves, and importantly for urban forests, other types of vegetative landscapes. This forest code legally provides complete and permanent protection for forest and other vegetation existing in specific areas. These protected areas are called Areas of Permanent Preservation and include forests and other types of vegetation located in precarious locations, that is threatened, or that has the function of securing conditions of well-being for the public. The Forest Code has clear implications for urban forests, especially in municipalities such as Belém who do not yet have specific codes for protecting these spaces. There, the Forest Code remains one of the major legal sources for forest conservation.

However, many spaces protected by the law have not historically been protected. Socio-spatial segregation tends to marginalize poor people from the more advantageous geographical position and many people have settled in the flood plains along rivers, lakes, and *igarapes* (small channels), establishing large *baixadas* (inundated areas occupied by the poor) in various parts of the city in areas that are theoretically protected by the Forest Code. The distribution of urban poor into geographically precarious areas has been part of the urbanization model of the majority of large Brazilian cities. Though these settlements exist contrary to the Forest Code, their presence is sometimes regularized by the public power through urban legislation, or more often, ignored and allowed to expand. The Forest Code has been systematically ignored or suppressed in many Brazilian cities due to poverty and the proliferation of these settlements.

National attention to issues of environmental protection began to arise in the 1960s and 70s. The 1973 United Nations Conference on the Human Environment in Stockholm is often identified as genesis of worldwide environmental awareness. It led to the development of the United Nations Environment Program as well as multifarious environmental programs across the world. Prior to the Stockholm conference, however, Brazil had developed its own environmental program which, prioritized economic development, but included, at least in its language, a type of conservation as part of its program. In fact, Brazil was resistant to many of the ideas raised at the Stockholm conference (Viola 1996). Subsequent to the conference, however, the government created a national Secretary of the Environment (SEMA). With the creation of SEMA, environmental issues of pollution control and preservation of some ecosystems were prioritized, at least in name and by 1979, an elaborate system of land use zoning and conservation units had been established for Amazonia. In practice, however, natural resources were still generally considered infinite, and unchecked exploration and exploitation continued. In fact, in 1975, two national decrees (Legal Decree 1.413 and 76.389), specifically allowed for economic growth at the expense of environmental protection by stripping state and municipal agencies of their rights to intervene where economic development threatened conservation interests (Simmons 2002). In these situations even the national ministry, SEMA, had little to no power of enforcement (Dieges 1994).

In the 1980s and 90s, deforestation in the Amazon became a point of international attention and debate which significantly impacted environmental policy in Brazil. International aid organizations such as the Inter-American Development Bank and the

World Bank began to include environmental protection clauses as conditions for loans. There was also a proliferation of national and international NGOs working throughout the region. The worldwide focus on “sustainability” that grew out of the 1987 Bruntland report (World Commission on Environment and development 1987) was incorporated into the Brazilian Constitution of 1988.

The Brazilian constitution of 1988, in addressing environmental issues, specified that legislation should strive to organize conservation to that “ecological equilibrium” exists, and mandated for this concept of sustainability—that land and natural resources could be used by the people and should be defended and preserved for future generations (art225). Though the Constitution addresses sustainability for both the environment and the cities, urban and environmental policy fall into discreet categories of this discussion⁴.

Influenced heavily by the famous Bruntland report (1987) and its philosophy of “sustainable development” and by the changing political climate, a movement arose in Brazil to reform environmental policy, initiating a shift to a more integrated conservation approach to land management⁵. One of the major goals of this movement was to protect native people along with the lands in which they lived. This argument generally stated that biodiversity today is partially due to the existence of native populations, and that

⁴ The “environment” section, article 225, is listed in the “Social Order” section and “urban policy”, articles 182 and 183, is listed in the “Economic and Financial Order” section. The Urban Policy section of the constitution focuses on ensuring social functioning of the city and regularization of occupied land and makes no mention of environmental issues. The environmental section outlines the protection of those things that usually fall into the category of “nature” such as flora, fauna, and natural ecosystems, for the purpose of the public good.

⁵ Previous protective legislation was extremely preservationist, often legislating the presence of people out of protected natural areas. This style of preservation was generally unsuccessful because the legal mandates were seldom enforced and consistently violated.

removing them could result in a loss of Amazonian biodiversity. Various world conferences debated and affirmed this idea⁶.

At the 1992 United Nation Conference on Development and the Environment, held in Rio de Janeiro, conference participants created Agenda 21, which is an international agenda for sustainable development on the global, national, and local level. They also wrote the Statement of Principals for the Sustainable Management of Forests. Elements of these directives were subsequently incorporated into Brazilian Law. As these concerns and policies become institutionalized, the government is enforcing previously un-enforced laws as well as creating new ones. Recently, poverty alleviation has also become part of the conservation package, and some foreign governments have begun to mandate poverty alleviation as a condition of project funding (Fearnside 2003). The most obvious result of the increasing environmental awareness has been an increase in protected areas even in urban areas. However, though these areas are often protected by the law, the actual land use practices have often not followed the legal mandates for the areas. This is due to a variety of factors including various actors' ideas of legitimacy of rights to land use, and different needs of these people, and different types of relationships with nature. The Brazilian government attempted to address this issue with the development of a new system of units of conservation (SNUC).

⁶ Conferencia da Unio Internacional para a conservação sobre "Conservação e Desenvolvimento: pondo em pratica a estratégia Mundial para a conservação" in Ottawa 1996, Cuidar La Tierr written by the WWF and PNUMA (Programa das Nações Unidas para o Meio Ambiente) in 1991 and even the world Bank, confirmed this changing international trend. Despite the debate surrounding this subject, in Brazil in the 1990s, most of the environmental protection laws still removed or relocated populations or inhibited their access to these resources. This debate over whether to allow traditional populations to remain within units of conservation sparked an intense discussion over the meaning of categories of conservation in general. This debate is too complex to be discussed here, but has been discussed at length by various authors (see Benatti 2003, Mercadante 2001).

In July 2000, after ten years of contentious debate, the federal government implemented a new national system of units of conservation (SNUC law 9985/2000), which designed two categories of units of conservation (strictly protected areas and areas of sustainable use) along with a system of implementation that includes public participation. The controversy surrounding SNUC related to the “people in parks” question, which concerned creating units of conservation that would allow for the presence of “traditional” people within certain types of parks. Whereas the new legislation is sensitive to the needs of traditional people, it does not speak to the question of the urban poor.

SNUC contains only one unit of conservation, areas of environmental protection (APAs), which can be implemented in urban areas where a variety of property types and land use already exist. Generally, the objective in these areas is to organize the process of occupation, the use of natural resources, and to enhance the quality of life and general well-being of the proximate population. In practice, APAs (which actually existed prior to SNUC) have been historically difficult to manage (Podem 2001). According to officials at the Executive Secretary for Science, Technology, and Environment, (SECTAM), the state agency in Pará responsible for management of APAs, the spaces are so large and diverse, that their management is nearly impossible. In fact, according to officials at SECTAM, the majority of APA inhabitants are unaware that they live within a unit of conservation and the managers do not have the resources to implement management measures for these usually vast spaces. The committees of various social actors which, according to the management plan should exist to manage these spaces in a

way that accounts for a variety of interests, do not. APAS are therefore not effective tools for resource management.

Urban Forest managers in Belém also use the “Park” designation of SNUC to protect forests. This designation excludes both residents and extractivists from utilizing the forests for their purposes. The parks do not currently function according to their intended use, which includes both conservation and recreation, because the municipality and the state do not have the economic resources to provide the parks with infrastructure for tourism. Funding for these areas generally comes in the form of occasional one time grants from private agencies or the federal government, however the city has no constant source of funding for constant maintenance. Therefore, both state and municipal agencies have closed the parks to public use, are in the process of removing all people living within their boundaries, and police the areas to prevent new settlements or extractivists from entering them. They are able to meet management goals for conservation, but in doing so have eliminated nearly all people’s access to these spaces, which, according to their guidelines, are intended for certain types of public use.

Urban Economic and Social Policies

As Stated above, the 1950s, when the nation initiated economic policy to encourage integration, the Amazon region was isolated from the economic and political center of Brazil, in the south. During the period of regionalization, Brazil experienced rapid growth, not only on the north and western frontiers but also in its urban areas. Through the 1970s, although urbanization outpaced industrialization, the pace of industrialization was still fast enough to offer job opportunities with higher wages in urban areas and rural to urban migration continued into the next decade (Fernandes and

Negreiros 2001). As the country continued to urbanize there was some decentralization of the country's government to the states, and myriad laws, agencies, and proposals geared toward urban policy were developed with the intention of reorganizing the unbalanced urban systems to allow for the demands of capital accumulation, industry, and domestic integration (Fernandes and Negreiros 2001). Essentially, government policy strove to support the growth of older, large cities as well as to facilitate the development of new urban areas on the frontier. Despite these efforts, however, the urban system remained highly unbalanced (Fernandes and Negreiros 2001).

Massive rural to urban migration had resulted in migrants frequently settling in the *baixadas* or *favelas* (Trinidad 1998). Nearly all Brazilian cities experienced a similar process, referred to as *favelization* of the cities. As land increased in value near the urban centers, the poor were bought or forced out, and settled in the nearest available areas, which tend to be environmentally sensitive and precarious. People that live in these areas not only lack land tenure, but also basic urban services such as water, sanitation, electricity and others. This method of land settlement proliferated throughout the country and became endemic. By the 1980s the urban situation in Brazil was extremely problematic. By 1990, more than half of the country's wealth was held by the richest 10% of the population. The spatial manifestation of this fact was wealthy neighborhoods with well-established infrastructure were interspersed with massive favelas and baixadas with no infrastructure. The environmental and social problems of these areas began to infiltrate the wealthy neighborhoods resulting in loss of quality of life even for the middle and upper classes (Rezende 2003).

In the 1980s, like many other Latin American countries, Brazil underwent economic and political crisis. However, the military regime ended during this period and a new discussion of democratic rights and social justice set the stage for the writing of the Constitution of 1988. As the environmental movements had begun to take shape, so did movements for urban reform and social justice. As urban problems became an important popular issue, the federal government initiated a project to reorganize urban development. Based on the idea that the lack of urban services, the growth of the favelas, and the increasing land values were essentially due to population growth, the goal of urban reform was to set a new standard in public politics that called for democracy, regulation of land use to provide a just distribution of benefits, and an inversion of priorities to favor the popular class (Ribeiro 2003). Among other things, the new constitution focused on labor reform, decentralization of government to the municipality level, sustainable development, and the social function of property. In fact, it provided new legal instruments to specifically address land reform in urban areas in order to implement social justice and sustainability. However, the economic crisis continued, resulting in conflict among political, economic, and environmental interests, and precluding implementation of many of the mandates of the constitution (Fernandes and Negreiros 2001).

The end of the economic crisis brought to power a new hegemonic neo-liberal regime that implemented reforms seen in other parts of Latin America over the previous decade such as the lowering of import barriers and liberalization of financial flows, decentralization of social policies from national to local governments, public-private partnerships and flexibilization of capital-labor relations (Fernandes and Negreiros 2001).

The results of these policies were far-reaching, are still occurring, and can be difficult to identify with certainty. Some of the more obvious effects however include an overall drop in industrial activity and corresponding unemployment rates (Fernandes and Negreiros 2001). In fact, according to IBGE, unemployment increased in the 1990s in every metropolitan area and an increase in informal labor.

The movement to implement urban reform with a view towards social and environmental justice along with regularization of land use was implemented legally with the establishment of the City Statute, federal law (10157/2001), to provide cities with a mechanism to address urban land use and the socio-environmental inequalities inherent in the process of development. Though the Constitution of 1988 addressed illegal occupation of land, legitimizing claims on private property that is occupied uncontested for 5 years⁷, local implementation was variable. The City Statute sought to establish norms for sustainable management and urban planning so that uses of urban property contribute to the well-being of the population and to environmental equilibrium. The law essentially mandates that uneven development of cities be corrected through the ordering and controlling use of land to avoid inadequate or incorrect use, the deterioration of urban environments (natural and constructed), pollution, and degradation of natural areas. It calls for environmentally and economically sustainable standards of production and consumption of property and services, and for urban expansion. It also calls for the protection, preservation, and recuperation of the natural and constructed environments. Many of the mandates of the statute of the city are already present in Brazilian law. The specifics of this law are too lengthy to be discussed in detail here, and have been addressed elsewhere by many authors, in a variety of contexts (Ribeiro and Cardoso

⁷ right of *usucapiao*

2003). Though noble in its intentions, the statute has been highly criticized for being unrealistic in its goals. In practice, it is often impossible to attain social and environmental sustainability given current situations.

Illegal occupation of land in Brazil, though technically illegal on public land, is common practice and a socially sanctioned activity. Though *usucapiao* technically only applies to privately held land, the process of occupation is often implemented on public land as well. Often people do not know whether the land that they are occupying is public or private, or do not realize that this right does not apply to public land.

Recent scholarship concerning the process of illegal land occupation in urban Brazil informs the access literature. It has been demonstrated that illegal occupation and subsequent regularization of this land by the Brazilian government actually contributes to land scarcity for the very poor in urban settings (de Souza 2001) and land scarcity, as discussed above, can lead to access related conflict. When illegally occupied land is titled, its value necessarily increases. The poor occupants often sell this land and illegally occupy other space in order to maximize their economic returns (Trinidad 1998). Given a finite amount of unoccupied land, regularization actually increases land scarcity. This, combined with increasing environmental protection of public lands, has led to the elimination of access to public land by the urban poor, creating conflict between the poor and the managing agencies (de Souza 2002).

Study Area: Belém

Research for the case study was conducted in the *Parque Ambiental de Belém*, located in the municipality of Belém in the eastern part of the state of Pará. With a population of nearly 1.4 million people, Belém is the second largest city in the Brazilian

Amazon and the principal port city for the Eastern Amazon. It is a low-lying peninsular city distributed over a mainland and 43 islands. Established as a center for trade and geopolitical control by the Portuguese in 1616, Belém became a major urban center during the rubber boom 1872-1920. In the 1950s and 60s, with the regionalization of the Amazonian region, the city began a second period of rapid growth.

Since the 1950s, the periphery of Belém has had two major types of occupation. As the city expanded, the peripheral area beyond the *Primiera Légua Patromonial*⁸ was designated as the institutional belt, and land was granted to military, governmental, and research institutions along the expected axes of major urban growth (St. Claire 1998). As a result, this area became highly restricted. These institutional areas became interspersed with *conjuntos* or urban housing projects developed by the state government beginning in the early 1970s to provide some sort of solution to the lack of urban housing for the large numbers of poor migrants arriving in the city. The number of urban poor far exceeded the number of available *conjuntos*, and illegal occupation or “invasion”⁹ of these areas also proliferated (Lima 2001).

Though Belém’s growth rate slowed after the 1960s, to 3.6 annually between 1971 and 1990, growth rates do not express the increasing socio-spatial segregation within the city (Lima 2001). According to research by Lima (2001), urban development in Belém has been characterized by a significant lack of balance between the core and the periphery with the majority of services and transportation located near the core, which is also where the wealth is concentrated. Though policy changes that would decentralize

⁸ This was the area first demarcated by the Portuguese crown as the municipality of Belém. Today, it is essentially the city center, including *cidade velha* and the other historic parts of the city.

⁹ This rather loaded term, *Invasão*, in Portuguese is the word generally used to refer to illegal occupation of land to which the inhabitant has not title.

services and employment to the periphery have been advocated, they have not materialized. Urban development policy has continued to create housing and transportation policies that did not, and do not, address the issue of the rise of the population on the periphery. Commercial concentration near the core and lack of not only services, but housing and employment on the periphery persists.

4. The Conflict: Aguas Lindas and the State of Pará

Parque Ambiental de Belém, a 1300 hectare park established in 1993 as a state park¹⁰, contains two lakes that provide the water supply for 65% of the metropolitan population. In order to achieve management goals of conservation within the area to protect the watershed, a Coalition of three state organizations (COHAB, SECTAM, and COSANPA) is implementing a project to remove the people living within the forest, to relocate them in *conjuntos*, and to construct a wall around the park in order to keep people out of it. When the project began in 2000, there were over 1000 families living within the park boundaries. Now there are less than 200, divided into 3 communities. *Aguas Lindas* is an illegal occupation within the boundaries of the park. The majority of the residents of *Aguas Lindas* have lived in the community for between 12 and 19 years. While the occupation originally consisted of approximately 200 families, only 23 families or households remain. Each household contains between 4 and 8 people. Over the past 6 years, COHAB, the state housing agency has either bought the houses of the other families, or traded them for a legally titled apartment in a *conjunto*¹¹. Nearly everyone in the community is currently unemployed; two families have an employed family member.

¹⁰ The park has had various types of protection since the development of the lakes in -----

¹¹ Urban housing project.

In order to subsist, families rely on their home gardens where they grow primarily fruits for household consumption and for sale. Medicinal herbs are grown to treat certain illnesses as an alternative to expensive pharmaceutical drugs available at pharmacies in the city. The families grew a minimal amount of vegetables, generally limited to peppers. Table 1 is a list of plants identified by the garden caretakers as the plants grown in their gardens. Though it is illegal, they also practice extractivism of some forest products, namely herbs, fruits, and fish. Others scavenge at the *lixeiro*¹².

Wilkenprins (2002) and Wilkenprins and de Souza (2005) have written on the importance of home gardens not only as a “lifeboat” for many, providing food through production and exchange. These families are extremely low-income; most individuals are unemployed. They, like many other urban Amazonian residents, do not have sufficient income to maintain a livelihood and depend on their gardens to a certain extent for subsistence. The gardens are generally fenced and contain one house and a well. All of the homes surveyed had electricity, but only one was part of the urban water supply and waste removal system (4 % of total). In the municipality of Belém, 26% of the homes are part of the city network of waste removal and 74% are supplied water through the city network (IBGE 2001). In order to establish the gardens, the residents cleared the existing forest and planted fruit trees. Fruit trees generally do not produce fruit for the first several years, and the majority of the gardens had a majority of fruit producing trees, demonstrating that these gardens have been carefully cultivated for many years.

¹² The *lixeiro* is the trash dump where people are given 5 minutes between when the trash is delivered and the crushers arrive to remove recyclables and any other items of value that they can quickly identify.

Table 1: Plants harvested in home gardens

Local name	English Name	Latin Name
Açaí	Açaí	Euterpe oleracea
Goiaba	Guava	Psidium guajava
Banana	Banana	Musa spp.
Manga	Mango	Mangifera indica
Coco	Coconut	Cocos nucifera
Acerola	Barbados Cherry	Malpighia glabra
Jaca	Jackfruit	Artocarpus hintegrifolia l.
Jambo	Rose Apple	Eugenia malaccensis
Bacaba	Bacaba	Oenocarpus bataua
Laranja	Orange	Citrus sinensis
Limão	Lime	Citrus aurantifolia
Abiu	Caimito	Pouteria caimito Radik
Tangerina	Tangerine	Citris reticulata
Ingá	Ingá	Ingá spp.
Cupuacu		Theobroma grandiflorum Schum
Cafê	Coffee	Coffea arabica L
Bacuri		
Caju		Anacardium occidentale
Abacate	Avocado	Persea American Mill (Lauraceae)
Pupunha		Bactrus gasapaes H.B.K. (Arecaceae)
Cacau	Cocoa	Theobroma cacao L.
Araçá-boi		Eugenia stipitatas Mc Vaugh
Pião-branco		Jatropha curcas L
Andiroba		Carapa guianensis
Carapa guianensis		Sambucus australis
Pimenta-do-cheiro		Pimenta officinalis Lindl.
Cebolinha brava		

* Voucher specimens not taken. Scientific names interpreted from common name and are subject to change. (Sources of Scientific Names: Shanley 2004, Wilkenprins and de Souza 2005, and Slinger 2000)

While the people of *Aguas Lindas* do not have a right to title of their land and homes under the constitutional protection of *usucapiao*, they are protected to a certain degree by a more recent social policy outlined in the *Estatuto da Cidade* and the *Medida Provisoria* (MP 2220/01). While the *Estatuto da Cidade* more generally reinforces the social function of property, the right to a sustainable livelihood, and the idea of social housing, the *Medida Provisoria*, more specifically guarantees public land for social housing and obliges the state to either offer public land to residents for housing, or to offer a viable housing alternative within the period of one year of a claim to those people occupying government owned land since before 1997. While it does not grant individuals specific right to the land, it does grant them the right to use their homes, which exist *on top of* the land as a sort of collateral for bargaining power (de Souza 2004). As a result, the current program being implemented by COHAB, assesses the value of the homes, and the fruit trees that the residents has planted, and offers them either the monetary value of their homes, or a titled apartment in a *conjunto*. Representatives from COHAB have visited the homes and assessed the value of the architectural structures that the people have erected and their gardens. They then offer them a sum based on that assessment. According to the residents of *Aguas Lindas*, the sum offered by the government is well below the true value of their homes, and especially their gardens.

For instance, COHAB pays the inhabitant \$28.16 reis for an *açai*¹³ tree that is producing fruit. One *açai* tree produces an average of 120 kilograms of fruit per harvest¹⁴. In 2004, one *rasa* or approximately 14 kilograms was sold in the *Ver-O-Peso*, Belém's primary market, for \$30 reis (Shanley and Medina 2005). Therefore, each tree

¹³ *Açai* is a palm that grows in the eastern Amazon that produces a high calorie, nutritious berry commonly consumed in various forms in the eastern Amazon.

¹⁴ The trees are harvested once per year.

produces approximately \$257 reis worth of *açai* per year. The price offered for a fruit producing *açai* tree by COHAB is only slightly more than a quarter of the earning potential from the harvest of the tree within one year. Because these and other fruit producing trees are one of the few sources of both food and income for the inhabitants of *Aguas Lindas*, they view COHAB's offer as unjust. It in no way compensates them for the loss they would suffer if they moved into a *conjunto* or other location where they could not practice agroforestry.

The inhabitants of *Aguas Lindas* believe that they have a right to remain in their homes because their occupation was uncontested for over ten years. They have worked with a local NGO, CEPEPO (*Centro de Estudos e Práticas de Educação Popular*) to develop a community organization and a discourse and practice of conservation. They argue that without access to the forest and specifically their agroforestry practices, they would not be able to sustain themselves. The residents believe that they are targeted because they are poor, citing the fact that the original park boundary has been moved to allow wealthier people living within the park boundary to maintain their homes¹⁵. Their original argument was that because they were well educated about conservation, they were actually improving the environment within the park. In partnership with CEPEPO, they produced a video describing their conservation activities and drew comparisons to outside polluters and other people who illegally accessed the park for destructive purposes. They aligned themselves with other communities living within the park and with CEPEPO in a group called the *Forum dos Lagos*. Though CEPEPO produced a video and some written information about the struggle in a newsletter, interviews with

¹⁵ While SECTAM acknowledged that the park boundary has in fact been moved several times to avoid conflict with or to accommodate residents, they would not comment further on exactly where and with who this occurred, whether those people held titled land, or as to their economic status.

government officials revealed that the government agencies had little or no contact with the community and was generally unaware of the Forum.

The community has reorganized and is developing a new strategy. They have reconceptualized their *Associação de Moradores* or residents association as a *Cooperativas Agropecuárias* or cooperative of small agricultural producers. They have entered into the process required to regularize the small amount of land within their community that is not on public land, and they intend to turn it into a site of agricultural production. I introduced another NGO, Imazon (*Instituto do Homem e Meio Ambiente da Amazônia*), to the community and observed a meeting between the two. Imazon, a larger NGO with more resources than CEPEPO, may enter into a partnership with CEPEPO and the community in order to help them to build this cooperative and to create a new appeal to the government to maintain their homes and their livelihood.

The situation has arrived at a standoff. The wall that is being built can proceed no further because the house of one of the forest inhabitants stands in its path. Interviews with these inhabitants indicate that they do not intend to leave, as their home gardens provide their livelihoods. The government officials indicate that it is simply a matter of time until these people are moved, either willingly or forcefully. There is little communication between the groups.

5. Implications for Policy

This research has demonstrated that despite the fact that the larger cities in the Amazon are not growing as fast as they have in the past, or as fast as smaller cities on the frontier, the processes of development, urbanization, and the growing national ethic of conservation and sustainability continue to affect the residents of such cities in a variety

of ways. In response to these processes, new forms of social movements continue to develop. Social networks and local organization in marginalized communities has been recognized by academics as effective demonstration of social mobility and implementation of survival strategies since the 1960s and 70s, when people began to challenge the “myth of marginality” (de la Rocha et al. 2004). Part of the destruction of this myth was the idea that irregular settlements were “rational and viable responses to rapid urbanization and should be perceived as a ‘solution’ rather than as a problem” (de la Rocha et al. 2004). With the growth of the conservation movement and recognition of the need for environmental awareness and protection even within urban environments, illegal occupations in ecological spaces, such as *Aguas Lindas* are again viewed as a problem.

The increasing formalization of the urban environment is creating new difficulties for the urban poor (de la Rocha et al. 2004). This is clearly occurring for the residents of *Aguas Lindas*. Over the past decade and especially under the current administration, Brazil has made significant efforts towards legalization of informal settlements. Ironically, this legalization is, in some cases leading to a land scarcity for the poor as regularized land increases in value and is sold. This situation, combined with introduction and enforcement of environmental policies that regulate urban land use are effectively eliminating their home sites and their access to the strategies in which they engage in order to sustain their livelihoods. These strategies have been developed because they already suffer various forms of social exclusion within the political system which includes limited access to education and employment. Therefore, elimination of these alternative avenues for survival is extremely problematic.

The action being taken by the residents of *Aguas Lindas* demonstrates that they recognize their rights as citizens and have certain expectations regarding those rights. They have identified actions of the government as structural obstacles to their livelihoods and have organized a movement against it. Portes and Hoffman (2003) have suggested that in response to the neoliberal policies of the 1990s, new forms of social organization emerged, that has led to new forms of employment and a specific type of employment which they labeled as “micro-entrepreneurs”, which are more and more often acting in the informal economy. Though their definition of “micro-entrepreneur” generally refers to small employers, it raises the issue of alternative forms of employment that are arising in the face of increasing inequality. The agro-forestry practices of the inhabitants of the urban forests easily fit into this category. Portes and Hoffman also suggested that social organization has become both smaller in scale and localized in the informal settlements. This is certainly happening in the *Parque Ambiental*. Interestingly, *Aguas Lindas*’ organization as a cooperative of small agricultural producers instead of a residents association indicates also that they are aware of successful environmental/social movement discourses in Brazil today, and are appropriating that discourse in order to achieve the goals of their communities.

If decentralization is truly to represent a shift from government to governance, there must be communication both within the government and with other actors who have an interest in the spaces. It has been suggested that municipalities that have developed institutions for repeated interactions between the government and the primary actors with interests in the area are more likely to be effective service providers in forestry (Anderson 2003). Because urban forests are such particular spaces, with a complex set of social and

ecological interests involved in their management, these institutions are especially important. Where local people, such as those occupying forest spaces and government managers with conservation concerns have directly competing interests, communication and specific conflict resolution strategies are essential. Without an alliance with a powerful NGO, the community of *Aguas Lindas*, though well organized and articulate, has had great difficulty entering into a discourse with the government agencies responsible for the park management and the resident removal program. While CEPEPO has been successful in educating the population and helping them to develop a coherent movement, it has not been able to actually intervene in the conflict between the government and the park residents, nor has it been able to open a space for discussion. This is likely due to its small size, lack of economic resources, and position as a sort of “anti-state” entity fighting for social justice. Perhaps a more scientific-based, politically neutral NGO will actually be more successful in building the networks necessary for communication, which would make an interesting though not surprising statement about the relationships between social movements, NGOs and the state.

Finally, while significant literature addresses the ecology of urban environments, there has been little research on the social aspects of these spaces. Urban environments are spaces where social and environmental policy intersect, and can often conflict. Because existing social and environmental policies can be contradictory, management of these spaces would benefit from flexibility while a specific policy for such emerging issues is developed.

6. Possible areas for future development

This research raises many interesting issues and could be further developed in several different directions. The practice of agroforestry and extractivism among the urban poor is widespread, not only in Belém but in other Amazonian cities. A more detailed analysis of this informal economy within different cities, and potentially different countries would provide interesting information about an understudied phenomenon that is likely occurring more frequently as the Amazon urbanizes. The concept of land and housing scarcity as an unanticipated consequence of regularization, highlighted here, has not been systematically documented. Further research in this area could be important for future social policy. Finally, this research has highlighted the need for new, specifically urban environmental legislation that accounts for urban social issues. Research regarding how, specifically, to regulate these areas to meet both conservation needs and the needs of urban inhabitants is essential.

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List of Interviews and Contact Information

Benjamin Buclet, Phd. Universidade Federal do Rio de Janeiro and Institut de Recherches pour le Développement (IRD, Paris). Phone 55 21 8157 6902.

Marcos Pedlowski, Phd. Universidade Estadual do Rio De Janeiro. Phone 22-2724-4467.

José Oeiras, CEPEPO (Centro de Estudos e Práticas de Educação Popular), Belém, Brazil, phone 55-91-3249-2720.

Paulo Taylor Maciel da Silva. COHAB (Companhia de Habitação de Estado de Pará). Phone 55-91-3214 8575

Ivelise Nazaré Franco Fiock dos Santos, SECTAM (Secretaria Executiva de Ciência, Tecnologia, e Meio Ambiente, Estado de Pará). Phone 55-91-3181-3317.

Valmir Santos, Imazon (Instituto do Homem e Meio Ambiente da Amazônia). Phone 55-91-3182-4000.

Carla Costa, Imazon (Instituto do Homem e Meio Ambiente da Amazônia). Phone 55-91-3182-4000.

The individual inhabitants of *Aguas Lindas* will remain anonymous as per IRB study approval number 2004030094.

