

# CONSERVATION OF NATURAL RESOURCES IN THE SEMIARID REGION AND DEVELOPMENT: THE CASE OF PRIVATE PRESERVATION AREAS

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## Introduction

Legal instruments and specific measures to guide environmental policies in Brazil have been systematically established and consolidated, principally over the last fifty years, as a rational strategy of environmental management. This has involved spatial re-arrangement and new forms of regulation regarding the use and access to natural resources. Examples of this process are the enactment of the Forestry Code, 1965; the National Environmental Policy, 1981; the Environmental Crimes Act, 1998; the Water Resources Act, 1997; the Public Forest Management Act, 2006; Article 225 of the 1988 Federal Constitution, concerning the environment; and regulations regarding environmental compensation, carbon sequestration and other forms of regulation. One of the most visible initiatives, including at international level, was the National System of Conservation Units (SNUC) Act, Law n. 9.985, which came into force on 18<sup>th</sup> July 2000 and most clearly addressed the demands of the environmental movement.

The aim of SNUC is to organize the creation in Brazil of protected areas for environmental preservation. There is a growing body of academic research in the social sciences which has been studying the different facets of these conservation units which were created by the federal government: socio-environmental conflicts (Madeira Filho et al., 2007); the management of conservation units (Araújo, 2007); the division between public and private protected areas (Morsello, 2001); conservationism (Bensusan, 2006); urbanization and the protection of nature (Mendonça, 2004); environment and society (Ferreira *et al.*, 2006); and environmental policy (Laschefski *et al.*, 2005). However, there has been little attention paid to the possibility of conserving nature in private properties, regulated by the SNUC Act. The Private Reserves of Natural Heritage (RPPNs)<sup>2</sup> – which substituted the old “Private Refuges of Native Animals” (REPANs) established in 1977 by the Brazilian Institute

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of Forestry Development<sup>3</sup>, and which in 1988 were then transformed into the “Fauna and Flora Private Reserves” – were listed within the National System of Conservation Units (SNUC) as preservation areas for sustainable use<sup>4</sup>, and therefore, for direct use<sup>5</sup>, although they are in practice fully protected<sup>6</sup> and for indirect use<sup>7</sup>, representing 60% of the total conservation units approved by the federal government<sup>8</sup>.

In 2006, 656<sup>9</sup> RPPNs had already been created throughout the national territory encompassing a total of approximately 600,000 ha (Castro e Borges, 2004). Of this total, 36 Private Reserves of Natural Heritage were located in the semiarid region of the north-east of Brazil, and of these, six were within the state of Paraíba (IBAMA, 2006). In at least three of the five large Brazilian biomes, the number of private conservation units is greater than the number of public conservation units (CUs) (in the Mata Atlântica [Atlantic Rainforest], Cerrado [Brazilian savannah] and Caatinga [semiarid region]), although their total size is still relatively small (Chart 1).

**Chart 1 – Brazilian Conservation Units in relation to biomes**

<b>Biome</b>	<b>Area in ha and number of public conservation units</b>	<b>Area in ha and number of Private Conservation units</b>
Amazonia	19,261,180 (61)	39,379.58 (40)
Mata Atlântica	2,379,914 (224)	99,028.72 (443)
Cerrado	5,001,480 (102)	63,376.16 (103)
Pantanal	910,005 (42)	247,979.18 (18)
Caatinga	752,649 (14)	65,185.54 (35)

Source: Castro e Borges (2004).

Table 1 shows that in terms of area, the RPPNs occupy less space than public reservations, however, in number of conservation units, they are in the majority. This is a phenomenon which has been influenced by the incentives provided by the State to landowners. In the case of RPPNs, the crossover between private and public aspects of the property and control over natural resources stands out. The owners of these protected areas, legitimised by the government through the bodies responsible for the implementation of environmental policies, seek to ensure their private rights whilst at the same time demanding (and being provided with) state incentives. This is what we will attempt to describe as the “institutionalization of private initiatives of nature conservation”.

The Pantanal stands out due to the total size of the area occupied by RPPNs. In 2004, private reserves encompassed almost 250,000 hectares (within a total of 18 properties). They represented 21% of the whole area occupied by conservation units within this biome. In the Mata Atlântica, in the same year, there were 443 RPPNs. Some of these received funds from both governmental and non-governmental organizations<sup>10</sup> for nature and biodiversity conservation projects. They form ecological corridors which are mainly located on private land.

In Brazil, therefore, the strategy of nature conservation in private areas is still developing and expanding, and there is growing interest in this topic among landowners. A national meeting of RPPN owners took place in August 2007<sup>11</sup>, bringing together over 500 landowners, organized into over twenty regional and state associations. The expectation of the organizers of the meeting was that by the end of 2008 there would be another 500 RPPNs established throughout the country. Among the main issues debated during this meeting were: how landowners could receive more financial benefits; the search for strategies to link environmental conservation with so-called sustainable economic activities; involvement of the local population; actions needed on the part of the State in order to contribute towards the process of environmental conservation; associativism as a way to develop RPPNs in the various regions of Brazil, including the semiarid region; and a debate about charging for environmental services provided by RPPNs.

The context of the event was the private preservation of nature by means of public funds, and also through the (financial assistance) of so-called partner organizations. Reading between the lines it was clear that there was a change of posture from a radical environmental movement to an environmental movement that sought a dialogue with all sectors of society. However, the event revealed some contradictions among participants, as well as highlighting their fixation with securing public support for their initiatives.

The semiarid region is fairly well represented in relation to the total size of its private reserves, only losing out to the Pantanal and Mata Atlântica regions (Chart 1). In Paraíba, the process of transforming rural properties into private reserves has been, to a certain extent, a predominant phenomenon (Table 1), since in this state there are no public federal reserves, only state reserves under the responsibility of SUDEMA<sup>12</sup> Private reserves in this region already cover over 6,000 ha. Other conservation units situated in the semiarid region in the state of Paraíba are: Vale dos Dinossauros natural monument (Sousa), Engenheiro Ávidos Municipal Park (Cajazeiras), Pico do Jabre State Park (São José do Bonfim) and Pedra da Boca State Park (Araruna), covering a total of 1,230.48 ha. In addition, the areas of environmental protection, Onças and Cariri, cover a total of 54,500 ha (Table 1).

Table 1 – Private Reserves of Natural Heritage, State of Paraíba

RPPN	SIZE (HA)	BIOME	LOCATION
Almas	3,505.00	Caatinga	São José dos Cordeiros
Santa Clara	750.50	Caatinga	São João do Cariri
Fazenda Várzea	390.66	Caatinga	Araruna
Tamanduá	325.00	Caatinga	Santa Terezinha
Pedra D'água	170.00	Caatinga	Solânea
Badú	183.31	Caatinga	Catingueira
Loureiro	266.53	Mata Atlântica	Sapé
Pacatuba	1, 058.62	Mata Atlântica	Santa Rita
Gargaú			
<b>TOTAL</b>	<b>6, 607.62</b>		

Source: IBAMA (2006)

## What is an RPPN?

An RPPN is a protected area, under perpetual lien<sup>13</sup>, established within a private property under the initiative of its owner, recognized by the State as of relevance for the protection of biodiversity and possessing characteristics which justify recovery actions in order to promote the conservation of its ecosystem, or which due to its landscape features, merits preservation. Activities permitted within a RPPN are scientific research, as well as tourism, leisure and educational visits.

### The issue of research

In the semiarid, private reserves fall within a context marked, on the one hand, by growing environmental degradation resulting in an intense process of desertification and drought (Araújo, 2002) - a process which is perhaps made more intense by low-income distribution and environmental conditions - and on the other, by land concentration and the marginalization of small-producer families and landless peasants. This is the scenario in the semiarid region looked at in this research. These characteristics can, to a certain extent, appear complementary or contradictory, or perhaps they may bear no relation to the issue at hand. It is therefore worth pointing out that it is not the aim of this research to present this relationship as determining. However, it is worth noting that there is a set of characteristics in this region that merits attention. Certainly, land concentration which is particularly marked in this region may be one cause of rural poverty, though possibly not the only one, leading to

income inequality. It is not known if these factors are directly associated with environmental degradation.

What does draw our attention, however, is the recent adoption of the nature preservation policy as an initiative on the part of rural landowners in regions such as Cariri and Sertão da Paraíba, where conflicts for land occurred which were not always publicised. Furthermore, this has led towards thinking about the creation of a new form of identity in rural areas made up of rural landowners who call themselves “environmentalists” (Sevá, 2008; Bruno, 2008). This perhaps may mean a “modern” discourse in conjunction with old practices, not only in the Brazilian semiarid region, but in other areas of the country. This leads us to the topic of our research: what is the role of private reserves in the development of the semiarid region?

This research takes a sociological perspective in relation to protected areas, currently known as Conservation Units (CUs), in that they are understood as a complex environmental policy mechanism, as well as a land management tool – if we can call it thus - employed to regulate the access and use of natural resources and to ensure the conservation of the natural heritage of CUs (César *et al.*, 2003).

Instead of formulating a general explanation about the initiatives to establish RPPNs in the semiarid region, we decided on a theoretic-methodological approach which takes into account the complexity of this process, involving the varied and distinct motivations which led to the creation of these reserves, as well as the social dynamics which steer them. In this study, in order to arrive at our results we have analysed the data relating to Conservation Units in Brazil and RPPNs at both a national level and at the level of both the north-east region and the state of Paraíba. Landowners or those responsible for RPPNs in the state of Paraíba were interviewed, as well as environmental representatives of IBAMA<sup>14</sup> and residents local to the private reserves studied, using semi-structured interviewing questionnaires. Furthermore, we had access to the IBAMA database, as well as the database of the STATE ENVIRONMENTAL AGENCIES and those of the NATIONAL MOVEMENT OF RPPNs LANDOWNERS. This data was organised by means of an interviewing script. Therefore, this is a qualitative study supported by data referring to the object of research within a quantitative perspective. The study was carried out between 2006 and 2011.

## The conservation of nature in Conservation Units

Environmental policies are currently imbued in both governmental and non-governmental discourse, where the main dilemma is the survival of society as we know it in face of the shortage of natural resources. Thus, it could be argued that the main environmental policy developed, both in wealthy and poorer countries, focuses on the establishment of protected areas, so as to preserve the nature of that particular space both for present and future generations (Santilli, 2005).

According to Bensusan (2006), in Brazil, 10.52% of its area was already protected, representing 101.4 million hectares, including both federal and state areas, according to data collected by the Instituto Socioambiental.

## Understanding the context

The establishment of protected areas gained prominence during the 20<sup>th</sup> century, when it became part of the agenda of the debate, or part of the strategy, of various environmental events, culminating in the Stockholm Convention in 1972 and ECO-92 in Rio in 1992. These events served to firmly root a belief in the irreversibility of the policy of creating parks as a step towards sustainable development. The core concept of protected areas, before environmentalism and social sciences converged and became known as socio-environmentalism, was the need to “preserve some natural areas and ecosystems from human action and predatory economic activities” (Santilli, 2005, p. 26), through actions which claimed to associate development and environmental preservation. Influenced by social movements, this conception started to reconsider the possibility of involving local populations or those affected by the creation of these areas, and not simply removing them from an area designated for preservation.

During the 1970s, there was an increase in the number of protected areas created, which during that period was greater than the number of those already in existence, mainly due to the growth in the environmental movement. The problem is that many of these areas were drafted from cabinet offices with little knowledge of the local social and ecological conditions (Bensusan, 2006). They sought to regulate as much as possible the use and access of resources. Nevertheless, today there are those who defend the human use of these areas “and that areas exclusively restricted to conservation without human presence should not exist” (Bensusan, 2006, p. 25).

Over 11.5% of the surface of the planet is considered to be protected areas, where the access and use of natural resources is restricted (Bensusan, 2006). They have been established in many territories (and therefore result in power relations), not only physical but academic, and sites of production, human experience, conservation and so on (Coelho *et al*, 2007)

The creation of RPPNs is a policy for controlling portions of land, often those which are not of great interest to landowners or large businesses, providing legitimacy or giving the impression to society of the role certain social actors play in relation to the fact that the environment is actually being preserved. It appears to be much more a capitalist-type management of natural resources than a romantic strategy for environmental protection, which is not simply motivated, as the official discourse seems to claim, by the sacralisation of these spaces and the maintenance of stocks of natural resources. According to Fernandes (2003, p. 133):

In this type of ecology, which has apparently launched a new era, there is no denial of the values of competition and immediate and ever-increasing profit which has been the determining factor in how natural resources have been made available since the beginnings of industry”.

In 2000, Law n. 9.985 was approved to regulate the creation of protected areas within the Brazilian territory. This law was debated for 12 (twelve) years. Funatura

(Pro-Nature Foundation) was asked by the precursor of IBAMA, the Brazilian Institute of Forestry Development (IBDF), to produce a draft bill. The draft bill was considered by the National Council for the Environment (Conama) and in May 1992 it was sent by the then President of Brazil, Fernando Collor de Melo, to the National Congress. Socio-environmentalists and preservationists held conflicting conceptions (Santilli, 2005), the former arguing that environmental issues cannot be dissociated from social issues and the latter claiming that it is more important to conserve nature without human presence.

According to Santilli (2005, p.112), the law referred to above “is inspired by socio-environmentalism which largely prevailed over the concepts which classic or traditional preservationism defended”. As an example, initially, when the draft bill was sent to the Brazilian Congress in 1992, it did not account for concrete human needs and there were no references to the loss in people’s quality of life. However, a purely legalist analysis does not express these conflicts in their entirety. It could be said that an ideology that aims to preserve a certain social status is elevated and institutionalised, in this way dissimulating the real interests behind the implementation of certain policies (Sevá, 2008).

It is important to be clear that we cannot perpetuate an innocent vision to the point of believing that the strategy for establishing Conservation Units uniquely refers to the “protection of ecosystems threatened by human action or capitalist expansion” (Coelho *et al*, 2007). This strategy encompasses much more than the mere intention to preserve territorial spaces for future generations, within a mechanism process geared towards sustainable development.

## Considerations about the model of a private reserve of natural heritage

Are RPPNs a complementary mechanism to the public policies implemented by the State (Mesquita, 1999), attempting to bring to the fore an integral conservation attitude? Or are they part of a policy for increasing the presence of the State in private initiatives of nature conservation, not representing therefore a reduction in the presence of the public sphere but, in fact, an increase in its activities?

The definition of this type of private reserve relates to the fact that it is instigated on the owner’s initiative (the owner establishes its size and its delimitations within the property, for example). Nevertheless, it is deficient in relation to the forms and criteria used in the concession, the lack of clarity in relation to the role of the State in the development of the policy and the fact that the law does not prescribe the size these areas should be. This leads us to question the viability of a small RPPN, for example, that of a reserve of only one ha, or even 200 ha, considering that size is a highly significant factor for the preservation of animal species, necessitating large portions of land in order for conservation objectives to be attained (Morsello, 2001). Other deficiencies relate to fragmentation in the process of the creation of a reserve, and the presence of different interests and ways of thinking. Furthermore, their creation may generate conflicts between the social function of the land, in which private land

is allowed to be expropriated if it is unproductive, and the environmental function, which becomes a requirement for keeping the land.

There are weaknesses in the adoption of environmental policies which deal with the regulation of access and use of natural resources (César *et al*, 2003), both in relation to their maintenance and the inclusion of the population in their development, in consideration of the fact that there are different orders of impositions (political, socio-economic and cultural). However, the destruction of nature could serve as a basis for providing legitimacy to these preservation policies, establishing a “field” of environmental issues, somewhat hegemonic in the discourse, as part of an environmental institutional construction (Lopes, 2006).

Indeed, today we see the development of “ecologizing behaviours” (Ferreira, 2003). In Brazil, this is characterised by a “new” type of institutionalization, particularly over the last two decades, with an increase in the official recognition of so-called environmental behaviour, in face of the complexification of phenomena around a “process of environmentalization”<sup>15</sup>, as the focus for conflicts and the production of strategies on the part of different social groups (Lopes, 2006). This did not emerge in Brazil, but within an international movement, bringing together different governmental and non-governmental agents in order to construct an “environmentalizing discourse”<sup>16</sup>.

This environmentalism is impregnated with a need to overcome the paradigms of economic rationalism, pointing towards social and institutional changes (Leff, 2006, p. 248) in order to try to prevent the negative impacts of development. However, contrary to Leff’s (2006) claims, there is no way of ensuring that this construction of behaviours founded on a respect for the environment in a sustainable way is not turned into a new strategy to provide legitimacy to the capitalist discourse.

The State becomes a source of regulatory policies, which are not always consensual, producing regulatory frameworks, where there is some doubt as to the participation of stakeholders who represent society. Thus, faced with legislation which is complex and difficult to put into practice, the role of the State’s environmental bodies is not trusted at any level - municipal, state or federal. Thus, there is a conflict between society and these bodies, established with the main purpose of monitoring environmental preservation and carrying out the State’s environmental policy (Coelho *et al.*, 2007).

In this analysis, we consider that all human relations have political elements which are manifested in the strategic use of position, knowledge or representations to gain privileged access to resources (Paulson, Gezon e Watts, 2004). This could be applied to the case of RPPNs, where an exclusive space is created for the representations of rural landowners.

In this approach, as an alternative to ecology without politics, that is, ecology which is not inserted within a socio-political context, without a critique, and which is exclusively based on a “biologicocentric” perspective (focusing on, for example, the limits of growth, shortage of natural resources, population growth in a world of finite resources and the adoption of sustainable technology), political ecology starts from the supposition that natural resources are constructed and not provided, especially



when dealing with the creation of preserved spaces which restrict access to these natural resources. Therefore, particularly in this case, the strategy of separating areas for the exclusive purpose of preserving nature, regulating the access and use of natural resources, construes the environment in a rational way

Researchers using this theoretical current consider environmental change to be a product of the political process and draw attention to the fact that the costs and benefits associated to environmental change are unequally distributed among social actors. This is what could be occurring in the semiarid region in relation to RPPNs landowners and the local populations, re-enforcing or reducing pre-existing economic or social inequalities and altering power relations (Paulson, Gezon e Watts, 2004).

The creation process of a number of RPPNs has been studied: a) the creation of Fazenda Tamanduá, in Santa Terezinha, state of Paraíba (PB), where there are projects for the production of organic mangos and cheese and irrigation pipes, next to the RPPN; b) the creation of the Fazenda Almas RPPN, the largest in the state, in São José dos Cordeiros – PB. This farm saw a decline in the cultivation of cotton, having gone through a period of rural “prosperity” and ended up as a private reserve. Currently, following the death of its owner, relatives settling the estate do not want to keep the reserve whilst it remains an RPPN and finally c) RPPN Major Badú Loureiro, situated between the municipalities of Emas and Catingueira, both in Paraíba. This was part of a large farm which has been recently expropriated and is under the control of 60 MST (Landless Peasants’ Movement) families who live next to the only piece of land that has not been expropriated, that is, the RPPN itself, still under the stewardship of the family who inherited the property.}

## Problems identified in RPPNs in relation to the model of private conservation

There are at least six issues which have emerged through the process of “institutionalization of private initiatives of nature conservation” in the semiarid region:

1. The difficult relationship between the public and private spheres in relation to rights and duties associated with the Conservation Unit.
2. The appropriation of the environmentalist discourse by landowners in the region.
3. Tensions between conservationist and land policies in the semiarid region.
4. The marginalization of populations living around the RPPNs.
5. The relationship between private reserves and the processes of environmental change.
6. The benefits that have been conceded to RPPNs owners.

**Relationship between the public and private** – The SNUC law defines that the approval of an RPPN once a management plan has been presented by the landowner<sup>17</sup> is the prerogative of the government (at federal, state and municipal levels). However, once it has been recognized as such, uncertainty concerning the responsibilities of the

State in relation to the land, as well as the rights and duties of the landowners, is evident. In this research, it was observed that there is a grey area in relation to these rights and responsibilities resulting in, for example, demands on the part of landowners in relation to the State's environmental bodies, especially in terms of monitoring and the environmental awareness of the local population, and complaints on the part of public agents that owners do not comply with the requirements of environmental bodies. Furthermore, there is the emergence of a new ownership regime with both public and private characteristics. The RPPN property remains private, but its owner cannot use it for production.

**Conservationist owners** – The environmental discourse is reproduced in different sectors and by various groups. One of these groups is made up of landowners. They incorporate the conservationist discourse and are no longer simply landowners, viewed in a negative way by certain sectors of society (the Landless Peasants' Movement, for example), they become environmentalists. They present themselves as being committed to sustainable development. In this case, there is a convergence of archaic and modern structures and processes (Bruno, 1997), or to use a different type of analysis, this phenomenon could be interpreted "in terms of structured changes in the configurations of interdependent individuals and social groups", highlighting "the real dynamics of social entanglements" which turn landowners into conservationists (Coelho e Cunha, 2007, p. 266). It is important to emphasize that during the last few decades ecological issues have become part of the landownership debate (Andrade, 1979).

The establishment of a "new" social movement organised by landowners is also noted. Perhaps this is a new identity under the environmental lens, bringing together various sectors, such as the State, private companies, environmental sectors, NGOs, associations and those working in agriculture – in the search for closer links between RPPNs landowners and the State. A confederation of RPPN owners made up of landowner associations across all Brazilian states is already in existence. It holds national events, where one of the most recurring topics for debate is that of increasing benefits for RPPNs owners within a context of maintaining control over their property.

In the semiarid region in the north-east of Brazil and the north of the state of Minas Gerais, a network of different associations has been established such as Asa Branca (in the states of Ceará, Piauí and Maranhão), Macambira (in the states of Rio Grande do Norte, Paraíba and Alagoas), Associação Caatinga, APPN – (Association of Landowners of Natural Heritage in the State of Pernambuco) and Preserva – (Association of Owners of Private Reserves in the State of Bahia), as well as the recently created Aliança da Caatinga. Their aim is to increase the number of private reserves in the semiarid region and they receive financial support from both national and international non-governmental organisations. Another association in Paraíba is currently being established.

In national terms, there is a strong and growing current of conservationism, particular among those who identify themselves as "rppnists", increasingly focused on establishing Fully Protected Conservation Units, within the modality "private reserve".

This process is taking place alongside the defence for the sustainable use of resources within these reserves.

The participation of a large number of NGOs and Public Interest Civil Society Organizations - including international entities - in the III National Congress of RPPN Landowners<sup>18</sup> was particularly marked. In particular, the Nature Conservancy (TNC) stood out. This is a US NGO established in 1951 whose main objective is, as it became clear during the event, to conserve land and water, or as expressed on its website: "our mission is to preserve the plants, animals and natural communities which represent the diversity of life on Earth by protecting the lands and waters they need to survive".

Furthermore, the commitment towards producing conservation strategies in private properties in the semiarid region also became clear during the event, including the channelling of funding through Aliança Caatinga for the creation of RPPNs. There follows some of the objectives of this NGO, Aliança Caatinga: to double the area of private reserves in the *caatinga* biome from 1 million to 2.2 million ha; to support the protection of biodiversity in existing private reserves; to contribute towards existing activities and to promote effective environmental preservation actions; to promote the strategic involvement of the scientific community by supporting research in order to promote awareness and mobilize society about the need to conserve natural resources in the *caatinga* region<sup>19</sup>. Therefore, the discourse about the preservation of the *caatinga* includes the importance of the region's exotic vegetation, as can be observed in the publicity material produced by the Caatinga do Ceará Association. However, this is in contradiction to another current discourse, that is, the need to keep the countryside population living and producing in rural areas - through development (or growth) - by granting them the necessary resources, as is the case of the transposition of the Rio São Francisco.}

**Conservation and struggle for land** – the *caatinga* biome encompasses different states in the north-east region, including Paraíba, Ceará, Bahia, Piauí, Rio Grande do Norte, Alagoas and Sergipe. Besides these states, this area of arid land extends towards the northern part of the state of Minas Gerais (Prado, 2005). In this region, the system of *latifundia* is still prevalent, despite there now being a large number of smallholders (Andrade, 2005). This can be seen in the Cariri region in the state of Paraíba where there is an RPPN of 3,505 ha (Table 1) in a region which is marked by land ownership concentration and a shortage of agricultural land. The State of Paraíba is characterized by overwhelming land concentration. According to the agricultural census carried out by IBGE [Brazilian Institute of Geography and Statistics] in 1996, 69.3% of rural establishments in 1970 were less than 1 ha, occupying 8.1% of the territory, and by 1995 this scenario had hardly changed, remaining thus: 69.3% of properties were less than 1 ha, occupying 7.2% of the territory (IBGE, 1997). However, in 1970, only 0.3% of properties were over 1,000 ha, but they made up 21.4% of the total area. This figure fell to 18.5% of the territory in 1995 (IBGE, 1996). This corresponds to the current situation in Cariri and the semiarid region of the north-east as a whole (Andrade, 2005). This is a region of many contradictions, not only in relation to land ownership, but also in terms of income distribution, the prevalence of clientelist modes of politics,

shortage of water and the absence of opportunities, amongst other issues. Therefore, it is pertinent to ask how the implementation of nature preservation policies occur in face of these contradictions which may result in either real or potential marginalization.

**The marginalization of local populations** – We have worked with the hypothesis that conservationist policies can contribute towards the aggravation of “marginalization” (Andrade, 2005), as experienced by populations local to the Conservation Units in the semiarid region. Peasants or farming families living near these areas are often seen as destroyers of nature. The Nature Conservancy website states that one of the reasons for the need to protect the *caatinga* is that: “rudimentary agriculture and the intensive use of natural resources increase the degradation of the soil”. In this study, we question the strategies that guide the preservationist presence in the semiarid region. What would be the meaning of “rudimentary agriculture”?

We also question who the winners and losers are from the configuration of this conservationist policy in the private areas in the semiarid region. That is, to whose benefit is the creation of private areas of conservation, where, for example, the population of the semiarid region are not able to access the benefits; despite the fact that the legislation mentions the need to integrate the local population in the management of private conservation units.}

**Environmental change in the semiarid region** – approximately 40% of the forest cover in the North-East is found in the semiarid region, according to GEF (Global Environment Facility). According to Benidelli (2006), “this cover is responsible for 90% of the demand for forestry products, 70% of the energy used by families and accounts for 15% of the total income of producers. Firewood and charcoal represent 25% of the primary energy used in the industrial sector, occupying both first and second place within the energy mix of the region”.

According to data from SUDEMA (Environment Development Agency), in the state of Paraíba the forest cover in the north-eastern semiarid region increased by 304,000 ha due to a decrease in the areas used for agriculture (SUDEMA, 2004). This contradicts data recently published in the *Correio da Paraíba*<sup>20</sup> newspaper stating that 29% of the Paraíba territory is going through desertification, in particular the region of Cariri. This means the state has the highest rate of desertification in the country. In fact, an increase is evident in the use of wood in the region for producing charcoal, and in the supply of firewood to bakeries and ceramic-making workshops in urban regions such as Campina Grande, Sumé, Monteiro and Patos.

**Benefits to Landowners** – as an incentive for landowners to adhere to conservationist policies, the legislation establishes some benefits: Rural Tax Exemption (ITR<sup>21</sup>); the impossibility of expropriating the land for any purpose, including agrarian reform; the possibility of the owner receiving financial support from the National Fund for the Environment (FNMA), as well as other resources; preference in relation to agricultural credit; and state protection and economic exploration of the area, through ecotourism, for example. Apart from these public incentives, prescribed in the SNUC legislation, there are other advantages such as the ecological ICMS (Tax on the Circulation of Goods and Services), which establishes that a growing percentage of

this tax be directed towards municipalities where RPPNs and other private reserves are established (Castro *et al.*, 2004). In the state of Paraná, a municipality that benefits from the ecological ICMS is legally bound to assist and support owners of an RPPN; in exchange they receive tax compensatory measures and incentives (Castro *et al.*, 2004).

## Final considerations

The analysis of environmental conflict in relation to RPPNs in the semiarid region reveals the complexity of processes relating to territory and environmental change. They are characterized by the confrontation of territorial projects for protecting nature and managing natural resources against a background of strong market demand for *caatinga* extractivist products (in particular timber products such as firewood, charcoal, stakes and posts), the marginalization of social groups and the inequality of power relations between the different actors involved in these conflicts.

One of the difficulties of the approach of political ecology is precisely in relation to the problematic which it seeks to highlight: how to deal with power in an empirical and analytical way? References to the notion of power often result in abstractions which are empirically difficult to verify. In this article, we sought to demonstrate how, in face of the clash between “social worlds” and the territorial projects of different social groups often involved in conflicts relating to the establishment of ways to regulate the access and use of natural resources (disguised as conflicts relating to the protection of nature), power emerges from the ability to institutionalize and provide legitimacy to intentions which express the interests of different groups within a given social configuration.

One of the facets of power revealed by this ability to produce territorial projects with a high level of institutionalization is the criminalisation of agents who are opposed to the intentions the projects express. Both in rural settlements and in RPPNs of the semiarid region, it can be clearly observed that the historical processes of social marginalization, in relation to the exploration of natural resources, are currently manifested through the use of mechanisms of criminalisation. Everyday activities such as hunting, cutting wood and making charcoal have gained new meanings, becoming crimes within the newly established social arrangements.

It is important to highlight the complexity of relations between agrarian and environmental issues. In the agrarian reform settlements in this study, while rigorous environmental legislation has not been able to ensure the effective protection of nature in permanent protection areas or within legal reservations, it imposes limits to the transition of these families from being landless rural workers to becoming smallholders or family farmers. Sometimes this legislation finds it more difficult to protect natural resources which are collectively owned in areas of agrarian reform, since the legitimacy of collectively instituted arrangements for the common use and access to resources is not recognised when these clash with legal provisions (Nunes e Cunha, 2008).

The fact is that finding effective ways of exploiting and conserving natural resources is not simply an issue of protecting nature, both for settled families and the

local populations near RPPNs. The central issue here is of social reproduction; the viability of family farming projects in the semiarid region of the north-east.

The symbolic struggles which are currently taking place lead to contradictory views about family farmers, in particular about the ways they relate to the environment. The idea of life in the semiarid remains a “romantic” vision and reveals the attempts to control the actions and practices of local populations, defining a static form of social being. Thus, disputes regarding the legitimacy of territorial projects can be associated to control strategies expressed in socially legitimate ways of regulating the access and use of natural resources.

In relation to the development of RPPNs in the semiarid region, the presence of different models of private reserves was observed. They are inserted within a uniform social context of land concentration, hegemonic political practices, a low level of human development in municipalities and their rural areas, damaging droughts, poor vegetation, low level of education, as well as the existing conflicts in relation to land in the region.

In all these models, the local population are not being taken into account, or as Gerhardt (2007) claims, they undergo a process of systemic invisibility which landowners seek to justify through the private nature of their land, although the legislation prescribes the need for interaction with communities outside the reserves. In other models in the semiarid region - such as in the Serra das Almas RPPN in Crateús, state of Ceará, *alto sertão* - greater interaction with the local community is explored; however, in face of the invisibility provoked by the ‘environmentalizing’ process, so-called environmental education practices may contribute in turning these communities into mere passive agents in the process.

Furthermore, it is believed that different owners have different profiles which can be described thus: there are conservationist landowners who do not accept any interference in their reserve; there are conservationists who see in their RPPN an opportunity for increasing their visibility to partners or the business community and increasing profitability, even making RPPNs into a profitable activity; and there are those who see RPPNs as a “gateway” to more public funding. There has been little said about private reserves in the semiarid region, including in relation to the necessary strategies for their implementation and maintenance.

The scenario of environmental change this region is going through, where the climate is becoming increasingly dry, and there is a shortage of wood and widespread erosion, means that the conservation of the semiarid region enters into the environmental discourse. For RPPNs owners, these reserves could contribute to the preservation of what is left, but in order for this to take place, there is a need to change forms of agriculture and adopt organic cultivation, among other practices incorporated by the communities and movements which promote a possible environmental recovery. The idea of the need to create RPPNs is being promoted in the region, particularly when the movements which defend the rights of landowners know that the region has one of the most unfair land distribution rates in the country, hence it is more plausible to convince landowners that they should create private

reserves, and subsequently receive “compensations” such as tax exemption, priority in the analysis of rural projects and state protection.

In this way, in the semiarid region in the north-east region the processes analysed reveal:

- a) growing institutionalization in the way access and use of natural resources are regulated, through the establishment of conservation units - in particular through the “magical” transmutation of old *latifundia* into new Private Reserves of Natural Heritage – and the institution of areas of legal reserves and permanent preservation within rural settlements.
- b) the “environmentalization” of land as a way of providing legitimacy in accessing public policies expressed paradigmatically by the RPPN model, but also as a very real issue in the agenda of rural social movements, in particular the MST.
- c) a growing complexity of social networks, which have an ambiguous role for different agents in the new efforts of the private sphere to appropriate and control the public sphere.
- d) a greater diversification of mediation agents (guardianship?) among rural populations, a legitimate process via the institutionalization of social roles, in particular those roles played by representatives of the so-called non-governmental organizations.
- e) the difficulty in establishing regimes for protecting nature which incorporate the needs and projects of most of the rural population of the semiarid region.

The new Forestry Code, recently approved by the National Congress and sanctioned by the President after vetoing some articles, does not alter RPPNs as units of conservation of mixed character, public and private. Certainly, from the point of view of agribusiness, landowners allege that it is not attractive to establish reserves on their property, in view of the fact that in forest regions there is the need to establish a legal reserve which has to occupy 80% of the total area of the property.

## Notes

<sup>2</sup> Brazil was a pioneer in Latin America in nature conservation within private areas; this was already in practice in the USA and Europe (Mesquita, 1999).

<sup>3</sup> Instituto Brasileiro Desenvolvimento Florestal which preceded IBAMA [Brazilian Institute for the Environment].

<sup>4</sup> Exploit the environment so as to ensure the preservation of its renewable resources and ecological processes, maintaining biodiversity and other ecological attributes, in a socially fair and economically viable way (art. 2<sup>o</sup>, inc. XI, Law n. 9985/2000).

<sup>5</sup> That which involves the collection and use, whether commercial or not, of natural resources (art. 2<sup>o</sup>, inc. X, Law n. 9985/2000).

<sup>6</sup> Maintenance of ecosystems which have not been altered through human interference, where only the indirect use of their natural attributes is permitted (art. 2<sup>o</sup>, inc. VI, Law n. 9985/2000).

<sup>7</sup> That which does not involve the consumption, collection, damage or destruction of natural resources (art. 2<sup>o</sup>, inc. IX, Law n. 9985/2000).

<sup>8</sup> Examples of studies on RPPNs are : Paraíso (2005), Lustosa (2006), Lins (2005).

<sup>9</sup> <http://www.ib.usp.br/ceo/rppn.htm>, access on: 11/10/2006, at 16:00 hours.

<sup>10</sup> Biome receiving the largest amount of resources so far for the development of so-called environmental policies, on the part of the Government and organizations such as Aliança para a Mata Atlântica [Atlantic Rainforest Alliance] and The Nature Conservancy.

<sup>11</sup> III Congresso Nacional de RPPNs, [III RPPNs National Congress] took place on 23, 24 and 25 August, 2007, in Ilhéus – state of Bahia (BA).

<sup>12</sup> Superintendência de Desenvolvimento do Meio Ambiente – Environment Development Agency.

<sup>13</sup> A commitment signed before the environmental agency, which shall assess the existence of public interest, shall be registered as an eternal reserve on the margins of the deeds in the Property Public Register.

<sup>14</sup> IBAMA - Brazilian Institute for the Environment

<sup>15</sup> Within a procedural meaning of social relations as seen in the work of Elias (Landini, 2006).

<sup>16</sup> With the same procedural meaning as referred to above.

<sup>17</sup> Law n. 9.985, art. 21 and Dec. N. 5.746/2006, art. 2º.

<sup>18</sup> Which was again repeated between 26 and 28 October, 2011, in Porto Alegre, State of Rio Grande do Sul (RS).

<sup>19</sup> <http://www.rppnbrasil.org.br/alianca/folder%20Aliança.pdf>

<sup>20</sup> LÚCIO, M. Processo de desertificação na Paraíba é o maior entre os estados brasileiros. [Desertification in Paraíba is higher than any other Brazilian state] In: CORREIO DA PARAÍBA, <http://www.portalcorreio.com.br/capa/?p=noticias&id=27445>, accessed on 08/04/2007, at 09:00 hours.

<sup>21</sup> Territorial R

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# CONSERVATION OF NATURAL RESOURCES IN THE SEMIARID REGION AND DEVELOPMENT: THE CASE OF PRIVATE PRESERVATION AREAS

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**Resumo:** A pesquisa sociológica tem se interessado crescentemente pelas formas discursivas e práticas pelas quais a chamada “questão ambiental” passa a influenciar escolhas políticas e as figurações sociais. Analisou-se o modelo de conservação empreendido pela criação destas unidades de conservação em propriedades rurais privadas. As dinâmicas sociais analisadas envolveram proprietários, populações rurais do entorno e representantes de órgãos públicos, tratados neste trabalho em termos dos processos combinados de mudança ambiental, políticas conservacionistas e marginalização de grupos sociais no quadro da abordagem da ecologia política. A pesquisa de campo revelou as contradições deste modelo de política conservacionista. Estas contradições são potencializadas no semiárido, de um lado tem-se políticas que absorvem o meio ambiente como um elemento exclusivamente de conservação, de outro tem-se políticas que incorporam a questão ambiental como um elemento a mais na política de desenvolvimento e, além dessas, tem-se políticas de caráter compensatório.

**Palavras-chave:** desenvolvimento; meio ambiente; conservação.

**Abstract:** Sociological research has become increasingly interested in the discursive forms and practices by which the so-called “environmental issue” has started to influence policy choices and social configurations. An analysis was made of the model of conservation undertaken by the creation of these protected areas in private farms. The social dynamics analyzed involve landowners, surrounding rural communities and representatives of public agencies, and are addressed in this work using a political ecology approach in terms of the combined processes of environmental change, conservation policies and marginalization of social groups. The field research revealed contradictions in this conservationist policy model. These contradictions are enhanced in the semiarid region. On the one hand there are policies which construe the environment exclusively as an element of conservation, while on the other hand there are policies that incorporate environmental issues as one more element within development policies. There are also compensatory policies.

**Key-words:** Development; environmental; conservation.

**Resumen:** La investigación sociológica está interesándose de manera creciente por las formas discursivas y prácticas por las cuales la llamada “cuestión ambiental” pasa a influenciar elecciones políticas y las figuraciones sociales, incluso en el espacio rural. Se analizó el modelo de conservación emprendido por la creación de estas unidades de conservación en propiedades rurales privadas. Las dinámicas sociales analizadas involucraron propietarios, poblaciones rurales del entorno y representantes de organismos públicos tratados en este trabajo en términos de los procesos de cambio ambiental, políticas conservacionistas y marginación de grupos sociales en el cuadro del abordaje de la ecología política. La investigación de campo reveló las contradicciones de este modelo de política conservacionista. Estas contradicciones son potencializadas en el semiárido, de un lado hay políticas que absorben el medio ambiente como un elemento exclusivamente de conservación, de otro hay políticas que incorporan la cuestión ambiental como un elemento más en la política de desarrollo y, además de esas, hay políticas de carácter compensatorio.

**Palabra-clave:** desarrollo; medio ambiente; conservación.

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