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The nature(s) of Environmental Protected Area Macaé de Cima (Rio de Janeiro - Brazil): perceptions, dilemmas and conflicts

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Abstract
The creation and management of protected areas (PA) involve a complex problem, since it integrates tensions and conflicts originated by the institutionalization of these areas by the State and by the territorial planning and management. Often, this is because opposing interests between social groups, with different meanings about the nature and about what nature needs to be protected. In this context, the purpose of this article was to elaborate a historical (re)construction of the creation and implementation of the Macaé de Cima Environmental Protected Area and to analyze which one(s) and how the "nature(s)" has been protected. The methodology involved a literature review and interviews with managers, advisers, owners and farmers, between 2013 and 2019. The results indicate three visions of nature that sometimes mix with each other: the contemplative/bucolic nature, the utilitarian nature and the scientific nature.

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INTRODUCTION

Every society creates and transforms the way it perceives nature, and it is possible to state that its meaning conditions and is conditioned by social relations, by material production and, therefore, by culture itself (MANTOVANI, 2009). The understanding of nature may differ between the social groups that inhabit and / or interact with the territory (LEFF, 2009), having direct repercussions in the context of the management of protected areas.

Protected spaces have been delimited in the history of societies long before the creation of Yellowstone National Park (USA) in 1872, considered as the first territory demarcated for the purpose of environmental protection. Davenport and Rao (2002) point out that, in 550 BC, in the Persian Empire, there were hunting areas, while in 400 BC, in India, there were already forests with restricted use due to religious reasons.

Although the contemporary understanding of nature protection originated in the mid-19th century, the constitution of the modern Western paradigm of nature dates back to the 12th century, when religious reforms were introduced in Europe, culminating in the Enlightenment reason (MANTOVANI, 2009). Its consolidation emerges in the scientific revolution of the 16th century, a time when nature is no longer interpreted mainly as a manifestation of the divine will (HOEFLE, 2016). From that time until the aegis of industrial revolutions, nature came to be conceived as an inexhaustible source of wealth, the basis for the unlimited progress and development of Judeo-Christian society (RIBEIRO *et al*., 2012). Until the 19th century, the concept of nature was reduced to the physical-natural dimension, that is, understood only as fauna, flora, land, water, fire and air, excluding man (HOEFLE, 2016). In 19th century in Europe, nature will also be perceived as a place of contemplation, isolation and reflection, being valued in opposition to the city, which, immersed in expressive population growth, was beginning to be the *locus* of problems such as pollution and lack of sanitation (MANTOVANI, 2009).

The reports of travelers and romantic writers gain value when trying to describe nature as the lost paradise or the place of discovery of the human soul. The natural environments were then presented as the place of childhood innocence, refuge and intimacy, beauty and the sublime. The idea of maintaining these attributes through the isolation of certain areas arised. This happens mainly in the United States, at a time when its urbanization was occurring at an accelerated pace and, from the perspective of the '*wilderness*' concept, large areas were reserved for the recreation of urban populations, preventing agricultural expansion and the action of mining companies (DIEGUES, 2008).

As a result, two environmental protection currents emerged at the end of the 19th century: the preservationism and the conservationism. In the first one, regarded by many people as the American model of protection, the *'wilderness*' was put forward, for its own value, against any intrusion, by isolating certain areas. The conservationist current, seen as a European model, presupposes the good use of natural resources (CASTRO JUNIOR *et al*., 2009) and has become the most appropriate way to make human activities compatible with the needs of biodiversity protection. In the last decades of the 20th century, the preservationist model started to be widely used in developing countries, such as Brazil. Critics indicate that this model results from the combination of ethnocentrism and imperialism, being efficient only in developed countries (CASTRO JUNIOR *et al*., 2009). The arguments are based on the removal of traditional populations from their territory and the use of nature as a commodity for commercial exploitation through, mainly, its contemplative and touristic use (BUSCHER *et al*., 2014).

In the Brazilian case, although the first protected areas had been created at the beginning of the 20th century, only in 1979 the federal government acted to systematize them with the publication of the "Plan for the System of Conservation Units in Brazil" (IBDF / FBCN, 1979). Updated in 1982, it aimed at identifying the most important areas for conservation, in addition to proposing an integrated set of protected areas. Only in 1989, at the request of the federal government, the Fundação Pró-Natureza (Funatura) drafted a bill to create a national system of protected areas. This draft was presented to the National Congress in 1992 and, after eight years of extensive debates among different sectors of society, law 9.985 was enacted - National System of Conservation Units (in Portuguese Sistema Nacional de Unidades de Conservação, SNUC) (BRASIL, 2000).

Despite various criticisms, the publication of this law was considered an advance in public policies in the scope of nature protection with a view to the elaboration of a legal document that unifies the criteria for the creation and management of different types and categories of protected areas that were previously scattered in different legal instruments (MEDEIROS, 2006).

Now, twenty years after the publication of the SNUC, it seems indispensable to ask which nature one intends to protect in Brazil, how this protection has been made and for whom such measures are intended. These queries inspired the central question of this research: analyzing which "nature(s)" has been protected in the Macaé de Cima State Environmental Protection Area (in Portuguese Área de Proteção Ambiental Macaé de Cima, APAMC) and "how" it has been done, through the historical (re)construction of the creation and implementation of this conservation unit (CU). With this horizon, the purpose is also to encourage debate on legal strategies around environmental protection, specifically considering their outcomes, though the elaboration of a case study.

This conservation unit, located in the mountain region of the state of Rio de Janeiro (Brazil), between the municipalities of Nova Friburgo and Casimiro de Abreu, is part of the group of sustainable use units (according to SNUC) and therefore presupposes the maintenance of the population in its territory, which inevitably causes conflicts due to divergent interests around the use of its natural resources. This work aims to elaborate a historical (re)construction of the creation and implementation of the Macaé de Cima State Environmental Protection Area, from the colonization of the area to the current management of the territory, in order to understand, through the interpretation of the discourses and practices of the different actors in the territory, which "nature" it intends to protect, for whom this protection is intended and how this process occurs.

METHODOLOGY

The methodology involved: (1) secondary data collection (2) field research, with interviews with local actors and (3) systematization and analysis of the researched material.

In the first stage, the bibliographic research involved a process of searching for the available academic production related to the area of study and the subject in question. The management plan of APAMC was also subject to analysis with the purpose of understanding the strategies of the managing body, the State Environmental Institute (INEA). In addition, two land use and land cover maps were organized based on data available on the portal MapBiomas (2020) in order to verify changes over the years. For the first map, the year in which the first CU was created in the area was selected, while the second one is based on the most recent information available on the portal.

The fieldwork characterized the second methodological stage. It was developed through the conduction of 50 interviews between 2013 and 2019, with farmers, holiday homeowners, hereinafter referred to as CU besiegers, managers and advisers, selected from their representativeness within social groups. We sought to collect information on the understanding about nature and the protection strategies. The material obtained was fully recorded and transcribed, with the adoption of ethical procedures and the signing of Terms of Free and Informed Consent.

The interviews followed a script pre-elaborated according to the social group in question, organized in order to reach, at the end, the subject of the conservation unit. In this way, for farmers, the initial focus of the questions was their understanding of the processes at work in the landscape, their understanding of the dynamics of nature and strategies for the protection of natural resources. The smallholders, managers and advisors were asked questions initially focused on processes and strategies for nature protection. The understanding of nature itself was not the main focus of the questions, that is, direct questions about the meaning of nature were not asked. We believe that if the questions had been asked in this way, the interviewees would have offered "ready-made" answers that might not have demonstrated their subjective understanding of nature. Therefore, the survey of this information was prepared from the next stage.

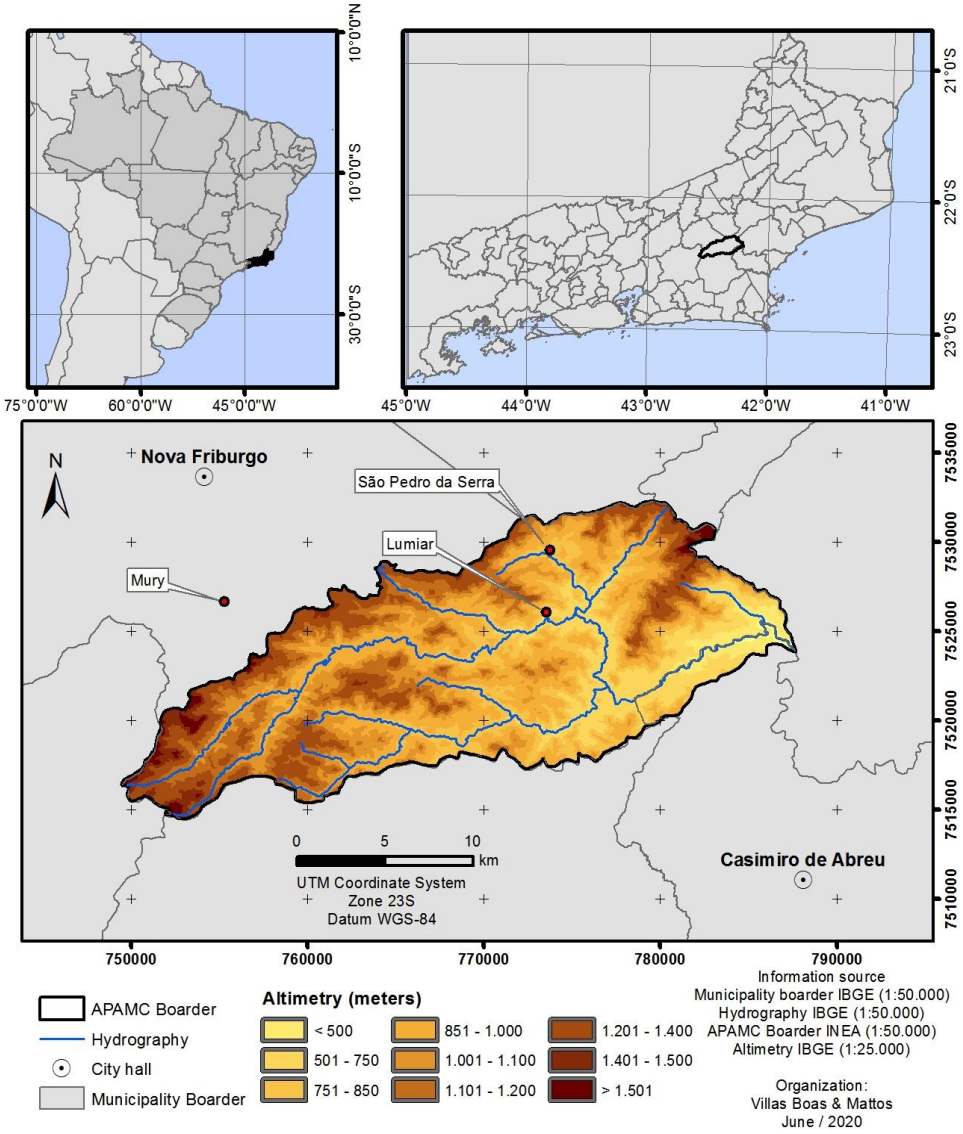
The third investigative stage was conducted through the Content Analysis technique. Developed in the United States, in the 1940s, this technique was created with the objective of being applicable to forms of communication, prioritizing those constructed through a linguistic code, in order to analyze the said and "unspoken" contents of the messages (BARDIN, 2011). Thus, the meanings of nature could be identified, grouped according to similarities / differences, interpreted and analyzed.

RESULTS

Brief background

The history of the upper course of the Macaé river basin differs from other regions of the state of Rio de Janeiro due to its steep and rugged relief of the Serra do Mar (figure 1), the dense tropical rainforest and the presence of hostile indigenous tribes and *quilombos* (MAYER, 2003). In the 19th century, Serra do Mar also served as a route for gold smugglers from Minas Gerais, fleeing the crown taxation.

Figure 1. APAMC location map.



Source: INEA (2014). Org.: the authors, 2020.

In 1818, the Swiss immigration project was formulated for the lands of Fazenda Morro Queimado, which today correspond to the center of the municipality of Nova Friburgo. The project provided for the arrival of 2,000 immigrants among farmers, carpenters, cabinetmakers, blacksmiths, tanners, tailors, weavers and potters; and the distribution of plots of land based on small property, tax exemption, payment of travel and monetary subsidies to settlers (MAYER, 2003). Rural production was encouraged in order to promote self-sufficiency and rural-city integration at the local level (NICOULIN, 1995).

The settlement took place on three axes along the river valleys adjacent to the area: Grande river, Cônego river and Macaé river. As early as 1821, numerous plots destined to settlers were found to be unproductive due to their location on the steep escarpments of the region, the shallow and rocky soils and the dense forest cover (figure 2). In 1824, German settlers migrated to Nova Friburgo to strengthen the dynamics of what was then a Swiss colony. They also received land in the Macaé river valley, but it is not possible to pinpoint exactly how many people settled on this eastern axis of colonization (MAYER, 2003).

Figure 2: Agricultural activities on steep slopes, in the foreground, and the forest cover and rocky outcrops, in the background.

Source: the authors, 2020.

Contrary to what the imperial government expected, the colonists used traditional Brazilian techniques, such as fallow and burning to cut down vegetation and treat soil. For being located far from the colony administration, they would have lost European cultural traces of origin, resorting to forest resources to ensure their health and build houses (MAYER, 2003).

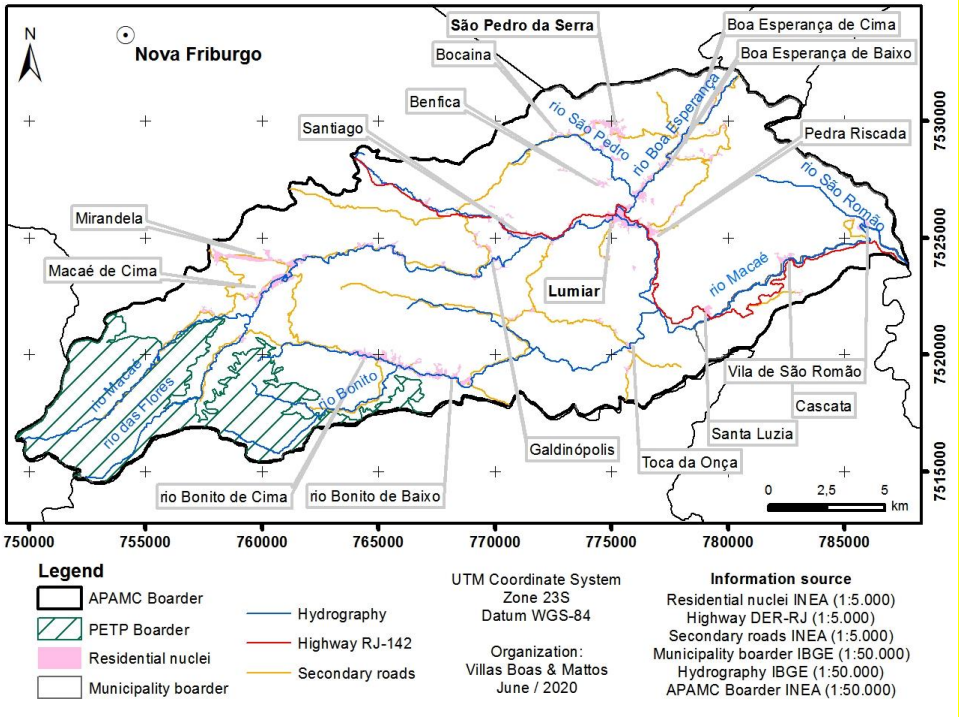
Nova Friburgo maintained rural characteristics until the beginning of the 20th century, when in 1910 textile industries were created. From then on, the city started to be connected by train to the capital and to receive energy supply (ARAÚJO, 2003). Despite being part of this municipality, APAMC's mountainous land maintained a degree of geographical isolation in its agricultural dynamic until 1960. It changed due to the initiative of the residents, who steered the construction of the road connecting Mury to Lumiar at the end of the 1950s, retracing the old path of the troops (VILLAS BOAS, 2017). This fact enabled the arrival of the first public transport that connected Lumiar to the town hall in the early 1960s in a single daily trip.

From the 1970s, the initial agricultural characteristics were modified with the intensive use of agricultural inputs and with subordination to the market economy. In this period, the rise of tourism as a social practice was also observed in the region (AMADOR, 1997). Pioneering or adventurous tourists, willing to face precarious access and lack of electricity, sought isolation from urban centers (REGO, 1988). In the 1980s, the pluriactivity dynamics that began to characterize the region was consolidated. The Mury-Lumiar road was paved only in 1982, and electricity arrived in 1985. In this decade, the region was a new frontier for state tourism, having nature as its main attraction.

In the 1990s, a change in the tourist profile occurs: if previously "*hippies*" slept in tents on the banks of the rivers, now "outsiders" start to acquire land in the region for the construction of second homes, seeking a bucolic experience (AMADOR, 1997). The arrival of the telephone grid, the paving of the Lumiar-São Pedro da Serra road in 1995 and the growth of tourism ended up leading to an increase in the price of land, which would have motivated farmers to abandon the place where they lived to become property caretakers, in areas that previously belonged to them (MAYER, 2011).

It was already possible to observe, at the end of the 1990s, a certain division in the profile of landowners in different river valleys. While an expressive presence of those "outsiders" was already observed in the valleys further south and west of the basin – Macaé, das Flores river and Bonito river –, the valleys further north and east of the basin – Boa Esperança river and São Pedro river – still maintained European descendants and agricultural activities (figure 3).

Figure 3 -Map of APAMC localities, main river channels and access routes.



Source: INEA (2014). Org.: the authors, 2020.

The creation of APAMC

The APAMC region became more touristic in the 1970s, since urban centers residents saw the area as a "lost paradise" (REGO, 2009). This "lost paradise" idea was associated with the perception of nature as bucolic and mysterious, a fascinating nature (*flowerpower*). In addition, the spreading of news about a preserved fragment of the Atlantic Forest also attracted researchers from the Institute of the Botanical Garden of Rio de Janeiro (IJBRJ) which resulted in an expressive academic literature of a floristic and taxonomic nature, illustrated by the fifty articles published between 1977 and 1998. This translated into the establishment of close ties between IJBRJ researchers and some smallholding owners in Macaé de Cima, which, years later, culminated in a movement that boosted the institutionalization of the Macaé de Cima Society, in 1984, today called Macaé de Cima Association (MATTOS, 2018).

Supported by scientific research, the Macaé de Cima Society asks the municipal government to create a conservation unit at the upper course of the Macaé River. Thus, in 1989, the IJBRJ sent a request to the municipality of Nova Friburgo aimed at creating a protected area. Then, in January 1990, Municipal Decree no. 156 institutes the Macaé de Cima Ecological Reserve (REMC) with 70 km^2, about 1/5 of the current extension of APAMC. At the same time, the Municipal Environmental Protection Area of Rio Bonito (APARB) was created, also by the municipality of Nova Friburgo. Although the two Conservation Unities, managed by IJBRJ, never got off the drawing board, REMC originally prohibited several common practices such as the crossing of buses, gas home supply, among others.

REMC remained as a municipal protected area until 1997, when both the creation decree and the area's zoning plan were revoked (INEA, 2014). Such revocation was the result of a dispute related to the creation of a touristic enterprise, which provided for the construction of fifty housing units, which did not comply with the REMC creation decree (MENDES, 2010).

In 1999, the Macaé de Cima Society once again challenge the public authorities, but this time, it directs efforts to the State Environmental Engineering Foundation (FEEMA) in order to create a conservation unit in the area of REMC and APARB. Through this, as well as other actions, its role can be considered relevant for environmental protection in the upper course of the Macaé river basin (MATTOS, 2018). In the background, in the following years, it seems that the association's interest in creating a sustainable use unit was associated with the defense of its lands, considering their intent was not to have a land regularization typical of integral protection units (REGO, 2009).

In response to these initiatives, APAMC was created through State Decree No. 29,213, of September 14, 2001 (RIO DE JANEIRO, 2001). Many farmers and other local social actors interpreted this moment as a victory for the groups linked to the interests of smallholders, tourists, environmentalists, that is, the "outsiders" (REGO, 2009).

From the beginning of the management to today

A year after the creation of APAMC, the Três Picos State Park (PETP) was founded, with an area overlaying APA's territory. Until 2005, APAMC remained "on the back burner" and no public action was taken. As a result, many residents were unaware of the unit's existence during this period. As of this year, FEEMA started to manage the unit, allocating a manager for the nine sustainable use units managed by the body. The main management practice involved occasional field surveys, to inspect prohibited agricultural practices, and the application of fines, based on the (extinct) forest code.

At the end of 2004, FEEMA created the APA Macaé de Cima Advisory Council (CONAPAMC) and without an extensive public consultation, appointed 20 institutions to compose it. In subsequent years, board meetings were composed primarily of representatives of public bodies and by "foreign" and smallholder owners, reflecting also the means of communication chosen for the calls (email), since a large part of the local population did not have access to this technology.

It should be noted that APAMC's first management instrument was based on its own creation decree, since it provided for socio-economic activities and management practices to be supervised by the management body. Thus, hunting, deforestation in riparian forest areas, land parceling aimed at urbanization, the opening of public spaces, fires, logging and earthworks became the priority focus of management actions in this period, activities that were already prohibited by other legal instruments. Several farmers, mostly with little formal education, reported, in the interviews, not only how difficult it was for them to know which practices were acceptable and in which areas they could cultivate, but also a truculent attitude by public officers.

The social environment, in these first years after the creation of the CU, was characterized by a context of clashes and conflicts among farmers and other local actors and the managing body (REGO, 2009). Although this type of conflict is common in other areas of Brazil, in which the farmers' worldview is completely different from the understanding of the environment by the managing agency (LASCHEFSKI *et al*., 2012), the origin of these conflicts, in APAMC, seems to have been the misinformation and the incipient communication between the public bodies and the local population (CARNEIRO *et al*., 2010). These conflicts were materialized, also, because the farmers perceived the APAMC management team as the origin of the coercion process against their traditional land management practices (TEIXEIRA, 2009). And, in this context, it can be said that this would have been the origin for conflicts between family farmers and interest groups linked to the management of APAMC and / or to environmental movements, which occurs until today.

With the aim of (re)building the history of land management actions, it is important to highlight that, in January 2007, the State Forestry Institute (IEF) becomes the co-manager of all FEEMA's CUs and, in October of the same year, the first manager dedicated solely to APAMC occupies the position. Being a resident of the region, this choice seemed to aim at trying to improve the relations between the community and the management body. As of 2008, the unit started to have at its disposal a vehicle, a global positioning device (GPS) and an inclinometer, whose focus appeared to be basically the continuity of the old practices: inspection and application of fines.

When the State Environmental Institute (INEA) was created, in 2007, APAMC started to be managed by the Management of Sustainable Use Units (GEUSO). From that moment on, the restructuring of CONAPAMC began, since the number of advisers went from 20 to 42, and the number of representative seats in farmers and smallholders associations grew from 8 to 20. Although the entry of new members may have made possible a differentiated environment, many councilors reported that a considerable portion of them were institutions, that is, they had no representativeness, as they had been created only to integrate the council.

In that same year, and in the following year, two suits were filed at the Legislative Assembly of the State of Rio de Janeiro (ALERJ) by associations of local residents requesting the revocation of the creation of APAMC. Despite not using the term "management plan", one of the letters filed made it clear the lack of it, as well as the lack of state's guidelines regarding acceptable practices in the region. The associations also claimed that agricultural activities developed in APP areas, which had been subject to inspection and fines, had been practiced since the first settlers arrived and were justified on account of environmental characteristics, but that the region had never been "so green". It was then created the dichotomy around the "nature" of the APA. On the one hand, the group of "foreigners" interested in maintaining forest cover and, on the other hand, the farmers clamoring for arable areas and the maintenance of traditional practices.

It is noteworthy that state law no. 2.049 (RIO DE JANEIRO, 1992) which prohibits the use of fire in several areas, including in permanent preservation areas (APP), ended up affecting small farmers across the state, even though its initial purpose had been to restrict the use of fire in the cane fields of the north of Rio de Janeiro. Applying this law, practically no area would be available for traditional agricultural management in APAMC.

The managers interviewed point out that one of the reasons for the greater recurrence of complaints of environmental crimes was, and still is, the practice of burning associated with fallow. In this practice, farmers abandon the land so that it can "rest". During the following years, the forest regenerates and then the

woody material is felled and fire is used to clean the area and fertilize the soil. Although this agricultural system may seem primitive, inefficient and environmentally inadequate, under appropriate circumstances, it is capable of being highly productive in terms of energy and relatively neutral in its ecological effects (OLIVEIRA, 2007).

As one can imagine, both the glades opened by the farmers and the moment of combustion did not constitute a scene well regarded by the "outsiders", undoing that image of a bucolic and pure nature, a conflict illustrated by one of the CONPAMC advisers:

> "conflict of interests... conflict between the farmer who needs to do some deforestation to cultivate and the preservationist vision of... of untouched nature by people who come from the city... hum... this conflict of vision".

In the following years, the general tension scenario had been eased since popular initiatives aimed at revoking the APAMC creation decree had no significant effect. In addition, in 2009, GEUSO submitted three projects to raise funds from the Environmental Compensation Chamber of the State of Rio de Janeiro, and only the third one, from which PETP would also benefit, had been approved. This is because APAMC was considered a priority area for the preservation of PETP, since it is located in its buffer zone and does not have, until then, a headquarters and management plan.

Recognizing that management plans in APAs are "essential management tools" (BERNARDI *et al.*, 2019), the elaboration of this instrument for the APAMC, which started in 2010, involved numerous participatory strategies, and it has been, for residents and smallholders, a means for strengthening the CU, representing a methodological improvement for the managing body. The workshops, or community meetings, were held on weekends in all urban agglomerations of the APA. Published in 2014, the document addresses the CU as a means to improve the quality of life of the resident population. Among the main actions set forth in this management instrument, are those aimed at environmental education, inspection, promotion of research and the practice of responsible tourism.

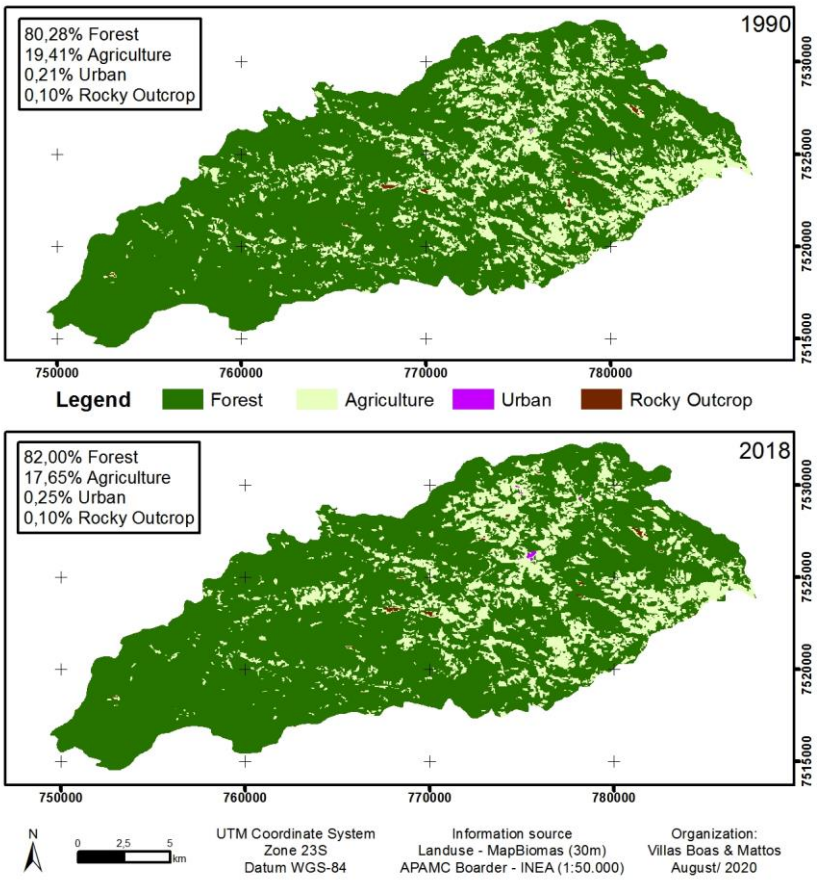
Despite the participatory initiatives carried out during the construction of the management plan and the restructuring of CONAPAMC, some tensions, resulting mainly from inspection actions, seem to have led the agency to replace, in 2014, the then manager. His substitute, also a resident of the region and a public servant of the municipality, when faced with a troubled environment and a strained relationship between the autochthonous population and the managing body, remained just two months in charge of the CU. In a scenario of tension, a new professional had been appointed, a resident of the city of Rio de Janeiro. He adopted a different attitude: he chose to be present at meetings of local associations, creating an environment of greater dialogue. In addition, he remained flexible in relation to the inspection activities as new conducts were agreed upon. Dismissed in 2016 by INEA, with no justification provided to the board, he was the only manager whose dismissal was followed by a formal written petition from the board against it.

Between March 2016 and the beginning of 2018, it was managed by a professional who had previously been in charge of PETP for almost a decade, with a "more preservationist" profile. In 2018, a manager, with a previous connection to the Nova Friburgo municipal environmental department, headed the unit. His nomination for the position was seen as politically motivated. Since 2019, an environmental analyst who joined the public service through an examination, resident of the region and who had been part of the CU team since 2015, started to be in charge of the unit. It was possible to perceive, through the analysis of the interviews, that, given the incipient performance of the municipal government in all APAMC, an image of the head of the unit as a relevant actor in local politics was constructed.

In the last management, the inspection of fallow became more flexibility, being allowed through registration. But, according to farmers, the processes have been slow. It should also be noted that some of them request authorization for the suppression of vegetation considering planting periods without a viable time for the manager to issue an opinion, while others remove it immediately after the opening of the process, without even waiting for the inspection.

The land use and cover maps (figure 4) demonstrate the reduction of the area dedicated to agriculture, the growth of forest cover and the expansion of the urban area. If in 1990, the year in which REMC was created, there was 80% forest cover, in 2018 this value grew to 82%, corresponding to a growth of 600 hectares. This fact is attributed to the combined result of years of inspection, the delimitation of arable land by the management plan, based on satellite images from 2010, where the areas covered by forests started to be dedicated to preservation, the abandonment of the practice of fallow and the adoption of modern agriculture techniques, such as the use of pesticides and chemical fertilization, and mainly by the acquisition of land by smallholders, who allow the recolonization of the forest cover (figure 5) due to their lack of interest in agriculture.

Figure 4 - APAMC usages and cover map between 1990 and 2018.



Source: MapBiomas (2020). Org.: the authors, 2020.

Figure 5: Summerhouse on a valley floor and the slope destined for the regeneration of vegetation.

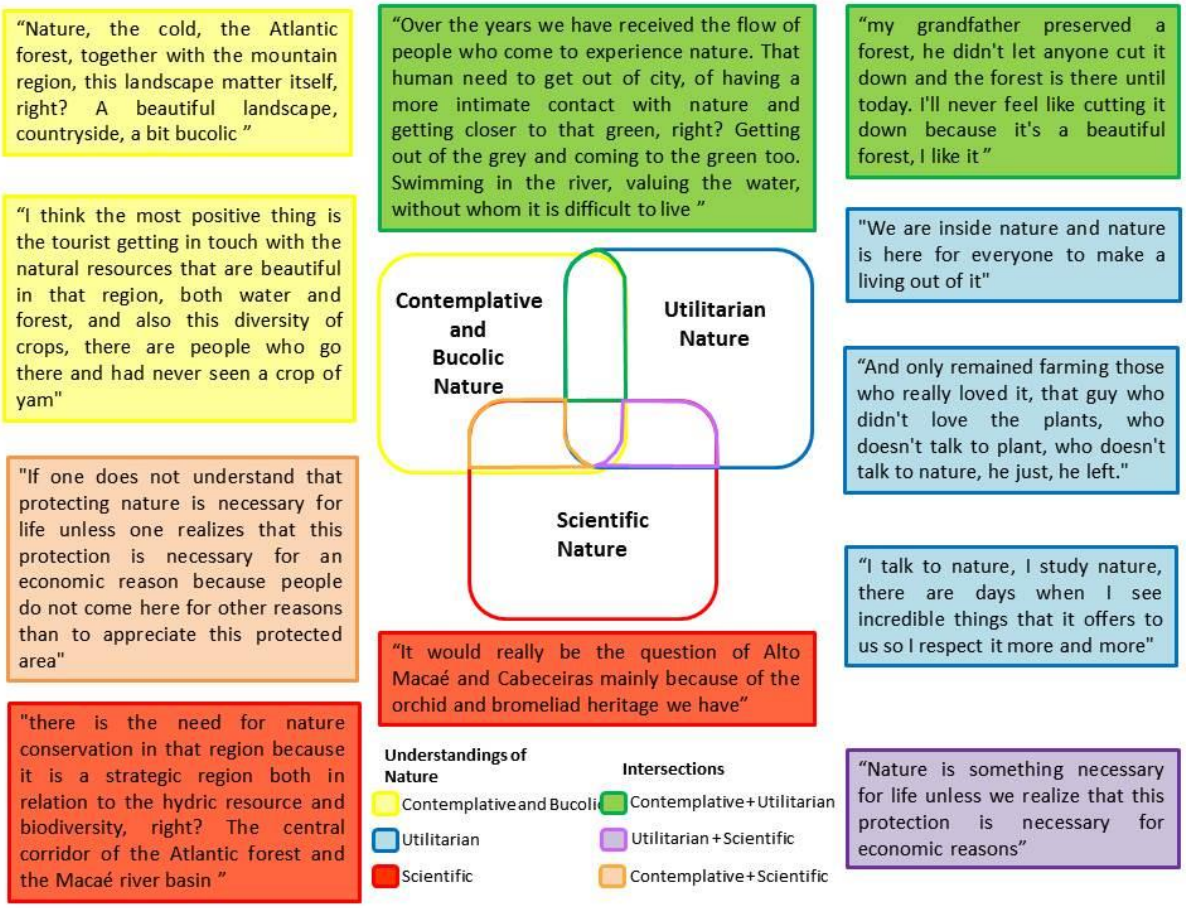
Source: the authors, 2020.

Farmers reported that they see themselves as guardians of nature, due to the affectional bonds established, not just as users of natural resources (MATTOS, 2018). This fact is even pointed out in the management plan. However, this management guiding document, based on a scientific view, still describes, and therefore understands, the elements of nature in a segmented way: climate, relief, soil, hydrography, fauna, flora, etc. Even though, in the eyes of a scholar, the management plan elaborates a good description of the constituent elements of the landscape, reinforcing even the multiple interests for natural resources, the

understanding of nature still occurs as something external to society, corroborating the dichotomy of modern science that puts man as "non-natural" and nature as "non-human" (VILLAS BOAS, 2017).

Finally, during the interviews, three main understandings about nature were identified among the social actors. *Contemplative and Bucolic Nature*: nature perceived through its scenic beauty, its transcendental and bucolic aspect and, therefore, as a motivating/ attractive element of tourism; a nature that is outside the subject, "external" to their daily live, a nature that must be essentially preserved; *Utilitarian Nature*: intrinsically associated with everyday life, that is, understood as part of the wheels of life, with which the subject is directly related. This understanding was popular mostly among farmers. According to it, the protection of nature is necessary and its use does not require a daily relationship; *Scientific Nature*: merges with the idea of a mere bank of natural resources, that is, a scientific nature, also perceived as a means for strategic conservation and maintenance of ecosystem services (figure 6). Despite the systematization effort, it cannot be overlooked that some meanings of nature mix aspects of two or more mapped understandings, and are therefore not exclusive.

Figure 6 - Schematic model of the different understandings about nature, their intersections and examples of narratives that illustrate them.



Source: the authors, 2020.

CONCLUSIONS

Considering the discussion on how the sustainable use provided for in the SNUC is applied in the light of past and current practices, through the APAMC study, it is possible to state that there is a dichotomous conflict around the interest in nature materialized in two main social groups: the "outsides" and the "insides". The understanding and the use attributed to nature occur in different ways, materialized mainly in two social activities: tourism and agriculture. While actors interested in tourism see nature as a scenery (almost) static, common sense of landscape like a painted picture, subject to contemplation and an idyllic environment, farmers see it as a substrate or the *locus* of their activities, the geographical concept of landscape as a dynamic and integrated system. Although these two groups have the same objective – the maintenance of environmental quality – nature is

either perceived as a resource to be exploited indirectly, through contemplation, visiting an environment that is rustic and different from the urban one, or as a resource to be directly explored, as a source of nutrients and aeration for the soil, for example.

In view of this, APAMC's strategies for nature protection are understandable: while the group of "outsiders" preach the isolation of resources and the maintenance of aesthetic attributes, "insiders" prioritize its use, thus denoting the need to create a socially inclusive CU model. The argument for maintaining the forest, put forward under the disguise of the argument for the relevance of the hydrological regime, is a strategy that serves two purposes: the perpetuation of the idealized landscape of non-urban areas and the conservation of the main natural tourist attractions: waterfalls, river beaches and wells. Parallel to this, the practice of fallow land and the consequent "movement" of the forest cover have been abandoned since the delimitation of the agricultural areas and of the areas to be preserved. That is, although APAMC integrates sustainable use units, in practice, "untouchable" areas were created, perpetuating "islands" of the preservationist model in the midst of agricultural activity. The combination of environmental protection actions with the agricultural modernization process has led farmers to adhere to the use of chemical inputs such as fertilizers, insecticides and pesticides, making their practices even more questionable when it comes to maintaining environmental quality.

Another factor to be mentioned is the generic definition of an Environmental Protection Area, differently from other SNUC categories. Article 15 of Law 9.985/2000 and Decree 4.340/2000 practically assign to the management plan the responsibility and guidelines for "what" and "how" to manage this category. To a certain extent, these legal instruments make it possible to create more protected areas under this category, however, by not clearly defining their purpose, they dedicate to the managing body the task of defining interests and models of the elements to be protected. More than that, when the law states that the APA is "an area with a certain degree of human occupation endowed with important attributes [...] for quality of life", it ends up rendering ambiguous the understanding of the threats to its objectives: "protecting the biological diversity, regulating the occupation process and ensuring the sustainable use of natural resources" (BRASIL, 2000).

It is thus worth asking: "protect from whom?" considering past occupation is acknowledged. We understand that the groups that were there should not be considered as threats, considering that they were the ones who maintained the environmental quality of the area, an attribute capable of enabling the creation of the CU. Another question, no less important, still based on the legal instruments, would be "protect for whom?". In this case, we can notice that both the SNUC and the creation and management processes of protected areas are almost exclusively guided by the scientific view of nature, without taking into account the empirical knowledge of heterogeneous groups that inhabit the territories. In addition to this, it is observed that the presence of the state materialized in the conservation unit leads part of the population, with little formal education, to understand the figure of the manager almost as a local 'sheriff', the one that, after the arrival and effective presence of state power, prevents or authorizes the practices and uses of the constituent elements of the landscape.

The creation and management of CUs end up revealing and illustrating political practices of science hegemony that choose what and how to protect. Legal nature protection practices end up reflecting urban social groups that value the knowledge developed in universities and research centers, synonymous with modernity and progress, to the detriment of traditional values and practices empirically built over generations.

REFERENCES

AMADOR, A. B. **O turismo e as transformações sócio-espaciais em Lumiar e São Pedro da Serra, Nova Friburgo - RJ**. Monografia (Graduação em Geografia) - Rio de Janeiro: UFRJ. 1997.

ARAÚJO, J. R. A indústria em Nova Friburgo. In: ARAÚJO, J. R. e MAYER, J. M. (Coord.) **Teia Serrana**: formação histórica de Nova Friburgo. Rio de Janeiro: Editora ao livro técnico, 2003.

BARDIN, L. **Análise de conteúdo**. Lisboa: Edições 70, 2011.

BERNARDI, I.; SILVA L. R.; FALCO, P.; PIRES, J. S. R.; SANTOS, A. C. A. Análise comparativa das ferramentas de gestão: Plano de Manejo da APA Itupararanga e os Planos Diretores Municipais. **Sociedade & Natureza**, v.32, p. 75–91, 2019. https://doi.org/10.14393/SN-v32-2020-36541

BRASIL. Lei nº 9.985 de 18 de julho de 2000. **Sistema Nacional de Unidades de Conservação**. Available in: <http://www.planalto.gov.br/ccivil_03/leis/l9985.htm>. Acessed: March 11, 2020.

BÜSCHER, B., DRESSLER, W., FLETCHER, R. (Eds.) **Nature Inc.**: environmental conservation in the neoliberal age. Tucson: University of Arizona Press, 2014.

CARNEIRO, M. J.; BERTOLINO, V. F. A.; BERTOLINO, L. C. **Agricultores e território**: práticas e saberes. Rio de Janeiro: Trasso Comunicação/CNPq/Faperj, 2010.

CASTO JUNIOR, E.; COUTINHO, B. H.; FREITAS, L. E. Gestão da biodiversidade e áreas protegidas. In: GUERRA, A. J. T.; COELHO, M. C. N. (Org.) **Unidades de conservação**: abordagens e características geográficas. Rio de Janeiro: Bertrand Brasil. 2009.

DAVENPORT, L.; RAO, M. A história da proteção: paradoxos do passado e desafios do futuro. In: Spergel, B. e Terborgh, J. (Org.) **Tornando os parques eficientes**: estratégias para conservação da natureza nos trópicos. Curitiba: Ed. da UFPR/ Fundação O Boticário, 2002.

DIEGUES, A. C. S. **O mito moderno da natureza intocada**. São Paulo: Hucitec, 2008. 6ª ed. Available in: <http://nupaub.fflch.usp.br/sites/nupaub.fflch.usp.br/files/O%20mito%20moderno.compressed.pdf>. Acessed: May 21, 2020.

HOEFLE, S. W. Além da sociedade-natureza com a mais-que-Geografia Humana: Por uma teoria transdisciplinar de ética ambiental e visão do mundo. In: SPOSITO, E. S.; SILVA, C. A.; SANT´ANNA NETO, J.; MELAZZO, E. V. (Org.) **A Diversidade da Geografia Brasileira**. Rio de Janeiro: Editora Consequência, 2016.

IBDF/FBCN. INSTITUTO BRASILEIRO DE DESENVOLVIMENTO FLORESTAL. **Plano do Sistema de Unidades de Conservação do Brasil**. Brasília: Instituto Brasileiro de Desenvolvimento Florestal / Fundação Brasileira para a Conservação da Natureza, 1979.

INEA. INSTITUTO ESTADUAL DO AMBIENTE. **APA Estadual de Macaé de Cima**: plano de manejo – análise da UC. Módulo III. Rio de Janeiro: INEA, 2014. Available in: <http://www.inea.rj.gov.br/cs/groups/public/documents/document/zwew/mdgz/~edisp/inea0083758.pdf>. Acessed: April 03, 2020.

LASCHEFSKI, K. A.; DUTRA C.; DOULA, S. M. A legislação ambiental como foco de conflitos: uma análise a partir das representações sociais da natureza dos pequenos agricultores em Minas Gerais, Brasil. **Sociedade & Natureza**, v. 24, nº 3, p. 405–417, 2012. https://doi.org/10.1590/S1982-45132012000300003

LEFF, E. **Ecologia, capital e cultura** – a territorialização da racionalidade ambiental. Petrópolis: Vozes, 2009.

MANTOVANI, W. Relação homem e natureza: raízes do conflito. **Gaia Scientia**. v. 3, nº 1, p. 3-10, 2009. Available in: <https://periodicos.ufpb.br/index.php/gaia/article/view/3337/2738>. Acessed: January 15, 2020.

MAPBIOMAS. Projeto MapBiomas – Coleção 4 da Série Anual de Mapas de Cobertura e Uso de Solo do Brasil. Available in: <https://mapbiomas.org/>. Acessed: June 30, 2020.

MATTOS, C. P. **Psicossociologia do turismo**: uma via para interpretar o turismo na Área de Proteção Ambiental de Macaé de Cima, Nova Friburgo, RJ, Brasil. Tese (Doutorado em Psicossociologia de Comunidades e Ecologia Social) - Rio de Janeiro: UFRJ. 2018. Available in: <http://pos.eicos.psicologia.ufrj.br/wp-content/uploads/2018_tese_cristiane_passos.pdf> Acessed: May 16, 2020.

MAYER, J. M. A criação de Nova Friburgo. In: ARAÚJO, J. R. e MAYER, J. M. (Coord) **Teia Serrana**: formação histórica de Nova Friburgo. Rio de Janeiro: Editora ao livro técnico, 2003.

MEDEIROS, R. Evolução das tipologias e categorias de áreas protegidas no Brasil. **Ambiente & Sociedade**, v. 9, nº. 1, p. 41-64, 2006. http://dx.doi.org/10.1590/S1414-753X2006000100003

MENDES, S. P. Implantação da APA Macaé de Cima: um confronto entre a função social da propriedade e o direito ao meio ambiente ecologicamente equilibrado. **Anais do V Encontro nacional da ANPPAS**. Florianópolis, SC; 2010. Available in: <http://www.anppas.org.br/encontro5/cd/artigos/GT16-640-642-20100903213802.pdf>. Acessed: May 15, 2020.

NICOULIN, M. **A gênese de Nova Friburgo**: emigração e colonização suíça no Brasil 1817–1827. Rio de Janeiro: Fundação Biblioteca Nacional. 1995.

OLIVEIRA, R. R. Sustentados pela floresta. In: RUA, J. **Paisagem, espaço e sustentabilidades**: uma perspectiva multidimensional da geografia. Rio de Janeiro: Editora PUC-RIO, 2007.

REGO, V. V. B. S. **Mundos em Confronto**: o desenvolvimento do capitalismo e a educação numa comunidade camponesa. Dissertação (Mestrado em Educação) - Rio de Janeiro: PUC-RJ. 1988.

REGO, V. V. B. S. Paraísos perdidos ou preservados: os múltiplos sentidos da cidadania em áreas de proteção ambiental. **Periferia**, v. 1, nº 2, p. 92-113, 2009. https://doi.org/10.12957/periferia.2009.3430

RIBEIRO, W. C.; LOBATO, W. OLIVEIRA, L. M. L. P. R.; LIBERATO, R. C. A concepção de natureza na civilização ocidental e a crise ambiental. **Revista da Casa da Geografia de Sobral**, v. 14, nº. 1, p. 7-16, 2012. Available in: <https://rcgs.uvanet.br/index.php/RCGS/article/view/8>. Acessed: May 15, 2020.

RIO DE JANEIRO, Governo do Estado. **Decreto estadual 29.213 de 14 de setembro de 2001**. Available in: <http://www.pesquisaatosdoexecutivo.rj.gov.br/Home/Detalhe/30156>. Acessed: April 20, 2020.

RIO DE JANEIRO, Governo do Estado. **Lei 2.049 de 22 de dezembro de 1992**. Available in: <http://alerjln1.alerj.rj.gov.br/CONTLEI.NSF/b24a2da5a077847c032564f4005d4bf2/485fe39fc6e8451e0325651b0068e926?OpenDocument#:~:text=DISP%C3%95E%20SOBRE%20A%20PROIBI%C3%87%C3%83O%20DE,Art.>. Acessed: May 14, 2008.

TEIXEIRA, V. L. **Novos contornos ocupacionais no meio rural fluminense**: um estudo sobre a pluriatividade entre agricultores familiares. Tese (Doutorado em Ciências Econômicas) – Campinas: UNICAMP. 2009. Available in: <http://repositorio.unicamp.br/bitstream/REPOSIP/285692/1/Teixeira_VanessaLopes_D.pdf> Acessed: May 30, 2020.

VILLAS BOAS, G. H. **Etnogeomorfologia da APA Macaé de Cima**: um objetivo e dois saberes. Tese (Doutorado em Geografia) - Rio de Janeiro: UFRJ. 2017. Available in: http://objdig.ufrj.br/16/teses/870383.pdf Acessed: May 26, 2020

AUTHORS' CONTRIBUITION

Guilherme Hissa Villas Boas prepared the original draft, analyzed the data, wrote the results and revised the article. Cristiane Passos de Mattos prepared the original draft, analyzed the data, wrote the results and revised the article.