

Protected Area of Integral Protection of the Atlantic Forest Biome: Management Council as an instrument for verification of potentialities and problems

Gabriela Albuquerque Lucio da Silva^I, Daniela Rocha Teixeira Riondet-Costa^{II},
Luciana Botezelli^{III}

ABSTRACT

In a capitalist society, dictated by irrational consumption and use of natural resources without measuring consequences, environmental policies have become necessary to reconcile the relationship between society and the environment. The Brazilian National System of Conservation Units (SNUC – Sistema Nacional de Unidades de Conservação) is one of these policies. This study seeks to analyze a specific type of Conservation Unit (UC – Unidade de Conservação), which is classified as a National Park, the Itatiaia National Park (PNI – Parque Nacional do Itatiaia). The objective was to highlight the park's socio-environmental problems and potentialities through the Management Council. To do so, data were collected through reviewing the council's meeting minutes; the identification of potentialities and problems; and use of the SWOT matrix. Thus, problems such as land tenure, budget issues and wildfires were verified. As for potentialities, it was noted that the Council has a well-developed structure and park's facilities are excellent. More problems were found than potentialities. Still, one can consider that one of the keys to solving the difficulties encountered would be participatory management through Freirean communication, as well as changes in Brazilian public policy.

Keywords: Protected Areas; Participative management; Advisory Councils

1 INTRODUCTION

In *Silent Spring*, in 1964, Rachel Carson wrote: "The rapidity of change and the speed with which new situations are created follow the impetuous and heedless pace of man rather than the deliberate pace of nature" (CARSON, 2010, p. 23). It was from this book that environmental movements gained strength and visibility and the importance of environmental protection became more widespread. The issue is no longer just scientific and has since become a part of everyday society. Countless

^I Universidade Federal do Sul da Bahia, UFSB, Brasil. gabrielalb.eam@gmail.com

^{II} Universidade Federal de Itajubá, MG – Brasil - danielart@unifei.edu.br

^{III} Universidade Federal de Alfenas- campus Poços de Caldas, Instituto de Ciências e Tecnologia, MG – Brasil - luciana.botezelli@gmail.com



milestones mark growing global concern, among which stand out the international conferences and events promoted in part by the United Nations (RIONDET-COSTA et al., 2018).

Demand for natural resources has increased pressure on the environment due to unsustainable patterns of production and consumption. Thus, it is important to have protected areas for the preservation of natural resources and biodiversity in general (RIONDET-COSTA et al. 2013). To meet these needs, Conservation Units (UCs) were created as a measure by the Brazilian government, aiming to preserve and protect the environmental potential of the country, its biomes which are full of fauna and flora biodiversity, and natural resources. These units seek not only to conserve the environment, but also the human species and its consumption patterns (MILARÉ, 2018).

According to Barbosa (2008) and Cunha (2014), another major importance of these directed units, specifically for humans, is that they directly influence the ability to maintain climate and air; water production and hydrological balance; the stability of slopes and the conservation of fertile soils; food supply; medicine and raw material for myriad sectors. In addition, some UCs even contribute to local and regional development generating income through community tourism, the creation of associations and cooperatives, as well as providing areas for educational activities, scientific research and leisure (BARBOSA, 2008; CUNHA, 2014).

These and many of the other countless benefits that UCs can bring to society are called environmental services. These are provided by ecosystems and can be defined as the capacity for nature to work free, for the good of life on the planet, providing services to humans which can only be performed if the environment has an appropriate condition, and the UC is a tool that ensures these conditions (BARBOSA, 2008; MELLO; MOTTA, 2005).

Currently, in Decree 4.340/2002, which regulates the National System of Conservation Units (SNUC), the UC Management Council formation is a requirement, which determines in Chapter V the composition and the authority of the council and

the managing body, represented by the UC director. In the midst of other particularities about the creation and functioning of these councils, their membership is required to be comprised by 50% citizen-driven organizations (RIONDET-COSTA, 2012). In Brazil, although councils date back to the 1988 Federal Constitution, historically their origins, according to Gohn (2003), is long dated. The author exemplifies this fact by mentioning the creation of councils in Portugal between the 12th and 15th centuries, the Paris Commune, the councils of the Russian Soviets, the workers councils of Germany, Italy, Hungary, Poland and Yugoslavia.

Management boards, according to SNUC, may be consultative or deliberative in nature. With the publication of ICMBio Normative Instruction, no. 11/2010, the process of construction and operation of the UC advisory councils was institutionalized. With this, the Chico Mendes Institute for Biodiversity Conservation (ICMBio) determined the guidelines and procedures for the constitution of the UC councils, and in 2007 published Normative Instruction No. 2/2007, which establishes the process of construction and operation of the councils. deliberative actions, thus improving the designation of these important participatory management spaces (RIONDET-COSTA, 2012).

Human interference in UCs should be considered from broader models, understanding that there are outside social processes on them and that this is a dimension to be discussed in the context of protective practices. Therefore, it is important for the participation of the social actors involved (RIONDET-COSTA et al., 2018) to be taken into account during the creation, expansion and management of these areas. Thus, the Management Council of a UC is extremely relevant because it is through this that dialogue between the State and the civilian population is provided, which is an instrument that should encourage participatory management (BRASIL, 2000; 2002; MACHADO 2018; MILARÉ 2018; GRANZIERA, 2015; ANTUNES, 2017).

Highlighting the importance of the Management Councils and the UCs for the environment and consequently for human existence itself, this work sought to raise the social and environmental problems and potentialities of the Itatiaia National Park

(PNI) from the perspective of its Management Council, being the PNI a UC classified as full protection (ICMBio, 2013).

2 DEVELOPMENT

2.1. Study area

Itatiaia National Park (PNI) was the first National Park (PARNA) in Brazil, created on June 14, 1937, under Decree No. 1,713. To start, it had an area of 11,943 hectares, later expanding to its current 30,000 hectares in September 1982. It currently comprises the municipalities of Resende and Itatiaia, in the state of Rio de Janeiro, and Bocaina de Minas, Alagoa and Itamonte, in the state of Minas Gerais (ICMBio, 2013), in the Mantiqueira Mountain Range.

In light of the great devastation that has occurred in the region over the past centuries through anthropic interference, mainly due to large coffee and orange plantations, along with increasing urbanization over the last decades, the scenario of the PNI is characterized as one of the last refuges for the vast majority of species that originally occupied the region. In addition, it is located in the Mantiqueira region, which, combined with the Bocaina Mountain Range and Central Fluminense Atlantic Forest mosaics, is part of a biome set called the Seaside Mountain Range Corridor (*Serra do Mar Corridor*) (ICMBio, 2013).

As for its hydrography, PNI stands out for its importance in the protection of water sources. There are 12 springs which originate from important regional watersheds and drain into two main watersheds (divided by the Itatiaia massif): the Rio Grande, tributary of the Paraná River, and the Paraíba do Sul river, the most important of the Rio de Janeiro. In addition, the park is also responsible for the source of the Campo Belo River, which is the main source of supply for the municipality of Itatiaia. Thus, the park's hydrography assumes a very significant role from an environmental and economic point of view for the various areas covered by its rivers (ICMBio, 2013).

For a more inclusive management of the park, Brazilian Institute of Environment and Natural Resources (IBAMA) created Ordinance No. 96 for the Advisory Council of Itatiaia National Park (CCPNI), on August 6, 2002, with headquarters in the UC itself, in the city of Itatiaia to serve as an entity focused on the orientation and planning of the Park's activities and surrounding areas, according to the provisions of Decree No. 4,340/2002, which regulates Law No. 9,985/2000; CCPNI Management Plan and Internal Rules (BRAZIL, 2002).

2.2. Methods

After choosing the area of study, it was decided that qualitative research methods would be used, as Silva and Menezes (2005) consider an inseparable relationship between the objective world and the subjectivity of the subject, which cannot be translated into numbers. The natural environment is the direct source for data collection and the researcher is the key instrument. In this case, the process and its meaning are the main focuses of approach (SILVA; MENEZES, 2005). Moreover, according to Silva and Menezes (2005), the character of this study is applied research, which aims to generate knowledge for practical applications, directed to the solution of specific problems in order to evoke truth and local interest.

To perform the data collection, we used a bibliographic survey, known as document research. The bibliographic survey consists of analyzing data which has already been published, such as books and articles (SILVA; MENEZES, 2005). There is a focus on materials that did not receive analytical treatment, such as minutes of meetings and legal norms (SILVA; MENEZES, 2005).

For this study, the minutes of the advisory board meetings from 2013 to 2017 were examined. This period was chosen because these records are available electronically on the park's *website*.

It should be highlighted that to ensure the legitimacy of the entire process, this research was registered and authorized by SISBIO (System for Authorization and Information on Biodiversity) - registration No. 59762-1, valid until 08/23/2018, subject to renewal.

As the main objective of this paper is to raise socio-environmental problems and potentialities for the park, the problems and potentialities found in the minutes were reviewed and the SWOT Matrix was applied. According to Buarque (2008) and Drumond (2002), the SWOT technique is a valuable instrument for analyzing a specific topic as well as for monitoring and evaluating actions. This assists in the systematic analysis of opinions, grouping processes into four sets, according to their position - internal or external - and their relationship with local development - facilitator or hindering: Strengths - positive aspects already underway; Weaknesses - negative points that need to be addressed; Opportunities - points for improvement; and Threats - which can prevent improvements. It is also worth mentioning that the potentialities and problems identified were placed in large groups (tertiary sections) with the goal of better visualization.

For this study, “problems” were considered to be anything that would hinder the achievement of the park's objectives, and “potentialities” as anything that would help achieve these goals. It should be noted that the objectives are according to the PNI Creation Decree, thus being: a) perpetual nature conservation of the PNI area, b) land regularization and c) meeting scientific and touristic needs, thus ensuring a valuable heritage for future generations (BRAZIL, 1937).

3 RESULTS

Eighteen minutes were used between the years 2013 and 2017, which are available on the park's website. From this survey 12 problems and 7 potentialities were verified, listed in Table 1.

Table 1 - Survey of the problems and potentialities of PNI found in the minutes of the board.

Minutes	Problems	Potentialities
1 - 16/03/13	Not applicable	Projects developed in relation to Tourism,

		Environmental Education and employees
2 - 24/05/13	Land Tenure	Not applicable
3 - 09/14/13	Budget, Land Tenure, Technology related to Tourism	Projects developed in relation to Tourism, Public Use and Environmental Education
5 - 03/15/14 6 - 30/05/14	Land Tenure, Budget	Not applicable
7 - 13/09/14	Unorganized Urban Growth, Sewer, Fire	PNI Greenhouse Restoration
8 - 10/17/14	Park Management (Furnas Antenna, Alcoholic Beverages)	Accessibility to allow better visitation of people with special needs
11 - 26/06/15	Sanitation, Construction, Budget	Conducting courses with employees and volunteers
13 - 12/04/15	<i>Marketing</i> , Budget, Water from the municipality of Itatiaia.	Not applicable
16 - 10/08/16	Power transmission and telephone network in the park	Not applicable
18 - 18/03/17	Land Tenure, Budget, Yellow Fever, Discount on PNI Entry	Increased accessibility, Revitalization of the PNI Library, Volunteer Santiago
4 - 12/06/13 9 - 14/03/15 10 - 09/05/15 12 - 19/09/15 14 - 02/19/16 15 - 12/12/16 17 - 09/12/16	Bureaucratic issues, which do not compete with this work	

Source: Adapted from minutes of the Itatiaia Meetings between 2013 and 2017

It is noteworthy that the minutes mentioned in the last line of Table 1 were not mentioned, as they dealt with information transfer, annual opening and closing meetings, and bureaucratic issues related to the advisory council, such as the accomplishment of internal regulations, filling vacancies, qualification of the

institutions that compose the CCPNI, change of management of the Council, among other activities that do not fit the objectives of this study.

3.1. Potentialities

3.1.1. Administrative Structure

Regarding the park's administrative structure, the CCPNI has a well-developed organizational structure, with two permanent Chambers: the Mountaineering and Ecotourism Chamber (CTME) and the Environmental Education Chamber (CTEA). In doing so, these two categories more autonomy to develop their respective activities.

For this study, potentialities were considered to be everything that meets the objectives of the park, so we can observe some potentialities that were developed through tourism-related projects by means of the CTME, such as:

a) Visitor Guide Program: conduct theoretical and practical tests to analyze if the registrants are qualified to serve as park guides. Once approved, the individual is registered, and their contact will be displayed in the list of tabs on the PNI website. It is noteworthy that to be part of this program, it is a requirement to be a resident of the Park region, thus ensuring employment residents of the region and more security for tourists;

In the current scenario, in some situations touristic services are provided by outsiders for outsiders (that is, people who are not from the region). This exemplifies an important question about the park's tourism. Given the proportions, in most cases tourism generates income only for people from large urban centers, which have capital to invest in tourist locations. Consequently, instead of the region's tourism providing development for the local community, this activity may actually come to exclude its population. According to Dall'agnol (2012), techniques that only aim at increasing the inflow of financial resources in specific areas through developmental policies may lead to a non-generation of local development; that is, they may not contribute to the advancement of that area. In addition, it does not improve the quality of life for its inhabitants and may cause negative impacts on the area

(DALL'AGNOL, 2012). Therefore, it can be seen that the aforementioned program is a viable tool to alleviate the issue of social exclusion, since it is a requirement that all guides must be residents of the park's surrounding regions, thus, increasing the autonomy of the community in relation to the park and generating income for them.

b) National Parks Tourism Promotion Program, a partnership between ICMBio and SEBRAE - Brazilian Micro and Small Business Support Service. This initiative consists, a priori, as a diagnosis of tourism in the park and its surrounding areas and provides for the encouragement of tourism in national parks. Within this program two courses were administered with public employees and volunteers: Public service and tourism courses for PNI employees, and monitoring of the impact of the trails, which was taught by a volunteer. Completing these courses is of paramount importance for national park objectives, because it is through these that employees is obtained, making the UC work more representative and functional. In addition, several trails on the plateau are continuously recovered through a permanent team, making this activity a potentiality, because it contributes to the conservation of nature, which is essential in a UC;

c) Volunteer Program: Anyone can apply to work voluntarily in the park, fostering a healthy relationship between the community and the UC. In turn, this awakens environmental responsibility in each citizen.

According to Souza and Schlze (2011), in countries such as the United States, Italy and New Zealand, voluntary work is already an old practice. While in Brazil, this is a more current issue, with protected areas previously seen as isolated spaces from any anthropic activity, representing an obstacle to the development process or being left out of it altogether. Thus, a scenario was created that distanced Brazilians from the UCs, which led to a lack of interest and understanding of the relevance of preserving and conserving such spaces (MMA, 2002). Thus, the PNI Volunteer Program is an important tool for bringing the Brazilian population closer to conservation.

Regarding the potentialities that were developed through projects related to Environmental Education (EA), through CTEA it is listed:

- a) Multiplier Course in Environmental Education: theoretical and practical classes on environmental issues, enabling several people in Environmental Education and multiplying knowledge and nature conservation;
- b) Training Project for English-speaking staff to better serve foreign tourists;
- c) Solidary Selective Collection Project: Garbage collection sites produced by residents and visitors to the park, as well as training sessions for waste reduction. It is understood that this Project is an extremely important action, precisely because it addresses the topic of waste and consumption reduction. These benefits are in addition to the project aiding in UC conservation together with the population, both the park and tourists;
- d) Itatiaia National Park Goes to School Project (PNIVE): carry out field trip activities with the students and students of the public elementary schools in the region, having this fundamental role for the dialogue and relationship between the civilian population, through the students, and the PNI.

With all these programs, a positive analysis can be made in relation to the purpose of a conservation unit in a national park, as these actions benefit tourism and Environmental Education (EE), which are some of the purposes of creating a park. According to Loureiro (2004), the goal of an emancipatory and effective EE program, which associates the conceptions of social actors in a vulnerable situation, is not to intensify the hierarchy of social classes, but to recognize the existence of these structural problems and from this, work to become a crucial and empowering EE. It enables marginalized social subjects as a consequence of an unequal and exclusionary capitalist economy to develop the right to practice democracy and citizenship through functional public spaces (GOULD, 2004). In this particular study, this is represented by the CTEA through its projects, thus providing the environmental educational praxis. It is noteworthy that all these potentialities were cited in minutes 1 (03/16/2013), 3 (09/14/2013) and 11 (06/26/2015).

3.1.2. Physical structure

Regarding the physical structure of the PNI, reading minutes 7 (13/09/2014), 8 (17/10/2014) and 18 (03/18/2017), a list of important points stood out that benefit the infrastructure. These were considered as potentialities for advancing the UC.

The PNI Visitor Center Library was revitalized in 2016. This is extremely relevant not only for the park, regarding scientific research, but also for society, as it contributes to the perpetuation and dissemination of knowledge, preserving the deterioration of expensive material, gaining time and democratizing access to information.

The Park Greenhouse, which dates back to the early 1960s, was restored on a voluntary basis. Its restoration aimed to provide a space for scientific research involving elements of the flora found in the PNI and environmental education activities. Thus, this is a key activity that drives two of the objectives of a national park, which is scientific research and EE, providing a space for the study of flora and knowledge sharing, providing the empowerment of the population through education and supporting to the Park through scientific research.

The UC Visitors Center has spaces with photo exhibitions of the park's fauna, interactive rooms telling the story of the park's foundation and mountaineering, as well as the geological history of the region, as well as an audiovisual room.

Regarding the issue of accessibility in the park, there is an action foreseen in the management plan that can be understood as a potentiality: improvements in access to allow better visitation for people with special needs. "Inclusion" in the PNI has not yet been put into practice, but they have set this standard in their management plan with the intention of making improvements. It should be stated that the numerous problems and challenges related to the management of a UC are understood; nonetheless, it is necessary to include the right of access of the disabled, through the optimization of opportunities and resources (SANDOVAL, 2002).

3.1.3. Organizational structure

During the reading of the minutes, the organizational structure of the council was identified as a potentiality, with a special emphasis on the volunteer Colonel Edson Ferreira Santiago, better known as Santiago. His importance to the park was evident. He had worked for 32 years at PNI, being active member for more than ten years of CCPNI. He was part of the creation and coordination of the Mountaineering and Ecotourism Chamber (CTME), through which he helped develop norms, volunteer projects, visitor conductors project, Rebouças Shelter reform, trail recovery and reopening, educational campaigns. Furthermore, he participated in several rescue missions in the Park, supported forest fire fighting activities, and actively participated in the review of the Management Plan. Santiago died in 2016. Based on the subsequent minutes, it is also believed that with his departure, the CCPNI may have become destabilized as he was a key player and exercised a central role in the Council.

An important point to note regarding the destabilization of the CCPNI is that this episode demonstrates the dependence on proactive people. Members do not understand that it is the function of the entire council to strive for the improvement of the park, as well as to propose and execute actions. This identification is a point of attention for the council.

In general, it can be observed that the PNI Management Council is composed of a dedicated and committed team, having a well-developed organizational structure, with completed projects and in progress. It may also be noted that some ideas have long been put on hold due to lack of budget, bureaucracy and participatory work, which may lengthen the process but provide a better outcome.

3.2. Problems

3.2.1. Land Tenure

Land tenure continually stood out at the heart of the park's problems. This problem was what appeared most in the minutes along with the lack of budget. Associated with this problem are:

a) disordered urban growth, sewage and the increase of industries: the PNI region is located in an industrial hub, where the municipality of Resende stands out, there is a high number of industries, causing high displacement of people to the region in search of work. Thus, it brings a disorderly anthropic occupation close to the limits of the PNI. CCPNI's concern was raised when shantytowns (known as favelas) began cropping up around Resende, in the vicinity of the PNI. Furthermore, an increase was seen in greenhouse gas emissions in the region, considering the large number of new industries.

b) Creation of a Conservation Unit, at the Pedra Selada State Park (PEPS): the study of the minutes brought evidence of interest in real estate speculation and construction of a road through Penedo by the municipality of Itatiaia, a scenario that works against park design goals. This episode exposes how complex the creation of a UC can be, as it increases the conservation of the environment, but concomitantly interferes with the permanence of people who already lived or owned the established area, causing an inevitable situation of diverging interests. For the solution of this problem communication is a relevant tool between both stakeholders and the Park to have resources to carry out a fair expropriation.

c) Private properties: One of the problems with this theme is the privately-owned commercial areas within the PNI, some of which have already been expropriated by ICMBio. A relevant point for the land issue raised in the minutes was the strategy reaffirmed by the chairman of the CCPNI, presented at various Council meetings, where ICMBio has the mission of acquiring 100% of the park's territory, as required by Brazilian law. These acquisitions are being carried out primarily through friendly expropriations or the receipt of donated areas through the Legal Reserve Compensation System. Since properties that are not possible to acquire will be forwarded to court decision.

In general, it can be highlighted that the land issue is a complex one, since it has been unfolding since May 2013 (minutes 2), but it is known that it is an older problem.

This type of obstacle, which stands out for being present in many meetings, is inherent in an UC, as it is a matter where there is a game of interest from various spheres, both the public body, hotels, industries and the region's own residents.

It seems that there is no consensus on what is best for the population as a whole, but only what is best for themselves, making it difficult for them to make progress. According to Rocha, Drummond and Ganem (2010), the land ownership situation in national parks in Brazil is worrisome, according to data from ICMBio 2008. Within a sample space of 52 parks, no PARNA is defined as fully regularized by the agency. Of these, 58% are not regularized and 42% are only partially regularized.

Also according to Rocha, Drummond and Ganem (2010), this issue needs to be addressed systematically, the government should prioritize land regularization through the implementation of a long-term UC regularization program with a defined methodology.

3.2.2. Budget

Funding shortages stood out as one of the main issues. It is emphasized that the lack of budget of the PNI is a substantial problem in the park, because it permeates practically to all the others, being the most mentioned problem in the minutes with the land issue.

a) Land tenure: Previously addressed, this is an issue that is drawn out due to lack of budget. Further aggravating the situation before the ICMBio is inability to acquire such areas. In addition to the lack of budget ceasing expropriations, another factor that supports the slow process are the overvalued properties that are within the conservation unit. One of the last properties acquired was valued at 600 thousand reais, among other high standard properties, intensifying the need of the PNI to have a high budget to be able to fulfill the main function of the application of its financial resources, land regularization.

b) Projects on halt: The UC does not have resources to complete its projects. A one-time solution to this problem led to disagreements with the CCPNI, where the use of

the park image at the “Land Rover Marketing Event” was debated, as some advisers alleged that the park image was improperly “exploited”, bringing up the concern with the value of the image of PNI and its comparison with the value invested in the event by the company. Another problem was the lack of participation of the Council in the discussions. As justification, the president of the CCPNI stated that he saw in the event, on the other hand, a possibility of solving some difficulties, especially the issue of Rebouças Shelter sewage and construction materials for the completion of the renovations. It should be noted that this episode demonstrates a strong feature of advisory boards, where the president makes the decision, excluding the others from the discussion.

c) Payment and Discounted Entrance Fees: this issue can be seen from either a positive or a negative point of view. There is the problem regarding ICMBio's budget issue, which was mentioned earlier and that permeates this issue as well. The situation of all federal UCs is very critical, ICMBio receives the lowest budget from the Ministry of Environment and budget cuts have been occurring, a fact that undermines the good management of parks and even Itatiaia. With this in mind, charging for entry to the Park may be a temporary way to minimize resource shortages so that the Park does not have to paralyze its activities. However, it is noteworthy that this would be a temporary and emergency solution, because it is not up to the population to have to pay the costs of political mismanagement, which does not distribute their budget properly. It is believed that the discount for surrounding residents is a big step towards the democratization of access to the resources that the park offers, but not yet ideal. However, given the problematic situation that has been raised several times in minutes 3, 5, 6, 11, 13 and 18, regarding the lack of budget of the PNI, this charge is seen as a palliative measure to be able to sustain the park, at least while this situation is not resolved.

3.2.3. Sanitation

With regard to sanitation issues in the Itatiaia region, some points below can be noted.

a) Sewage: Minutes 7 (09/13/2014) cited the judgment of the “Leachate Case”, due to concerns of some councilors. This episode occurred between the city of Volta Redonda and Resende, where there was industrial manure treatment in a domestic sewage treatment plant in the municipality of Resende. This fact highlights the neglect of the environment and consequently of public health, and the absence not only of public power, but of private companies as well, since Law 12.305/2010 provides for shared responsibility regarding solid and semi-solid waste management.

b) Sanitation projects halted: it was raised in minutes 11 (06/26/2015) that the Rebouças Shelter is banned due to a problem in the sewage system, continuing with the interrupted works, due to lack of resources. This problem has already been dealt with in the present work, due to this issue being the lack of budget. Park management is pleading with federal leadership in Brasilia for money for the completion of them. Chemical toilets were used temporarily to mitigate the issue. This problem justifies the lack of resources already mentioned.

It can also be observed, once again, the absence of State guidance, regarding the problem of the sewage/sanitation issue. That could also be solved if the PNI was not short of resources.

c) Water catchment: referring to the water catchment from the municipality of Itatiaia, it was mentioned in minutes 13 (04/12/2015) that the main source of water supply of Itatiaia near the Campo Belo River gave way and as a result, there is a risk of impact on the park and structures in surrounding areas. As a mitigation measure, an emergency plan was made, warning the residents, Civil Defense, Public Prosecutor and City Hall about the situation. A geologist representing the city of Itatiaia was present at the meeting that day. He said that this happened in a week without rain and that there were cracks in the soil. He stressed that there is a likelihood that this geologically unstable area was the result of activities carried out about eight decades ago. In addition, he suggested to the mayor of Itatiaia the support of the State Geological Service. Itatiaia's Environment Secretary said that on an emergency basis City Hall is hiring companies to contain the slope, and is also acquiring a rain gauge, as

well as daily control of cracks (cracks). The PNI acted in relation to this fact, notifying the Itatiaia City Hall, requesting a report and recovery plan, also determined 120 days to regulate the water licensing and licensing process. In addition, as the Itatiaia City Council has a seat on the Board, it was agreed to send the diagnosis of the current situation of water abstraction and the planning of remedial actions through the CCPNI *e-mail* group. After that, this case was no longer cited in any minutes.

3.2.4. Park Management

Regarding park management, the problems that stood out were:

a) FURNAS' – a major power utility in Brazil – installation of microwave transmitting antenna: in minutes 8 (10/17/2014), it was discussed among the councilors whether the Furnas microwave transmission tower, located within the park, in the location that popularly became known as “Antenna Hill”, would be maintained or not. It was decided that it would not be withdrawn as long as it complied with environmental compensation actions and was charged for services, such as possibilities for public use and/or control in lookout structure.

The presence of this tower in a national park is characterized as a conflicting activity, as it harms the tourist's experience of contemplation and contact with nature, such as, more specifically for the PNI, hindering the appreciation of Mount Couto, the second highest point in Itatiaia National Park and Rio de Janeiro State and eighth highest in the country. The Furnas facilities are visibly at odds with the scenic beauty of the place. For this matter, it is essential that the Park press the company until the environmental compensation is met, leaving no loopholes for future projects to postpone their obligations.

b) Alcoholic beverages and barbecue: Another issue raised in the minutes was the permission to use alcoholic beverages and the barbecue within the UC. Under the management plan, barbecues will be suspended, but it is not clear whether such activities will be prohibited.

c) Power transmission network: In Minutes 16 (10/08/2016), it was informed to the board that a project to ground the power transmission and telephone network in the

park would take place. They warned that the wires would promote death and injury to animals and generate the need to perform pruning, because the branches fall on the wiring, causing energy shortages. A reflection on the subject and future manifestation of the council were suggested.

3.2.5. Forest fires

Minutes 7 (13/09/2014) referred to the second occurrence of fire at the entrance of Serrinha, a district of Resende located on the eastern slope of the PNI, in the buffer zone of the park. It was commented during the meeting that no one was aware if the fine for this fire, nor the prior one, had already been registered.

According to the PNI Management Plan, fire is one of the oldest and most worrisome issues, with the adoption of the Fire Report in 2001, where information resulting from fires began to be systematized and it was verified that in general, most fires occur outside the PNI or in its buffer zone. However, it is noteworthy that the largest fires occurred within the UC, in the region of the highlands of the Plateau, due to its predominantly herbaceous stratum, vegetation that is easily combusted in times of drought. The most relevant fires within the PNI were caused by a visitor accident (2001) and retaliation (2007 and 2010) (AXIMOFF; RODRIGUES, 2011) and more recently in 2011. The main antecedents for the origin of this threat, still as the PNI Management Plan are the anthropic, which may be the result of management related to the cultivation or pasture system, carried out by small farmers, who live in the region.

3.2.6. SWOT Matrix

After the survey and discussion of the problems and potentialities through the examination of the minutes and questionnaires, a SWOT matrix (Table 2) was elaborated in order to systematize the results obtained and better visualize and identify the problems and potentialities in the park and conservation unit.

Table 2- Identification of the SWOT Matrix - Strengths, Weaknesses, Opportunities, and Threats - for the analysis of the problems and potentialities raised in the PNI.

	Present / Internal to PNI (what has been happening)	Future / external to PNI (which may occur or already occurs outside the park)
Positive Factors (<i>Potentialities</i>)	<p>Strengths</p> <ul style="list-style-type: none"> - CTME (Mountaineering and Ecotourism Chamber); - CTEA (Chamber of Environmental Education); - Structurally well-developed CCPNI; - PNI has facilities in excellent condition for the reception of tourists; - Ecotourism Programs; - Environmental Education Programs. 	<p>Opportunities</p> <ul style="list-style-type: none"> - Improvements to increase accessibility; - Communication between the PNI and the civilian population; - Possibilities to reduce the hierarchy of power among the CCPNI councilors; - Possibilities for increasing and encouraging environmental awareness; - Possibilities for increased conscious tourism.
Negative Factors (<i>Problems</i>)	<p>Weaknesses</p> <ul style="list-style-type: none"> - Lack of funding; - Land tenure; - Fires; <p>-There is no understanding on the part of the councilors about the importance and the way of acting of said body;</p> <ul style="list-style-type: none"> - PNI Management Council serves in an Advisory role. 	<p>Threats</p> <ul style="list-style-type: none"> - political neglect; - disorderly urban growth; - Industrialization of the region; - Sewer / sanitation; - The possibility that there is no healthy dialogue between the PNI, the civilian population and the municipalities that comprise the PNI.

Source: authors

For the SWOT analysis, only the main problems and potentialities were listed, not mentioning specific issues already dealt with during this study.

From this, we can understand chronic issues of the PNI, which end up being inherent to the full protection conservation units, such as the land tenure, which permeates virtually all situations dealt with in this work. The fact that the park council serves in an advisory role leads to organizational issues in vertical escalation and

active participation in its discussions of the CCPNI, causing disinterest by the councilors, given that participation is the promotion of citizenship, the realization of the historical subject, the instrument for excellence in the construction of a sense of responsibility and belonging to a group, class, community and place (BAUMAN, 2000). Otherwise, without the participation of all involved, it leads to a fragmented council in which only those who have power are acting subjects.

Another key issue which not only affects the conservation unit, but Brazilian society as a whole - is political action, which concomitantly concerns issues such as lack of funding and disordered urban growth, which implies problems such as industrialization. unsustainable and poor sanitation. All these points depend on sound political management, where representatives of society need environmental awareness and integrity. According to Leff (2001), it can be seen that we are facing an environmental and civilizing crisis, where possible solutions will only be viable with dense transformations in the understanding of nature, world and society, diluting the dichotomy of human being / nature.

With regard to unnatural fires, it is clear that this problem will only be solved through intensive communication work, either with farmers using fire management techniques, or with residents of the interior and surrounding areas of the PNI, who have any kind of relationship with the Park, so that they are heard and understood so that there will be no future retaliation like the ones already mentioned.

The final problem listed in the matrix is the possibility that there is no healthy dialogue between the PNI, the civilian population and the municipalities surrounding the park. Once again, all of the stakeholders are faced with the same the issue of communication; thus emphasizing the fact that open communication channels in UC management are of extreme importance. When neglected or used inappropriately, they be a threat and become a problem. If communication is used correctly, and there is really dialogue between both parties, and not just a superficial exchange of information, this can be a tool to promote opportunities, becoming a potentiality. It

will only depend on how communication is conducted, to show if it is a problem or a potentiality.

In *Extension or Communication?* Paulo Freire wrote: "True communication is not, in my opinion, the exclusive transfer or transmission of knowledge from one Subject to another, but rather his co-participation in the act of comprehending the object." (FREIRE, 1983, p. 47). In a Management Council, participation is not always spontaneous, but rather learned and achieved. Thus, it is necessary to develop training workshops to enable board members to participate actively through horizontal communication, especially empowering those who are able to work, especially by empowering those who are vulnerable from a social environment background and have a lack of access to traditional procedures for political representation. In order to so, it would be ideal to minimize a pre-constituted hierarchy of power relations based on social capital, which defines the reputation and position of the members in a council (FRANCA, 2006 and LASCHEFSKI; COSTA, 2008).

Regarding the potentialities listed, we highlight the solid structure of the CCPNI, the Thematic Chambers of Mountaineering and Ecotourism and the Environmental Education. These can strengthen ties between PNI and the population through PNI-accredited guides, PNIVE students, researchers studying in national parks and also by tourists. Where they get to know the PNI Visitor Center they receive "a class" of knowledge of geology, biology, history and environmental policies, proving the importance that a UC has for our society. It is noteworthy that this researcher had the opportunity to explore the Visitor Center during the visit to PNI.

4 CONCLUSIONS

It can be seen from the surveys that the main positive influences are: a) the great potential for nature conservation that Conservation Units have, playing a fundamental role for our survival and resists the anthropogenic impacts of a consumer-driven society in the face of all these difficulties; b) provides and

encourages a healthy relationship between society and the environment, which is a point of extreme importance for both biodiversity and the existence and health of human beings; c) the essential role of the conservation unit to foster science, providing an abundant space in biodiversity - which is becoming rare in the Anthropocene era - for conducting research and studies; and d) promoting eco-conscious tourism, arousing responsibility among each visitor.

The main negative influence is the relationship between people and political representation: the land tenure. This is because the realization of land regularization is inherent to the budgetary issue, and since there are no financial resources for the conservation unit, it is impossible. To obtain resources, political representatives responsible for their duties towards the interests of the population are needed, and the land issue has several consequences for its resolution. As previously stated, communication is an absolutely fundamental tool which helps in solving the land tenure and all the other various problems discussed in this paper. This is the basis for brokering the problems and conflicts dealt with. If there is harmonious communication between both parties and adequate resources for land regularization, it is believed that this would no longer be an intrinsic problem to conservation units and would be able to be solved.

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