

4. From pre-assumptions to a ‘just world conserving nature’: the role of Category VI in protecting landscapes¹

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Introduction

This chapter discusses the role of the protected area Category VI in the conservation of landscapes. It presents perspectives on the concept of landscape and different approaches to protection of landscapes. Landscape is a concrete and a representational reality. Broader than just nature conservation with an emphasis on the cultural values of a place, the protected landscape approach must include participatory processes and integration within regional planning and management.

With a focus on Category VI, this chapter briefly reviews the evolution of protected areas – from isolated parks to systems of protected areas, and from strict protection to integration with sustainable development. Two case studies from Brazil are presented here to highlight the contribution of Category VI protected areas to landscape conservation. The Brazilian experience with extractive reserves is discussed, given their special place in the history of Category VI protected areas.

Landscape

During the Middle Ages ‘landscape’ was understood to mean an area of land controlled by a lord or inhabited by a social group. Late in the nineteenth century the sense of this term was “a portion of land or territory which the eye can comprehend in a single view” (Duncan, in Johnston *et al.*, 2000). Landscapes may also be understood as ‘reduced models’, offering a notion of ensemble.

Although concrete, landscapes are mostly processes, defined economically and culturally by people. Landscapes are located in the social consciousness – which observes, chooses, defines, delineates, builds. Therefore, they belong to the domain of representations – where choices are made (Di Méo, 1998). Different social groups may appropriate the ‘same’ space in different ways (Humphrey, 1995). Landscapes represent history, and are part of on-going living processes (Cosgrove, in Johnston *et al.*, 2000; Hirsch, 1995). For a social group, the consciousness of its space is important – from that, and the exercise of power, a territory is accomplished (Claval, 1995; Santos, 1996; Maretti, 2002). Landscapes are one of the

¹ From the IUCN Vision Statement (2000), which notes the importance of working toward “a just world that values and conserves nature.”

privileged expressions of territories – their image, live and real, sensorial, affective, symbolic and material.

Some authors may take only the natural components to comprehend the ‘natural landscapes,’ but ‘landscape ecology’ investigates relationships between its physical, ecological and cultural components, and interactions between the temporal and spatial aspects (Goudie, in Thomas and Goudie, 2000). It should not be forgotten that a landscape is, as well, a succession of cultural imprints and a representation. But, perhaps having gone sometimes too much into the semiotic qualities of landscapes, their ‘substantive’ aspects should not be allowed to disappear (Maretti, 2002). In fact, landscape should be expressed as a “polysemic term referring to the appearance of an area, the assemblage of objects used to produce that appearance, and the area itself” (Duncan, *op. cit.*).

Landscape approaches

The concept of landscape is used in environmental management, through its different meanings, and in various applications – though not always in a coherent way. Landscape is an expression of understanding the earth’s surface and ecological processes. There is a functioning of the landscape, a ‘landscape physiology’. In the permanent work of nature conservation, we tend to make an artificial separation between the social, cultural and natural elements and processes. Landscape, as a tool and a concept, helps us to understand the relationships among them. (Examples: Cormier-Salem, 1999; Maretti, 1989.)

Landscapes and ‘areas-with-natural-values-and-human-use’ have been considered as important by societies all over the world. Some experts claim that these kinds of landscapes do not contribute to ‘biodiversity preservation,’ while others claim their importance as part of an overall nature conservation strategy. (Phillips, 2003a; IUCN, 1994. Examples: UICN and Guinea-Bissau, 1993; Szabo and Smyth, 2003.) Landscape, as an outcome of interactions between humankind and nature, reflecting relations among social groups, the heritage of social history and all the values attributed, represents an interest of conservation. (Mujica Barreda, 2002; UNESCO, 2002. Example: Britto de Moraes *et al.*, 1997).²

The protected landscape approach also means that planning and management of protected areas must broaden the area considered beyond the area of conservation interest to include its surroundings (CBD, 1999; Miller and Hamilton, 1999; Crofts *et al.*, 1999). The time may have come to consider nature, history, resources, culture, science, local communities’ knowledge, sustainable use techniques, and social welfare as all part of the ‘patrimony of humankind’ – and to integrate all these values into management methodologies, with specific emphasis according to particular conservation needs.

Protected areas and the IUCN Categories

The term ‘protected area’ may be commonly understood as any area protected in some way. But the *stricto sensu* definition used legally and among experts, and as it is considered here, has

² The World Heritage Convention innovated in including cultural and natural values within the same international agreement. Natural and cultural values and sites were separated, but ‘cultural landscapes’ came to light as a possible common approach – unfortunately still in theory.

objectives directed to nature conservation – including related cultural values (not dissociable from, but not replacing the natural ones). International agreements do not differ much in terms of protected area definitions; all consider the nature conservation objectives, specific measures for designation, regulation and management, and spatial definition of these areas. They mention the importance of legal declaration and governmental management, but also accept other 'effective means' or 'traditional' management. (IUCN, 1994; CBD, 1992; UNESCO, 1999; Chape *et al.*, 2003.)³

Based on the orientation of the protected areas field over the last decades, it might appear that natural values are based only on biological diversity. Nevertheless, long before this concept was introduced, areas were protected with the intention of nature conservation, for instance in national parks or in what are now being recognised as 'community-conserved areas' (see the chapter by Barrow and Pathak in this volume). Indeed, most of the important protected areas of a certain age do not explicitly mention 'biodiversity preservation' – but today play an important role in contributing to this goal. Besides the protected areas that are explicitly designated and managed for this purpose, there are also many others that contribute and support it in important ways. Biological diversity should be taken as an important indicator of the natural values to be protected, but not as the only important value or the sole objective for protection. Attention should be directed towards ecological processes and environmental services as well. Landscapes are important not only for their biological diversity values and related values, but also for their geographic features, paleontological contents and cultural heritage, among others.⁴

Although having neither clear criteria nor a classification system, the aesthetic values of landscapes are also significant, and should remain as a window for expressing cultural impressions and desires towards nature – the very meaning of heritage. And natural heritage should be considered as cultural appreciation of different natural elements and manifestations. It should lead to a better understanding and acceptance of the diverse ways that different cultures classify and attribute value to their landscapes. The landscape is an ideal common ground for this kind of intercultural cross-reference, which is needed to overcome cultural bias and domination, and to embrace the views of diverse social groups.

Some stairs have been climbed in the evolving process of protected area systems and their management. From protection of specific and restricted sites (which has frequently led to the pitfall of these sites becoming 'islands' of conservation), protected areas have evolved to encompass new approaches. These include: declaring larger protected areas; imposing restrictions on activities on adjacent lands; extending their limits through buffer zones; diversifying objectives, and, accordingly, using distinct management categories; and managing the

³ Examples of agreements, institutions or documents with international legitimacy include among others: IUCN World Commission on Protected Areas; *United Nations List of Protected Areas*; Convention on Biological Diversity; World Heritage Convention; and World Conservation Monitoring Centre.

⁴ "The role of protected areas has become as much about the protection of processes – such as supply of water, prevention of erosion and maintenance of human lifestyles – as about the protection of species. [...] The full use of these six categories allows a more inclusive and flexible approach to designing protected areas systems at the national level. [...] A wider definition of protected areas has a number of advantages. [...] They are likely to lead to new management options in a wide range of situations, and open up the possibility of innovative partnerships between conservationists and other interest groups, such as indigenous peoples, the tourism industry and small-scale agriculture." (Dudley and Stolton *et al.*, 1998).

protected areas for different values, including biological diversity, natural resources, environmental services, sustainable use, and landscapes with some degree of human use. There is increasing emphasis on integration – into bioregions, mosaics of protected areas, ecological networks and conservation corridors, and individual protected areas considered as part of protected area systems.⁵

It is thus increasingly accepted that mechanisms and areas designated for landscape conservation, with some degree of human use, and the direct sustainable use of natural resources, should be included as part of an overall nature conservation strategy. Another consequence has been increasing stakeholder participation and involvement. In particular, local communities, including indigenous peoples, have been playing an increasing role in collaborative management, and have seen their rights more respected – or claimed to be respected.⁶

In retrospect, it can also be observed that nature conservation objectives have moved from the protection of hunting grounds, landscape conservation, and the protection of resources, towards the conservation of beautiful scenery and national symbols, conservation of ecological processes, and protection of biological diversity, and then back to the consideration of landscapes and direct sustainable use of natural resources. Therefore, conservation of ‘areas-with-natural-values-and-human-use’ – such as ‘landscapes with some degree of human use’ and ‘areas with direct sustainable use of natural resources’ – have been fitting in *stricto sensu* protected area categories for a long time. But this is also the case – and even more clearly so – in the many kinds of *lato sensu* protected areas that exist, such as community-conserved areas, and laws and mechanisms that many countries have for heritage protection.⁷

In considering the international management categories for protected areas – moving beyond what is written in manuals – it is important to understand the regional and social context in which the archetypes of these categories were developed. For instance, while Category II clearly has objectives related to nature conservation and tourism, it is important to realize that national parks were first established also as national symbols – meant to create or reinforce the identity of a ‘nation’ and its territory. One can best understand the need for a subdivision such

⁵ Some definitions related to protected areas: A mosaic is a set of adjacent or close protected areas, potentially of different categories, and preferentially with common conservation goals or focus, whose management is integrated – for instance, by a sole administration or a common strategy, or through an integrated committee. An ecological network is a set of areas, not necessarily close to each other, but composing an ecologically important ensemble related to certain conservation goals – for instance, a series of nesting sites of a population of marine turtles, a series of resting sites in a route of migratory birds, or a series of sites showing the genetic diversity of a palm-tree species. The bioregional approach is regional management, considering different factors – for instance natural, social and institutional factors – but with emphasis on the conservation of biological elements. A conservation corridor (plausibly different from the traditional ecological corridor) represents a large area – usually, but not necessarily, longer in one direction than in the other – including protected areas as its core zones, but also other kind of uses and areas, and with an overall nature conservation agenda preferably with integrated management – for instance, through an integrated management committee.

⁶ Phillips (2003a, among others) shows beautifully the evolution from the ‘classical model’ of protected areas into a ‘modern paradigm,’ with an emphasis on the *stricto sensu* protected areas.

⁷ *Lato sensu* protected areas refer to areas outside of the official systems of *stricto sensu* protected areas. These include areas where communities have a conservation interest, as well as those areas protected in some way under official law but not part of systems of *stricto sensu* protected areas.

as Category Ib when one considers the probable demand for recognising existing 'wilderness areas' in North America. A similar kind of influence applies also in the case of Categories V and VI. The Category V (Protected Landscapes/Seascapes) can best be understood by looking at the European context, where the majority of protected areas of this category is still found. Even outside this region, the original context dominates the model, while as Phillips (2002) writes, the "principles of Category V protected areas are, in fact, universal and potentially relevant in all regions of the world." It is, therefore, important that we look beyond a European model of landscape to be protected, and consider the special characteristics of the local context – social, cultural and natural – when applying this category in other regions.

Category VI

Originally, there were no plans to include Category VI in the most recent version of the IUCN protected area management categories (IUCN, 1994). Based on the so-called 'technical recommendations,' the system then under development included Categories I–V of the previous classification system. Category VI was not included, as it was not considered of enough importance for 'biodiversity conservation', even with the system also influenced by demands placed on IUCN – The World Conservation Union to take into account issues such as the interests of indigenous peoples, protected landscapes, and wilderness areas. What changed the situation were the events in the Amazon region, particularly in the Brazilian Amazon (see Box 1).

It should be noted that the 'hot' happenings in the Brazilian Amazon occurred not long before and not far away from some of the meetings where the IUCN protected area management categories were being reviewed, and very likely influenced the demands to include a sixth category in the evolving new system.⁸ Ultimately, a new category was introduced, based on the need to consider the kind of protected area that would be managed for the "long-term protection and maintenance of biological diversity," and also the maintenance of "a sustainable flow of natural products and services to meet community needs" (IUCN, 1994) (see Appendix 1).

But, in fact, the importance of this category – at least in the case of the 'extractive reserves' of Brazil – is related not only to the "sustainable flow of products and services for the community" (IUCN, 1994). Category VI also highlights the key role played by local communities in conservation strategies, and therefore reinforces recognition of the potential to join sustainable development with nature conservation.⁹

⁸ These meetings included the IVth International Congress on National Parks and Other Protected Areas, Caracas 1992; and the IUCN General Assembly, Buenos Aires 1994.

⁹ It is interesting to note that, following the classification matrix (IUCN, 1994), Category VI is the most complete and is at the first level in terms of nature protection – defined through objectives related to the "preservation of species and genetic diversity" and "maintenance of environmental services" as well as the "sustainable use of resources from natural ecosystems." But it is curious that, although the category origins and objectives are intrinsically linked to local communities, the maintenance of cultural or 'traditional' attributes is not considered a primary objective in that matrix.

Box 1. The Phylogeny of Extractive Reserves¹⁰

Peoples and the Amazon

The Amazonian region has long been the habitat of several indigenous peoples. As studies continue to show, their marks on the landscape are seen throughout the jungle and other ecosystems of the Amazon. These remote places, still very much the domain of indigenous peoples, attracted more attention – from ‘official society’ – for its new economic interest, with the growing exploitation of rubber over the last two centuries. Distinct waves of colonization, in the 19th and 20th centuries, increasing during the ‘global wars’, brought peasants to exploit rubber under the orders of concessionaires, which tended to expel the indigenous communities. But in between selling booms, these areas were abandoned by the concessionaires, leaving the previously recruited workers alone in the jungle.

The rubber-tappers, who had since arrived, were in frequent dispute with the indigenous peoples, but became companions under the same conditions, and proposed alliances as ‘the forest peoples’. Besides living under the same jungle conditions, at that time the main threat to both groups came from outside the forest: the advancement of the agricultural frontier – threats from the general colonization trends and their related consequences of deforestation and land-taking. The rubber-tappers’ position was to face the deforestation process head-on. Through the so-called *empates* or resistance groups, workers, often with their families, stood in front of the ‘caterpillar’ tractors in order to prevent deforestation – and to keep the conditions of their life and work: the exploitation of rubber within the forest.¹¹

The tragic event that brought international attention to the extractive reserves was the assassination of Francisco ‘Chico’ Mendes in 1988. Coming from the labour movement, Chico Mendes was able to gain the attention, also, of those in the environmental movement. The evolution of this situation made possible an amalgam between the locally developed (i.e., within the jungle) ‘labour union spirit’, which was concerned with defending their work conditions, and ‘environmentalism’, at that time arising in cities, which was concerned with defending the tropical forests and trying to understand better how to build positive linkages with local communities. Born from that synergy, a new concept was proposed: the extractive reserve.

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¹⁰ Its name comes from the Brazilian term *extrativismo*, meaning activities related to the collecting, gathering, harvesting or extracting of products – generally excluding mining. ‘Extractivism’, therefore, expresses the activities of local communities in harvesting products associated with renewable natural resources. ‘Extractivists’ are those local communities or rural workers engaged in those activities.

¹¹ With the declining interest in Amazon rubber (because of growing production from farms in Southeast Asia, or less demand), and the subsequent fall in price and production, during the beginning of 20th century and in between the world wars, many *seringalistas* decided to ‘sell’ ‘their’ areas (in fact, pass on their land or rubber exploitation concessions) to farmers. These farmers were interested in cattle-grazing and agriculture, without any concern for the workers who lived there, tending to deforest the area and banish the collectors. Thus, many of these workers, backed up by the labour unions of rural workers, decided not to leave the area: they stood up against deforestation and expulsion from the land through the *empates* described above – getting involved in violent confrontations, resulting in the death of many leaders. The rubber tappers were not innocent about their living context (and the violent way of doing politics or social disputes there), but the actions were intended to be more symbolic, taking the form of awareness-building and campaigns of non-violence, facing the signs of deforestation. Nevertheless, they had to face violent reactions, including several assassinations, of which those of Wilson de Souza Pinheiro and Francisco ‘Chico’ Mendes became the most famous and historically important ones. (If locally or nationally the confrontation of ‘free rubber-tappers’ was known after the death of Pinheiro in 1978, the unfortunate happening that brought international attention to the extractive reserves was the assassination of Mendes in 1988).

Box 1. The Phylogeny of Extractive Reserves (cont.)

Reasons

The aim of extractive reserves is to combine nature conservation with sustainable development for local communities. Formal demands for the creation of such areas were first made in 1985, at the first national meeting of rubber-tappers, but within the context of agrarian reform, with the aim of recognising land rights for the people that lived and used these lands. Some years later, in 1989, as the country's rural labour union and the environmentalist movements grew closer, the Brazilian government included extractive reserves in its national policy for the environment, and subsequently enacted legislation enabling and regulating these areas.

A primary reason for the extractive reserves' existence (considered within the related legislation) was to maintain the area's vegetation in conditions for sustainable use by the local communities – i.e., the extractivism conditions. In the case of the rubber-tappers, this meant to keep the forest standing and ready for rubber extraction, as well as possible extraction of non-timber forest products (e.g., Brazil nuts) and complementary activities such as small-scale agriculture.

A second point was related to the permanence on the land of those communities that had used it for decades and wanted to keep living there and maintain their use of the natural resources. With the abandonment of the communities and rubber exploitation by the 'bosses', the conditions for their land or rubber exploitation concessions had legitimately expired. The government, for its part, preferred to have the land under its domain, in order to avoid land commercialization and the decline of the local communities, and to maintain the conditions for nature conservation.

A third point was the need to create or maintain the conditions for nature conservation and sustainable use. According to the legislation, the declaration and establishment of an extractive reserve could only be done on an area 'traditionally' used by local communities and only after they had demanded it. The local communities needed to be organized and represented through formal associations, so that management of the protected area could be done collaboratively by the government and the local communities.¹²

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¹² There has been a debate on how to define 'traditional' in relation to communities, to ways of living, and to uses of resources. This debate has no final formal positions or consensus, and not without problems the definitions have been considered in relation to time (some decades or generations – at least two), and in relation to the knowledge of nature, the use of natural resources, or to a non-environmentally degrading relationship between people and nature.

An interesting point would be to imagine how the region would have been evolved without the extractive reserves. Certainly, without the resistance of the local communities, led by the rubber tappers' labour union movement, there would immediately have been a significant increase in deforestation. This would have happened in connection with what one could call 'bad agriculture' for the trend was to deforest areas in order to create pastures, establish land tenure and support cattle grazing, which was not very productive and which generated little employment. As a result, the forest would be cut down, the workers would be jobless, local communities would decline, and, last but not least, the local and national economy would lose, because the value of the forest and its products is higher than the income from this kind of agriculture. As well as social degradation, valuable knowledge of nature and natural resource management would be lost, along with the cultural heritage of the area. Within a few years, assuming environmentalism were to grow, demands on Amazon conservation possibly would have increased and some strict preservation protected areas might have been declared. With those social processes underway, a continuous increase in the social stress possibly might raise important political barriers to the effective social-political support for nature conservation, or activities might be pursued that directly undermine protected areas (such as poaching, forest fire-setting, etc.). Both social development and environmental conservation would have suffered and lost.

Box 1. The Phylogeny of Extractive Reserves (cont.)

Characteristics

Extractive reserves, combining nature conservation and sustainable use of natural resources by local communities, fit in with Category VI of the IUCN system of protected area management categories. They were included in the Brazilian National System of Protected Areas, established in 2000. The declaration of an extractive reserve is made following the demand of the local communities that have used the area for a long time ('traditionally'). The government is the owner of the land, but the local communities maintain collective rights of use. The respective governmental department or agency (IBAMA, or the state environmental institution, or even the municipal one) is responsible for the management of the protected area, but this must be done in a collaborative manner with local communities. Nevertheless, more than 'collaborative management', the management of extractive reserves resembles that of a 'community-conserved area'.¹³

The two first extractive reserves were declared in 1990: Alto Juruá, with around 506,000 hectares (ha); and Chico Mendes, with 971,000ha. By the beginning of 2004 there were 31 extractive reserves declared, with a total of 5,171,000ha, mostly in the Amazon. Obviously there are distinct levels of community organization, among other varying conditions – as happens with any other protected area or category. Today, governmental institutions and the rubber tappers' organizations face new challenges. These include the implementation of institutional structures and incentives for sustainable development, and the need to provide an adequate level of income to people in the forest – while maintaining the protection of tropical landscapes.

Extractive reserves are formal, people-centred protected areas. This kind of protected area is declared not despite people, but because of them. As an approach combining nature conservation and social development, extractive reserves are premised on, and legitimized by, the presence of local people and their social organizations, seeking their empowerment.

Sources: Wadt *et al.*, 2003; IBAMA, 2004; Pinzón Rueda, 2004; Maretti *et al.*, 2003.

How Category VI is Protecting Landscapes: Case-studies from Brazil

Two case studies are presented here to exemplify the role of Category VI in protecting landscapes and seascapes. Because events in Brazil contributed significantly to the decision to include Category VI in the IUCN protected area classification system, and in a sense helped to define what the category is, two Brazilian cases were chosen. At the outset, the creation of extractive reserves in Brazil was related primarily to social organizations and nature in the Amazon region; the Chico Mendes Extractive Reserve was one of the first reserves to be declared. The idea then progressed towards the coastal zone, and the Mandira Extractive Reserve offers an example where more concrete work was done.¹⁴

¹³ After the *Reservas Extrativistas* declaration, the local communities receive a 'real use concession' – with rights to the land and natural resources – conditioned to a 'plan of utilization', proposed by the local communities. Once the plan was also approved by IBAMA, they became co-managers of the reserve. According to Brazilian laws, any governmental level (federal, state or municipal) of the federation may declare any of the protected area categories established with the national system.

¹⁴ According to Brazilian law, there are other categories corresponding to the international Category VI – the 'extractive reserve' being the more interesting in terms of its origin in social movements.

The Chico Mendes Extractive Reserve, Brazilian Amazon

As a typical example of the history that led to the creation of the category of extractive reserve, the Chico Mendes Extractive Reserve (*Reserva Extrativista Chico Mendes – RECM*), in the western part of the Brazilian Amazon, is very much a product of local communities resisting deforestation, in this case in opposition to the intentions of the forest colonizing *latifundium* farmers, as mentioned above. The resistance of the local communities in this area continued until their occupation of lands was consolidated.

The Chico Mendes Extractive Reserve is located in Acre,¹⁵ and represents an area of 971,000ha, making it the largest extractive reserve in the country. According to Wadt *et al.* (2003), CNS (2004), and Costa (2004), among others, the dominant vegetation is tropical humid forest, which is relatively open, with areas of bamboo, palm-trees and lianas, and a small area of tropical humid dense forest. The topographical relief is gentle, with low hills predominating. During the 1990s the estimated population of the area was 9,000 inhabitants, in around 1,100 *colocações*.

A *seringal* represents a whole area of rubber exploitation, made up of *colocações*, which, in turn, compose a community. A *colocação* is a family production unit with extractive activities, defined by the rubber paths – usually from 3–7 rubber paths in each *colocação*. There are no pre-defined limits for a *colocação*, the customary rights are mostly related to traditional use and might be different depending on the uses of the land and natural resources. An *estrada de seringa* (rubber path) is made by the preparation and work on the trees for rubber exploitation. Usually this exploitation is associated with the collection of Brazil nuts. The rubber trees *Hevea brasiliensis* and Brazil nut trees *Bertolletia excelsa* define the limits to customary rights related to use of these two resources, but not necessarily those related to other natural resources.

To facilitate its management, the Chico Mendes Extractive Reserve was subdivided into three areas, under the supervision of different local community associations of which AMOPREB is one, representing about 220 associated individuals, organized into 22 smaller groups. Currently there is a participatory management structure, with smaller groups meeting for specific decisions related to activities in the extractive reserve. In the RECM the utilization plan sets an upper limit of 10% of deforested area per household, and this includes activities on lands such as residences, backyards, pastures, agricultural and abandoned fields and agro-forestry plots. The plan also includes strict regulations on the 'extraction' of rubber and Brazil nuts and the development of management plans for new forest products. Timber 'extraction' and hunting are restricted to the residents' subsistence use.

As of 1996, only 0.65% of the RECM area was deforested, representing around 606ha. Although the areas with major deforestation are not usually chosen to be protected, the data demonstrate that in the chosen areas, the communities' use, both before and after the existence of the RECM, did not damage the forest as much as happened outside of these areas – thus supporting the idea of nature conservation through a protected area "managed to provide also a sustainable flow of products and services for the community".

¹⁵ Acre is a small State (152,581.39km²) by Amazonian standards, in the northwest part of the country, and with a unique history, because it was obtained from Bolivia due to the occupation of the forest by the rubber tappers. After a history of social conflicts, the current state government calls itself the 'government from the forest'.



A rubber tapper in the Chico Mendes Extractive Reserve, one of the first extractive reserves to be declared in Brazil. Extractive reserves combine nature conservation and sustainable use of natural resources by local people.
Claudio Maretti

Indeed, following Ferreira *et al.* (in press), studies have systematically shown that deforestation rates are significantly lower inside *lato sensu* protected areas (considering also indigenous lands) than outside them, even when the PAs are not well implemented in the field. In the Brazilian Amazon estimates for 2001 of the deforestation was approximately 10 times greater outside protected areas than within them – taking into account all categories. For example, in the State of Acre the deforested area outside protected areas (all categories) was 16.57% while inside these areas it was 1.26%. In the case of federally protected areas with management objectives related to sustainable use (mostly Categories V and VI), the area was only slightly higher, at 1.4%.

We might then conclude that the communities' use is not so damaging as other ones – referring mostly to activities in those areas proposed (and accepted) to become sustainable use protected areas. Those areas, even taking into account the communities' uses before and after the declaration of the extractive reserve, were able to maintain lower deforestation rates than is the case outside their boundaries. Therefore, the declaration of this kind of area clearly represents a correct choice for nature conservation in comparison with non-declaration. Not to mention the social and related benefits, the communities' use supports conservation results because it discouraged other more high-impact uses. The declaration of the extractive reserve helped to keep the local communities in place, and brought them assistance in improving their natural resources management towards better use, social benefits, and nature conservation.¹⁶

Social development within extractive reserves, including community facilities and services, are an essential part of meeting the extractive reserve's objectives and providing the right conditions for the local communities to remain in the area. For those harvesting forest products,

¹⁶ To the possible claim that strict preservation protected areas might have been declared in such places instead of these protected areas that accommodate sustainable use, two other points may be mentioned. It is not feasible to suppose that societies could accept the establishment of enormous areas of strict preservation PAs. And the reaction when established against local peoples could result in major damages. In several cases it can be seen that land conflicts have led to setting forest fires, for instance in West Africa (UICN and Guinea-Bissau, 1993), or other kinds of pressures or 'illegal' interference. Phillips (in Borrini-Feyerabend *et al.*, 2002) was right to affirm "[...] the iron rule that no protected area can succeed for long in the teeth of local opposition."

such as rubber and nuts, a primary goal of extractive reserves has been to obtain land and resource rights to improve their forest-based lifestyle. Another goal is to improve their well-being and that of their families by, for example, increasing their income through marketing sustainable forest products and other activities, improving health care and obtaining better access to education and transportation. Nevertheless, the level of social organization within and among the reserves is extremely varied, depending on the history of each site. While in some areas local communities enthusiastically participate in the collective activities and opportunities that social organizations provide, in other areas they are still caught in the expectation that somebody will supply their needs, and retain a degree of mistrust towards organizing.¹⁷

In this case, as in others, the economy of the extractive reserve is not a completely resolved issue. Although extractive reserves have led to political emancipation for these communities, the economic results are still insufficient, including at the family level. In some cases, instead of diversifying their use of non-timber forest products (NTFP), rubber-tappers are gradually abandoning them in favour of other forms of land use, such as commercial agriculture, small-scale cattle-grazing and timber exploration, and are working for payment on other lands. Nevertheless, studies and management projects have been conducted on potential forest products, such as vegetal oils, palm-hearts, palm-fruit juices, forest seeds and medicinal plants, among others (e.g., *copaiba Copaifera* spp., *açaí Euterpe precatoria*, *pataúá Oenocarpus bataua*, *buriti Mauritia flexuosa*, *andioba Carapa guianensis*), which offer the potential, in the near future, to improve the income related to commercial harvest of NTFP.

As with several other extractive reserves, the Chico Mendes Extractive Reserve is the result of the rubber tappers' (*seringueiros*) claim of lands for extraction, but also of the fact that environment and land-tenure policies in Brazil have adopted new models. Along with its many social benefits, and its relevance for nature conservation, the extractive reserve is the most representative mechanism for a new development model for the Amazon. Not only does it offer tangible results in supporting labour opportunities, securing land tenure and conserving biological diversity, the model was built on the foundation of the cultural relationship between social groups and their natural space – in other words, their landscape. And, after the 'traditional' use, the declaration of the Chico Mendes Extractive Reserve, a Category VI protected area, reinforces the conditions for the area's management in a way that meets nature conservation, as well as economic, objectives.

Mandira Extractive Reserve, South-eastern Brazil

In the rural villages of Cananéia, in south-eastern Brazil, marine-related activities are important, along with small-scale agriculture and land extractivism, in a complementary relationship linked to natural cycles, natural resource availability and market conditions (see Maldonado (2002), Sales and Moreira (1994), São Paulo and IBAMA (1996), and Maretti (1989), among others). Fishing has a long history in the region, but oyster harvesting has been of economic importance for at least 30 years, and is mostly based on familial organization. Some areas of the estuary-lagoon region are particularly important in terms of their natural productivity.

¹⁷ Some analysts may consider that those could be signs of the failure of sustainable use protected areas. Astonishingly, this kind of rigour is not used when considering other models, either more liberal or free market economic activities on the one hand, or the strict preservation protected areas on the other. Partial failure in some cases does not necessarily prove that the model is not valid.

Because the area is considered to be of high environmental importance, representatives of coastal local communities have participated in several fora and other activities related to regional conservation. In fact, they have been interested in maintaining the environmental conditions and quality of marine products that support their livelihoods. In certain areas, local communities claimed the responsibility for the management of natural resources or areas that were protected.¹⁸

Taking into account the local communities' traditional management practices, and the initial recognition of the region's importance in the 1970s and 80s, a starting point for the history of the Mandira Extractive Reserve (*Reserva Extrativista do Mandira*) might be the period from 1984–1989, when a participatory process of coastal zone regional planning was conducted in the area. This initiative was reinforced during 1994–1997 by the collaborative planning and zoning process for the Cananéia-Iguape-Peruíbe APA. (See chapter by Britto de Moraes and Lino for more on the Cananéia-Iguape-Peruíbe Environment Protected Area, or APA – *área de proteção ambiental*). A pilot project launched in 1994, described below, led ultimately to the creation of the Mandira Extractive Reserve.

While most of the region's local fishermen have a good understanding of natural processes, those in some communities, such as Mandira, have a deeper knowledge, stronger social organization, and live in and explore areas with more ecological importance. Those were among the reasons that the Mandira community was chosen for this pilot project – under the leadership of the São Paulo State environmental institutions, but with several other important partners.¹⁹

The Mandiras have been established in the area since the 18th century, relying mostly on agriculture originally, but gradually shifting to seafood harvesting, due to changing economic conditions, pressures for land and environmental restrictions. Mandira is a *quilombola* community – slave-descendants – having collective rights over the land.²⁰

Before the project, the market chain for oysters was dominated by brokers, who paid little regard to legislation or to hygiene and health standards for shellfish processing. There was overexploitation of some oyster stocks. Local communities felt ashamed of their work activities. Also, outside workers tended to 'invade' the region in search of natural resources (including shellfish, crabs and fish), and with little regard for local conditions.

¹⁸ The State of São Paulo is the wealthiest in the country, but the Ribeira Valley is today its poorest region. Composed of mountains, wetlands, islands and coastal ecosystems, and including important remnants of Atlantic Forest and mangroves, IUCN *et al.* (1980) considered the Iguape-Cananéia-Paranaguá estuary region to be a region of high importance for nature conservation in the world (see also Maretti, 1989).

¹⁹ The institutions and persons that collaborated are too many to list here, but some examples or among the most important are: Forest Foundation of São Paulo (FF); the Fisheries Research Institute of the State of São Paulo (IP); Mandira local community association; COOPEROSTRA – the Cooperative of Oysters Producers from Cananéia, São Paulo; NUPAUB – USP (University of São Paulo) Centre for Studies on Peoples and Wetlands; Gaia Ambiental; Secretariat for the Environment of the State of São Paulo (SMA-SP); Fisheries Pastoral Commission (CPP); Brazilian Ministry for the Environment (MMA); IBAMA-CNPT – IBAMA (the Brazilian environment federal agency) National Commission on Traditional Communities; Margaret Mee Botanical Foundation; Adolfo Lutz Institute; Ribeira Valley Inter-Municipal Development Consortium (CODIVAR); Shell; city of Cananéia; Ford Foundation; FUNBIO – the Brazilian Biodiversity Fund; World Vision; etc.

²⁰ This social group was officially recognised as slave-descendants (*quilombolas*) in Brazil in 2002. Therefore, following the 1988 National Constitution text, they received collective rights over their lands.



Fishermen tending nets, Brazil. For rural villages in the coastal region of Cananéia, in southeastern Brazil, maintaining environmental conditions and managing marine resources are essential for their livelihoods. *Clayton F. Lino*

In response to those problems, the local communities and environmental institutions looked for solutions. The extractive reserve model was found to be good enough to face the degrading conditions, helped by other legal definitions. But the process for the Mandira Extractive Reserve participatory proposal and the oyster regulation procedure took a long time (1994–2002), as is usual when ensuring adequate involvement of local communities—even considering that it takes much less time and leads to better results when built on the communities' knowledge and willingness. Among the necessary steps were the participatory discussion of regional problems, awareness-building within the main communities and on the part of lead people, debates on the recommended actions, and research to define appropriate solutions. Other steps included raising funds and finding other resources to put proposed actions into practice; solving legal problems, either by finding ways within the existing legal framework or elaborating new legal documents; and approaching and lobbying the authorities. It was also necessary to train local communities in new activities, search for markets, publicize the special characteristics and importance of sustainable production, and help them to begin selling the products themselves and managing these businesses.

The local project in Mandira had two main components: to implement an extractive reserve in the Mandira mangrove area; and to organize a locally controlled production chain for the harvest, processing and marketing of local oysters. The project met with some unanticipated difficulties, including the prejudice of some toward an activity viewed as 'primitive' in a so-called 'more developed' region of Brazil. On the other hand, productive partnerships developed between several institutions responsible for the process, and this unexpected response was important to the ultimate success of the project.

While the Mandira Extractive Reserve only achieved official designation in 2002, for about five years leading up to that point the area was already *de facto* managed as an extractive reserve. As a coastal extractive reserve in Brazil's Southeast, it is rather small – particularly when compared with its counterparts in the Amazonian region. The extractive reserve represents some 1,175ha, mostly composed of mangroves, which are used by some 100 dwellers, basing their activity mainly on the collection of mangrove oysters *Crassostrea brasiliensis*.

The project results include tangible benefits to the regional economy and the restoration of cultural values and environmental quality. Through the project, local communities that had been socially and economically oppressed and involuntarily had been provoking natural degradation, have become proud fishermen, who now take responsibility for their harvesting activities, working and environmental conditions, and the quality of their products. Also as a result, consumers have access to better and healthier products, while the harvesting and processing activities are now more environmentally sensitive. The local processing facility where the oysters are selected, cleaned and packed, now serves as the clearing-house not only for the products and for the overall production process, but for the social organization as well. The Mandiras are now widely seen as leaders in the Iguape-Cananéia estuary-lagoon region, building on their community's traditional knowledge and organizations, and as pioneers in this more interesting way of working.

A no less important result has been landscape conservation by the local communities – landscape as their own cultural reference, but also as beautiful scenery. This has not only permitted the maintenance and enhanced appreciation of their 'traditional' way of life, but also allowed mutually beneficial integration between seafood production and tourism, while maintaining the conditions for future generations to make their own choices.

The approach presented here restores extractivism to its proper place: that the knowledge and management practices of local communities are neither 'primitive' nor 'rudimentary'; they should not be despised, ignored nor idealized. The correct approach is one based on respecting, understanding and learning from them. Local communities are generally best able to improve the harvest and related production chains on which their livelihoods depend; they should be allowed to maintain control over these matters – and, consequently, over their own lives. At the same time, the need for capacity-building should not be neglected, as this can present new challenges. In fact, one of the major difficulties in the Mandira case was for the local communities to enter the market, and develop the entrepreneurial and administrative skills to create businesses and market their products.²¹

That is really what 'sustainable development' means, for it has its economic and ecological dimensions, but also its social and cultural ones – and, hopefully its political dimensions too – all integrated together and viewed from the perspective of long-term sustainability. Local communities' knowledge and social organization are at the very core of these possibilities, but appropriate nature conservation methods – including the adequate understanding, consideration and use of protected area categories V and VI and mosaics – are also extremely important.

²¹ This process and the community management was recognised by the Equator Initiative (UNDP) in 2002 as one of the world's best and presented at the World Summit on Sustainable Development in Johannesburg 2002.



Child with bird, Brazil. *Clayton F. Lino*

The Iguape-Cananéia-Paranaguá estuary-lagoon region – and the Ribeira Valley region as a whole – have a comprehensive approach to regional planning and management. It includes national and state parks (Category II), federal and state ecological stations (Category Ia), as well as two major environment protection areas, or APAs, (Category V), the management of which relies on transboundary cooperation between states. A portion of these protected areas is within the Southeast Atlantic Forest World Heritage site. However, the acceptance of an extractive reserve (Category VI), and the fact that it is located within an APA (Category V), was an important break-through in the process of real and effective implementation of sustainable development within this region of Brazil.

Closing remarks

The cases discussed here show that, when appropriately addressed, local communities and their activities related to natural resources and sustainable development present an opportunity, rather than a problem, in developing an overall nature conservation strategy. When properly integrated, local communities are typically allies of nature conservation. However, simply relying on proposals to integrate local communities, zoning processes, or overly broad conservation strategies, may not be enough. Not infrequently there is a need for sharper and more specific tools with enough legal and political strength and offering practical possibilities. Provided that legitimacy is built into the process – either through autonomous control by local communities, or through their engagement in participatory processes led by respected governmental institutions – these tools can be promoted. However, the institutional existence of protected areas is also important, considering, for instance, their operational, as well as conceptual and legal, conditions. Therefore, there is a need for protected area management

Box 2. Some 'ingredients' for a 'landscape approach'; a preliminary summary

The 'landscape approach' is a welcome concept to express a much needed overall sustainable development and nature conservation strategy, including and considering, *inter alia*:

- the concept of landscape as a concrete and a representational reality – with great importance paid to the comprehension of social and natural processes;
- an understanding of the proper place of natural and cultural elements and processes, and the interaction among them, in the building of landscapes – and an interest in their conservation and their importance in proposing visions, goals, objectives and management schemes;
- recognition of nature conservation as the major goal, always integrated within an overall sustainable development agenda – including biological diversity as one of the most important indicators of the natural values to be protected, but with conservation attention also directed towards ecological processes and environmental services, as well as landscapes, geographic features, geological and paleontological contents, and cultural heritage and related values;
- a foundation based on sound and up-to-date, but open-minded, science, the full use of the concepts and techniques from conservation biology, (physical and human) geography, social sciences (anthropology, history, sociology, etc.) along with other relevant disciplines – searching for the best understanding of ecological processes, of biodiversity (as defined by CBD) patterns and others, of processes and patterns of space appropriation and natural resource uses, among others;
- the consideration of larger areas (also called, perhaps narrowly, landscape-scale management) – including protected areas but also other kind of areas and uses, preferably all integrated within land-use zoning and planning schemes;
- the arrangement of protected areas within mosaics and networks, collaborating as the core zones of conservation corridors and within bioregional projects – including the correct consideration of buffer zones, the relationship of protected areas with surrounding areas, etc.;
- the consideration of institutional integration, and possibly of transboundary conservation agendas among countries or states;
- the full recognition of the major role of protected areas (as defined by IUCN-WCPA, CBD and UNESCO-WHC), and the complete understanding and the full use of protected area systems and categories – supposing not only a set of PAs, but also other components: the association and complementarity of different categories (i.e., diverse objectives); protected area systems governance and management, including the relationships among PAs, between PAs and their agency's central office, and among the different levels of government (national/federal, state, local/municipal); capacity-building and training schemes; and the legal framework; etc.;
- a clear understanding of the social processes that influence nature conservation – considering the society's (including stakeholders') interests, recognising rights and promoting full participation in all processes, promoting local communities' empowerment, and making room for the culturally diverse manifestations of interest in nature; and
- a complete understanding and full use of the CBD ecosystem approach with its twelve principles and five operational guidance points.

categories such as VI, as part of national or other levels of protected area systems, to address particular needs in specific conditions.

Along with improving the organization of local communities, support from other kinds of institutions is still needed – such as non-governmental organizations (NGOs), universities, research groups, governmental agencies responsible for environment, and international organizations. Only through partnership with local communities is it possible to seek the resources and means needed to improve the quality of life of local families.

Today it is also clear that the only economically viable option for extractive reserves, and the local communities that inhabit them, is sustainable use of the many products of the forest and the potential of its natural ecosystems – a single product is not adequate to sustain the needed economic flow. As mentioned in international statements (CBD, 2000, Ecosystem Approach; *inter alia*), perverse incentives (economic and others) block the possibilities for local communities and extractivism. A 'shared-in-common macro-economy' (a global or general economy based on solidarity) is needed to reverse the situation.²² This would involve nothing more than respecting the real conditions of economic internalities and externalities from the perspective of the global environment, and taking into account the views of local communities living in the forests, mangroves and other landscapes. What this means, in fact, is that there is a need to pay for the environmental and social services that the whole world uses, and that these ecosystems and the communities that inhabit them provide. And the landscape approach is a wonderful concept to include these needs.

The cases presented here are examples of landscapes – socially, economically and culturally created by, and belonging to, local communities. Their ties to these landscapes became so important that, in the case of the Amazon, the communities organized themselves to oppose deforestation, even at the risk of violence and death; and in the coastal case, fishermen dared to break the dominant commercial chains. The extractive reserves were established by the communities to protect their lived-in, working landscapes. The rubber-tappers led in the creation of a concept, now accepted worldwide as part of an overall sustainable development and nature conservation strategy, and the Mandirás are demonstrating an example capable of influencing their entire region.

The cases discussed here may not be 'classical' examples of cultural landscapes (or 'European types' of landscape) – for the marks are less visible to the 'non-local' and 'untrained' eye, that may not be prepared in these settings to see the long interactions between humans and nature over time (for there are no rock-built castles, no stone walls, no completely remodelled mountains, no vegetation-transformed fields...). To the visitor's eye, and from the 'international perspective,' those areas within the Amazon and the coastal wetlands may be seen only as tropical forests, with some possible attention paid to the relationship between people and the forest and its value for nature conservation. But what then are lands that are divided by paths, shaped by use, with their limits defined by customs and respected by local communities, (as, for example, with the significance of trees) if not landscapes – cultural landscapes – and therefore ideally managed through a landscape approach?

²² The term, translated from *economia solidária* refers to an economy with solidarity in the sense of respecting collective rights and production that is managed cooperatively. A 'solidary macro-economy' (translated from *macro-economia solidária*) considers also the global equilibrium of costs and prices, and takes into account related costs. It internalizes (instead of externalizing) social and environmental costs so that, for example, prices paid for goods coming from the forests or mangroves, could support proper sustainable exploitation of natural resources. It also considers the environmental (and social) values and services of natural habitats, ecosystems, protected areas and sustainable activities in order to be able to maintain them.

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²³ EMBRAPA: the Brazilian Agency for Agricultural Research. CNPq: the [Brazilian] National Council of Scientific and Technology Development. Amopreb: the Association of Brasília Dwellers, Extractivists and Producers. WPC: IUCN-WCPA Vth World Parks Congress, Durban 2003.

²⁴ ISA: Socio-Environmental Institute.