

**Global Ecology and Protected Areas versus
Local Commons and Cultural Diversity in the Brazilian Amazon ?
Mount Roraima between National Park and Raposa-Serra do Sol Indigenous Land.**

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Abstract

Nature conservation policies in different countries are increasingly linked to global ecological decision making. Examples of such linkages abound, and range from priorities and policy objectives defined in international forums and institutions, to the action of global environmentally concerned NGOs, to global environmental and sustainable development funds and programmes, and new economic opportunities represented by emerging markets for global ecological services and environmental commodities. These policies often conflict with different populations' needs and rights, as the implementation of man-excluding protected areas is given priority over other models of biodiversity conservation and sustainable use.

Brazil is no exception to this rule: today, nature conservation policies are entering in conflict with policies preserving indigenous people's rights to cultural difference. This is happening at different levels, and in several different local contexts, from the Atlantic to the Amazon and the Guyana Shield regions. Global policy priorities and funding can contribute to explain these conflicts: an analysis of Brazilian internationally funded biodiversity oriented programmes illustrates how the global ecological link contributes to redefine national and local political relations. The case of Mount Roraima National Park, overlapping with the Raposa-Serra do Sol Indigenous Land, illustrates how conservation policies based on man exclusion, such as National Parks, top-down conceived and implemented, harsher pre-existing political and land rights conflicts. The Mount Roraima case also indicates a possible way to viable solutions. By talking, row canoeing and walking with the Ingarikó Indians across the Serra do Sol, their own cultural ecological perspective can be perceived as a fundamental element in natural resource conservation. Their effective common natural resource use and management rules can be the starting point to develop and implement ecologically effective and socially beneficial management plans. Redirecting global willingness to pay for biodiversity conservation to indigenous peoples would contribute to make that happen.

Protected Areas – Indigenous Lands overlaps in Brazil also raise the issue of state/public versus common property and their role in tropical biodiversity conservation. With the exception of sustainable use protected areas such as extractive reserves, where local populations' natural resource use rights are recognised within a contractual legal framework, Protected Areas – typically National Parks and other strict conservation categories – are public property whose administration and management is the task of government agencies and officials. Indigenous Lands are federal public property too, but permanent use rights are recognised to indigenous inhabitants collectively, within a constitutional legal framework where their traditional social organisation is recognised and protected, characterising Indigenous Lands as commons. A comparative analysis of the relative efficacy of Protected Areas and Indigenous Lands in tropical forest biodiversity conservation, for example on the basis of satellite detected deforestation rates, could provide an indicator of the relative efficiency of these forms of property in effectively promoting biodiversity conservation and/or sustainable use. Likely, a policy efficiency implication of such an analysis could call for global ecological funding for local indigenous commons.

I. Introduction.

1.1. Mount Roraima: National Park or Indigenous Land ?

Mount Roraima National Park (MRNP) - 116.000 hectares of rainforest of the Guyana Shield in north-east Roraima, Brazil, at the border with Guyana and Venezuela - was created on 28th June 1989 (decree n. 97887) by the Brazilian President José Sarney. Its territory is entirely included in the Raposa-Serra do Sol Indigenous Land, demarcated by the Brazilian Ministry of Justice (*portaria* n. 820) on 11th december 1998, a continuous area of 1.678.800 hectares, inhabited by 14.000 indians of the Makushi, Wapishana, Ingarikó, Patamona and Taurepang societies.

In the third decade of a conflict between on one side CIR (Roraima Indigenous Council), one of the oldest and most representative indigenous organisations in Brazil, supported by the Catholic Church and pro-indian movements and organisations in Brazil and internationally, and on the other side local « whites », land owners, farmers, cattle ranchers, and the Roraima State Government, the Raposa-Serra do Sol Indigenous Land is still awaiting its homologation decree. The State of Roraima has appealed against the IL's demarcation, and is exerting strong political pressure on the federal government in an attempt to split up the continuous area and reduce the surface of the Indigenous Land.

MRNP is being implemented in this locally conflictual context. However, this is not an isolated case. Nature conservation policies also conflict with rights and policies preserving cultural difference elsewhere in Amazonia and in Brazil. Instead of representing an opportunity for conflict resolution and sustainability, the ecological argument is appropriated as a weapon in conflicts of political nature, harshening them and furthering away sustainable solutions.

1.2. Local peoples and global ecology in Brazil: from alliance to conflict ?

Top-down man excluding conservation policies are too often implemented in realities which, like Amazonia, rarely correspond to popular representations of nature as a man-free space. According to IUCN (1985), about 70% of protected areas worldwide are inhabited, 86% in South America¹. Our case study, and others in Brazil, show the conflict between nature conservation policies and rights to cultural difference of human groups who often depend directly on nature's appropriation and use, not only for physical survival, but also for cultural identity and social self-determination. The context in which these questions arise today in Brazil and Amazonia has at least two specific features.

Unlike several other Amazonian countries, since its 1988 Constitution Brazil has adopted formally advanced recognition principles and protection mechanisms of its Indigenous Peoples' land rights. The result is that a significantly larger part of Amazonia's lands and forests is today included in Indigenous Lands than in Protected Areas, in comparison with its Amazonian neighbor countries. Integral protection CUs account for 2% of the Brazilian territory, according to WWF-Brazil², whereas in Colombia the same figure reaches 7.9%, and in Venezuela 22%. These data are misleading, as they hide the differences in legal recognition of indigenous land rights between different countries. Venezuela, for instance, only introduced the principle of indigenous peoples' rights to land in its 2000 constitution. On the other hand, practically all Venezuelan national parks are inhabited by indigenous peoples.

Consequently, a tropical forest use and conservation model giving higher weight to the human factor than in other countries has historically and practically emerged from a political alliance between indigenous and other traditional peoples' grassroot movements and the international ecological movement. Renowned success stories of this alliance are the Kayapó or the Yanomami indians and the rubbertapper movement in Acre, led by Chico Mendes, who got their rights guaranteed. There are increasing signs today that

¹ See Colchester, M., « Resgatando a Natureza : Comunidades Tradicionais e Areas Protegidas », in Diegues, A.C. (org), *Etnoconservação : Novos rumos para a proteção da natureza nos trópicos*, Hucitec, NUPAUB-USP, São Paulo, 2000. Portuguese translation of: « Salvaging Nature : indigenous peoples and protected areas », in Ghimire & Pimbert, *Social Change and Conservation : Environmental Politics and Impacts of National Parks and Protected Areas*, Earthscan, 1997.

² Data presented at the Amazon Economic-Ecologic Zoning Methodology Evaluation Seminar, Manaus, 03-05/10/2000.

this alliance is breaking apart, and that these two movements are entering in direct conflict. We will argue that much of this can be related to some of the prevailing tendencies of global ecology.

1.3. A commons-based approach as a possible way to viable solutions

Indigenous Lands in Brazil are commons, both juridically and practically. On the juridical level, the Brazilian 1988 constitution, article 231, recognises « to indians (...) the originary rights on the lands they traditionally occupy » and « it is the task of the Union (Brazilian Federation, ndt.) to demarcate them and have all their goods respected ». Indigenous Lands belong to the Brazilian Federation, and the exclusive use right is explicitly recognised to the indians over “natural resources of soil, rivers and lakes” existing in these lands³. The Ministry of Justice, through FUNAI – Fundação Nacional do Índio (National Foundation for the Indian)-, is in charge of carrying out the process of recognition of indigenous land rights. However, the process of land demarcation only has full and definitive effectiveness with a final formal act, the homologation decree, which must be signed by the Brazilian President. This creates a rather exceptional and original juridical configuration for what in practice is a form of common property.

On the practical level, much can be learned by approaching the field. Objective data show the conservation relevance and efficiency of ILs in Brazilian Amazonia. Down on the field, the Mount Roraima case study shows that indigenous peoples have conscious rules and deliberate strategies to use their natural resources sustainably. It is hence possible to bring together indigenous peoples’ common-based empowerment, cultural and bio-diversity conservation towards a sustainable common future.

II. The overlap between Conservation Units (CUs) and Indigenous Lands (ILs) in Brazil

The issue of overlaps between CUs and ILs in Brazilian legislation is controversial and unresolved. In many cases it has recently given rise to conflicts between indigenous peoples’ land claims and conservation policies implementation. Among the best known is the case of Monte Pascoal National Park and the Pataxó indians, in the state of Bahia. Claiming traditional land rights, after years of political and legal struggles, on 19th August 1999, about 38 years after the Park’s creation decree, and several years after its actual implementation, the Pataxó indians occupied the Park’s area, in an attempt to force IBAMA and national institutions to recognize what they consider their constitutionally recognised land rights.

IBAMA recognizes the existence of 28 CU-IL overlaps in Brazil, which correspond to the cases where the CU overlaps with a homologated IL. In other cases IBAMA argues that the Park’s creation decree, holding the President’s signature, is of higher hierarchical legal status than the IL demarcation « portaria », signed by the Ministry of Justice, thus denying the existence of the IL as long as the homologation decree has not been signed. MRNP falls within this second category.

FUNAI, Indigenous organizations and supporting movements argue the superiority of Indigenous Land rights on the grounds of the Brazilian Constitution. Besides recognising the indians’ rights on the lands they traditionally occupy as « originary », hence pre-existing to the Constitution’s recognition itself, the 6th paragraph of the Constitution’s article n° 231 declares invalid any act aiming at the possession, property or exploitation of soil, river or lake natural resources existing in land traditionally occupied by the indians. Following the Constitution, any act limiting the indians’ right to the permanent possession and exclusive use of their lands has no juridical validity, regardless of the time needed to identify, demarcate and homologate Indigenous Lands. It would therefore be unconstitutional to regularise overlaps between CUs and ILs, because the indians’ activities cannot be subject to IBAMA’s autorisation and control.

³ Subsoil resources are in principle excluded from the indians’ exclusive use: only the right to a share of the benefits of their exploration is recognised, as a compensation for socio-environmental impacts. According to the constitution the exploration of these resources must be regulated by law. Up to the present time no such law has been adopted, and consequently mining in Indigenous Lands is not authorised. On the subject, see Ricardo, F. (org.), *Interesses minerários em Terras Indígenas na Amazônia Legal brasileira*, Documento do ISA n. 6, Instituto Socioambiental, São Paulo, 1999.

The issue has not yet been resolved by the recent institution of the Conservation Units National System (Sistema Nacional de Unidades de Conservação – SNUC), through law (n° 9985, 18th July 2000). The SNUC includes an exhaustive and comprehensive classification of the different categories of CUs existing in Brazil, regrouping them in two broad categories : Integral Protection and Sustainable Use. National Parks fall within the Integral Protection category, which admit no human settlement and direct natural resource use within their boundaries. The SNUC law delegates the definition of guidelines to resolve existing UC-IL overlap cases to a inter-institutional work group, created in November 2000, and coordinated by the National Environment Council (CONAMA). So far no solution has come out of it.

A process of radicalization has accompanied the discussion of the general problem of human presence in CUs and the approval of the SNUC law. The original law proposal included the possibility of negotiating the UC's reclassification to a Sustainable Use category, whereas the law text only leaves the amount of compensation, terms and time of resettlement to be negotiated⁴. As for CU-ILs overlaps, the issue was definitively resolved in favour of ILs in the original law proposal, whereas it is left unsolved in the law text.

A political and ideological battle seems to be taking place in the scientific and institutional *milieux* of Brazilian conservation, and indigenous peoples seem to have entered straight into the fireline. At the II Brazilian Congress on Conservation Units (Campo Grande, South Mato Grosso, 5th-8th November 2000), a petition was signed by a wide majority of IBAMA staff and congress participants, defining indigenous people as invaders of CUs, demanding « their immediate removal to restaure juridical order », and « contrary to any change in national CUs' destination or category to meet any kind of land claims ». More recent polemics have involved indigenous peoples of southeastern Brazil, accused of invading and degrading CUs, threatening the last remanescent isles of atlantic forests of the brazilian coast.

III. Global trends : market ecology, biodiversity conservation policy and funding

What could lie behind this conflict? Let us observe datas about land and forest distribution between CUs and ILs in Brazilian Amazonia (Table 1). According to Brazilian Socio-Environmental Institute⁵ (Instituto Sócio-Ambiental – ISA), ILs account for 1,023,499 km², i.e. 20,4% of the surface of Brazilian Legal Amazonia (BLA), which totals 500,631.68 km², and 50,8 % of the forest area, whereas Integral Protection CUs only account for 192,285.5 km², i.e. 3,8% of the BLA. This figures rise up to 552,560.2 km², i.e. 11% of the BLA, if Sustainable Use CUs are added. However, if the total surface of CU-IL overlaps (168,010.7 km²) is subtracted, the figures of effective CUs fall again to 384,549.5 km², i.e. 7,7% of the BLA, representing 23,4% of the forest, i.e. less than half of the percentage included in ILs.

Table T1 : Indigenous Lands and Protected Areas in Brazilian Amazonia

Land Category	Surface in km ²	Share of Brazilian Legal Amazonia (500,631 km ²)	Share of Brazil's Amazonian Forest
Indigenous Lands	1,023,499	20.4%	50.8%
Strict Protected Areas (integral protection CUs)	192,285.5	3.8%	n.a.
Sustainable Use Protected Areas (CUs)	359,716.2	7.2%	n.a.
Protected Areas Total (strict + sustainable use)	552,560.2	11.0%	n.a.
Protected Areas Total – total overlaps (ILs and others)	384,549.5	7.7%	23.4%

⁴ See article n° 42, SNUC law.

⁵ See Albert, B., « Associações indígenas e desenvolvimento sustentável na Amazônia Brasileira », *Popos Indígenas no Brasil 1996 a 2000*, Instituto Socioambiental - ISA, São Paulo, 2001.

Throughout the 1990s and up to the present time, global willingness to pay for biodiversity conservation has been increasing. This has made international environmental funding available for biodiversity conservation and protected areas policy in Brazil.

The main international programme funders for the environment and biodiversity in Brazil (see tables in Annex), have been:

- a) the World Bank (WB/BIRD) and the KfW (German Bank for Reconstruction), who funded the National Environment Programme (PNMA), a 10 year programme to provide long-term technical support to IBAMA staff in setting up a Sustainable Protected Areas Management Plan. Budgets: US\$ 127.1 million, total; US\$ 79.9 million, external (see Table A1).
- b) the Global Environment Facility (GEF), with 3 different biodiversity programmes. Budgets: US\$ 122.5 million, total; US\$ 60 million, external (see Table A2).
- c) the G7 Pilot Programme for the Protection of Brazilian Tropical Forest (PPG7), currently starting its second 5 year phase, who has been funding a wide range of subprogrammes and projects. First Phase (1996-2000) Budgets: US\$ 340 million, total; US\$ 291.1 million, external (see Tables A3 and A4).

Among the 3 considered, only PPG7 also contributes to Indigenous Lands protection and to indigenous peoples' sustainable development projects, through two of its sub-programmes.

First, the Indigenous Lands and Population Protection Programme (PPTAL), a specific programme supporting FUNAI in ILS' demarcation and protection activities. PPTAL's total budget was US\$ 22.3 million, of which US\$ 20.1 million external funding, for a 8 year duration.

Second, the Demonstrative Projects Programme (PD/A), although not specifically indigenous-oriented, was also open to indigenous peoples/organisations' project financing. If we disaggregate PD/A's first phase contribution, by analysing the share of indigenous oriented projects in the total of funded projects (15 out of 194), we get a total of US\$ 2 million of the total US\$ 22.2 million budget, i.e. a ratio of 9%. By supposing the same ratio applies to external funding, we obtain an estimate of US\$ 1.7 million external funding to indigenous oriented PD/A.

PPG7 funds spent on indigenous lands and peoples total US\$ 24.3 million, (US\$ 21.8 million external). Let us define these figures as "Indigenous Share" of Environmental/Biodiversity Funding, and compare them to total budgets and external funding of PPG7, GEF and PNMA. We obtain the ratios illustrated in Table 6, which range between 4.1% and 7.5%. This means that international programmes in Brazil over the last decade have funded non-indigenous environment and biodiversity conservation 12 to 23 times more than indigenous lands conservation and indigenous peoples' sustainability.

Table T2: INDIGENOUS SHARE of ENVIRONMENT and BIODIVERSITY FUNDING

Funder	Total Funding (US\$ million)	Indigenous Share (US\$ million)	Indigenous Share of Total Funding	External Funding (US\$ million)	Indigenous Share (US\$ million)	Indigenous Share of External Funding
PPG7	340.0	24.3	7.1%	291.1	21.8	7.5%
GEF	122.5	0	0%	60.0	0	0%
Subtotal	462.5	24.3	5.2%	351.1	21.8	6.2%
BIRD/KfW (PNMA)	127.1	0	0%	79.9	0	0%
Total	589.6	24.3	4.1%	431.0	21.8	5%

This picture is currently being altered in the direction of a more significant engagement towards indigenous peoples by the institution of a specific programme, the Indigenous Peoples' Demonstrative Projects (PDPI) within PD/A's second phase (2001-2006). The PDPI is managed by the Amazonia

Coordination Secretariat, at the Environment Ministry (SCA/MMA). So far it has been given a 13.5 US\$ million budget (11 US\$ million external funding), but additional funds are being negotiated (see Table A5).

These figures clash with the real distribution of land and tropical forest biodiversity between Protected Areas and Indigenous Lands. Rebalancing fund allocation appears to be not just a matter of justice, but also one of efficiency. Despite some positive trends⁶, general deforestation rates remain high and have recently been increasing⁷, whereas satellite image evidence shows that environmental degradation is significantly lower where Indigenous Lands have been legally recognised and enforced⁸. In other words, Amazonia's biodiversity is very well protected, and at a low cost, where there are people living who have a stake in biodiversity conservation and sustainable use.

If one of the funding goals was to strengthen Brazilian conservation government staff, this goal has certainly been achieved: the Campo Grande petition and the radicalization of the SNUC law are indicators of the political strength achieved by "hard conservationists" in Brazil. On the other hand, as international programmes continue prioritizing strict protected areas creation and implementation through command and control mechanisms, it becomes difficult to justify funding if confronted with objective data about land and forest distribution between CUs and ILs. In addition to that, the development scenarios of world markets for global ecological services (eco-commodities), such as greenhouse gases capture and/or storage, hydrological cycle and biodiversity maintenance, as well as the perspectives of "green" development associated to these areas, for example through the fast-growing eco-tourism industry, can explain part of the harshening battle on overlapping areas.

IV. Indigenous Lands as common property in the Brazilian juridical system

A comprehensive approach considering Indigenous Lands in Brazil as "commons", remains to be developed, both on the theoretical level and in its practical implications.

ILs, as well as several sustainable use CUs, such as extractive reserves, can be classified as common property because their juridical classification as public goods (federal patrimony, which cannot be bought or sold) recognizes, in different forms (public contract of exclusive use rights cession, or originary exclusive use rights recognition), exclusive collective rights to use of natural resources. In addition to that, if in sustainable use CUs the collective use rights recognition is issued to traditional non-indigenous populations on a contractual basis⁹, which can be withdrawn by the state in certain circumstances, for instance upon failure to meet contract objectives, in the case of ILs, the exclusive use rights recognition is permanent and unconditional, and cannot be withdrawn under any circumstances, with the obvious exception of a re-writing of the constitution itself.

Law historians and theoreticians, such as Carlos Marés¹⁰, trace the story and explain the juridical grounds on which such an original and advanced recognition of indigenous jurisdiction came to gain its place in Brazil's 1988 Constitution. In fact, indigenous collective land rights represent such a puzzle in modern western law theory, that the very recognition of their existence is surprising.

Somehow paradoxically, Marés explains how indigenous rights enjoyed a wider and fuller recognition under colonial rule than with the overcome of Brazilian independence.

⁶ See D. Nepstad, et al., "Frontier Governance in Amazonia", *Science*, 295, January 2002.

⁷ The latest estimates available indicate a 14.9% increase of the deforestation rate between 1999 and 2000.

⁸ See Schwartzman, S., Moreira, A. and Nepstad, D., « Rethinking Tropical Forest Conservation : Perils in Parks », *Conservation Biology*, 14 (5), October 2000.

⁹ See Diegues, A.C., « Repensando e recriando as formas de apropriação comum dos espaços e recursos naturais », in Diegues, A.C. e Moreira, A. De C. (orgs.), *Espaços e Recursos Naturais de Uso Comum*, NUPAUB/USP, São Paulo, 2001 ; Benatti, J.H., « Presença Humana em Unidades de Conservação. Um impasse científico, jurídico ou político ? », in Capobianco, J.P.R. (coord.), *Biodiversidade na Amazônia Brasileira*, ISA/Est. Liberdade, São Paulo, 2001.

¹⁰ The following chapter was widely inspired by and extensively quotes Carlos Frederico Marés de Souza Filho, *O renascer dos povos indígenas para o direito*, Juruá editor, Curitiba, 2001.

“Before the independence of each latin american country (...) Portugal and Spain maintained colonial laws (...) which compelled or protected indigenous peoples, by many times recognising their own law, i.e. recognised them as different peoples. The countless portuguese laws which declared war or established forms of relation with a given people were recognizing, even if to subjugate, the existence of independent peoples. (...) This existence of special laws for given groups of society was common in feudal or colonial society, but inconceivable in burgeois society: the burgeois State and its law had to be unique and generate their own source. (...) The idea that all individuals would be converted into citizens, or at least that each individual had the right to become a citizen, translated into assimilation, absorption or integration of culturally differentiated peoples. This integration, which from the dominator’s point of view was an offer of the conquest of civilization process, was always seen by the dominated as a policy of submission of the defeated. (...) integration never could be sincerely accepted by indigenous peoples. (...) Integration passed to be the cultivated discourse of texts and laws, whereas in practice, the politeness of integration turned into the cruelty of discrimination. (...) The new society took away from the indians all they had, especially their identity, to offer them an integration that even poor whites, with their burgeois culture, could not achieve”.

Then he explains the nature of the juridical puzzle which ILs represent in modern law systems.

“The contemporary juridical system establishes a dichotomy between public law and private law. In the classical formulation of this system no institute or person can be public and private at the same time. Everything which is of collective use, meaning everyone’s or a community’s good, is public, belonging to the State. Everything which is not public, shall be private. (...) This dichotomy corresponds to the fact that the system only admits two instances: the State and the citizen. (...) In this public/private dichotomy, the land rights of indigenous peoples lie in between, and being it a dichotomy, they are excluded. It is clear that indigenous lands are not public in the light of the juridical system, because they are not destined to a State end, nor to a general neither public use. Much less are they private, because there is not upon them one single or many individual holders of defined rights. The classical institutes of private law such as buy and sell, inheritance, prescription, register, etc., do not apply, nor can apply to them. Being neither public nor private, these goods were left in a kind of juridical limbo. (...) In all countries, indigenous territories were always inadequate to the system, and represented a permanent negative example of its plenitude and completeness”.

Given this context of theoretical uncapability to admit the exception to modern law categories of the burgeois State, the kind of formal recognition of indigenous land rights in the Brazilian Constitution is remarkable. Would it be just another example of the extraordinary creativity of brazilians, of the *jeitinho brasileiro*, the “brazilian way”, in working out practical solutions to apparently unsolvable problems? Carlos Marés describes the juridical nature of indigenous lands as a circular concept.

“Making use of existent and complex juridical institutes, such as the difference between possession (posse) and property (propriedade), brazilian law managed to create a special situation for indigenous peoples and their territories, making them of public, state property, and private, but collective possession, not identifiable individually. The juridical concept of indigenous land was therefore constructed starting from the reality, the occupation of the area by indigenous peoples, but characterized it as a juridical attribute, the possession. In the current brazilian law system indigenous lands are the property of the Federation, but destined to permanent possession of the indians, who are entitled to the exclusive use of the resources of the soil, rivers and lakes existing in it. It is clear this solution is of difficult understanding by those used to a dogmatic application of the law, because it is relatively easy to understand public property of these lands, but difficult to accept that non-individual possession (already difficult for the system to accept in itself) is exactly the determining factor of property”.

Not only is the solution to the problem of formally defining a collective private property on public land an original one, but also the hierarchical level of formal recognition remarkable.

“The brazilian constitution in force recognizes the indians’ right on the lands they traditionally occupy as originary. By originary it means that the right of the indians is anterior to right itself, to the law itself”.

What Marés defines a circular concept, because it exists within a system which only admits private or public property, being neither of them, fits rather well the category of common property, if we define it as a mode of appropriation by a well-defined group of users, and regulated by rules defined by the group itself.

“Indigenous Lands are federal property, i.e. a public good. Nevertheless, they do not fit into any of the traditional categories of public good in Brazilian law. Indigenous lands are not disposable to public power, not subject to use by it, forbidden to common use by the whole Brazilian people, but only open to use by the indigenous people itself, according to their uses, customs and traditions. Therefore they do not fit into the public land category. They are not private land either, of the indigenous community or people. Being that, they do not fit into the dogmatic concept of property, they are no property.

But if according to the law, individual private property cannot exist in them, because they are defined as federal dominion, they are subject to individual appropriation according to the uses, customs and traditions of the people living there. Uses, customs and traditions in practice mean law. Individual or collective appropriation, of a family group, will therefore take place according to indigenous law, which shall resolve possible occurring conflicts. The exercise of Brazilian property law is hence forbidden in indigenous lands, whereas, on the contrary, the norms of customary indigenous law do apply”.

Once the formal juridical status of “commons” of ILs is acknowledged, a direct ethnoecological field approach allows to discover the complex systems of rules and different modes of appropriation of natural resources enforced within these spaces, together with their effective and potential conservation role.

V. CU-IL overlap in Mount Roraima, local populations and local political conflicts

The northern part of the Raposa-Serra do Sol Indigenous Land, known as Serra do Sol region, is a mountain region, covered by savannah and rainforest ecosystems, inhabited by Indians of the Ingarikó, Patamona and Makushi ethnic groups. Mount Roraima National Park, situated in the northern part of this region, covers most of its rainforest area. Just like the rest of the Indigenous Land, the area included in the Park represents a traditional area of occupation, natural resources appropriation and use by the region’s indigenous populations, enabling their physical survival as well as that of their culture and lifestyle. Implemented in a top-down approach, the Park introduces rules and activities in contrast with the traditional patterns of use and appropriation of space and natural resources, thus threatening the culture and self-determination of local indigenous societies.

The Ingarikó Indians represent the largest group locally, with a population of approximately 900, divided in 8 communities. Indigenous group belonging to the Karib linguistic family, also known as Kapon, they traditionally inhabit the mountains of the north-eastern region of Roraima, on both sides of the border with the Cooperativist Republic of Guyana (former British Guyana), where this group is called Akawaio, and where their largest population – 7,760 individuals¹¹ - is recorded, and with Venezuela, where their population is of approximately 500¹².

Mount Roraima National Park has merely existed on the paper for almost 10 years. Only towards the end of 1999 IBAMA – Instituto do Meio Ambiente e dos Recursos Naturais Renováveis (Institute for the Environment and Natural Renewable Resources), the institution responsible for protected areas management in Brazil, which depends from the Ministry of Environment (MMA, Ministério do Meio Ambiente) – started its implementation process.

When the National Park creation decree was signed, in 1989, the Indigenous Land recognition process was still undergoing. After harsh and long lasting political and legal conflicts, in 1998 the Raposa-Serra do Sol demarcation was signed, but conflicts continue, playing a central role in local politics. The Roraima State Government, politicians and dominant « white » interest groups are leading, on political, institutional and legal levels, a harsh battle against the IL’s continuous-area homologation, in favour of a

¹¹ See Forte, 1990, in Souza Cruz, Odileiz, *Field Study Report, Research Title: « A Gramática Ingarikó – uma língua da Amazônia brasileira »*, October 2000.

¹² See Masony, 1987, in Souza Cruz, *ibid.*

discontinuous-area demarcation proposal which would exclude white farms and settlements, most of which originated and grown around mining activities.

In 1995 the State Government created the Municipality of Uiramutã, establishing its center in a former mining agglomeration, in the central-northern part of Raposa-Serra do Sol. The explicit purpose of this act was to increase, institutionalise and legitimate white presence in the area which was undergoing demarcation, in an attempt to hinder the demarcation process and break down the continuous area. The Roraima State Government also promoted actions in justice, against the IL's demarcation as a continuous and single area. The most recent ally of the anti-homologation front is the Brazilian army, which has recently started building a military base at Uiramutã, against the region's indians will.

This battle also implies political pressure of local congressmen on the National Government, as well as media campaigns, against FUNAI, indigenous organisations, their local, national and international supporters. Cases of open threat, intimidation, or violent acts against direct or indirect individual supporters of « the indigenous cause » are not isolated in Roraima's recent history.

Roraima saw its population and economic activity boost with the gold rush in the 1980's, careless of the social and environmental costs that such a process was causing on the native population¹³. Indigenous Land demarcations, such as the Yanomami in 1992, which withdrew 40.000 gold and diamond miners from the rainforest, are held responsible for hindering local development. The « indigenous land question » represents a pervasive political watershed, according to which all actors are classified as allies or enemies by both sides in conflict.

The Raposa-Serra do Sol area is rich of development potentials, over all of which the demarcation-homologation conflict is central. Leaving aside mining potentials, extensively documented by ISA¹⁴, that of eco-tourism is directly linked to the National Park.

Mount Roraima is one of the most prominent landscape attractions in the whole Guyana Shield region. On the border between three countries, Brazil, Venezuela and Guyana, Mount Roraima is currently being exploited in its tourist potential mainly on its Venezuelan side. The Roraima State Government wants to develop tourist offer on the Brazilian side of Mount Roraima, and the National Park is seen as the best framework to do that, as it enables access to federal funding for eco-tourism infrastructure and projects.

On the other side, indians see the National Park and eco-tourism as threats to the IL's homologation.

VI. IBAMA's Management Plan

IBAMA, through a partnership with a local NGO¹⁵, carried out a first preliminary study, including a field trip, realised in October 1999, and organised a 3 day workshop in Boa Vista at the beginning of March 2000, for the finalisation of the Management Plan.

According to Park's maps, two Ingarikó communities (Mapaé-Caramambatai and Manalai) are located within its boundaries. Following the Park's zoning, they should be removed. The remaining six Ingarikó communities, besides others of the Makushi and Patamona ethnic groups, fall within or just outside the 10 km area defined as buffer zone, where activities having a possible impact on the CU's biota must be authorised by IBAMA. Careless of the Indigenous Land's demarcation and homologation process, clearly underestimating indigenous communities within and immediately outside the Park's boundaries, IBAMA involved neither FUNAI, nor CIR or other existing indigenous organisations (APIR, TWM, SODIUR, ARIKON, etc.) in the Management Plan workshop. Only four indians from the Serra do Sol region were

¹³ Besides the well-known devastating impacts of introduced diseases, the ecological and health impacts, associated to gold mining, such as mercury dispersal on local rivers and native fish based diet populations, are still largely unknown, due to lack of scientific studies.

¹⁴ See ISA, *op.cit.*, 1999.

¹⁵ ABES/RR, Brazilian Association of Sanitary and Environmental Engineering, Roraima section.

involved at the last minute, with no previous orientation about the issues being discussed (they learned of the Park's existence during the workshop), and with no clear representation of their communities.

The result is that the Management Plan includes poor information about the indigenous population, their culture and lifestyle and interaction with the region's natural resources and environment. Consequently the Plan's zoning and management rules clash with the local indians' activities and lifestyle, making its implementation difficult and a source of conflicts.

VII. FUNAI's intervention : discussing the Park's proposal in the Ingarikó communities

Worried by rumors about IBAMA's projects in their land, CIR asked IBAMA and FUNAI for explanations. IBAMA refused dialogue, whereas FUNAI participated to CIR's regional assembly. Responding to the indians' preoccupations, FUNAI resolved to organise a field mission in Ingarikó communities, to inform them about the National Park's project, and register their opinion on the matter.

Between 26th August and 4th September 2000, during 8 days' fieldwork, the mission team¹⁶, supported by indigenous guides and interpreters, row-canoeed down the Panari and Cotingo rivers and walked across the whole Serra do Sol region, visiting 5 of the 7 existing Ingarikó villages, holding a meeting in each of them¹⁷, plus a final two days wider meeting in the Serra do Sol village.

The content of the National Park's Management Plan as IBAMA's proposal for the area of Mount Roraima was explained to the indians. With the help of maps of the Raposa-Serra do Sol Indigenous Land, the Park's area and buffer zone location was described, as well as the rules, space and natural resource use destination and restrictions associated to it¹⁸.

After providing these informations, the indians were invited to ask questions about other points to be clarified, and to express their position.

VIII. National Park ? Kaané !¹⁹

The indians' reply was unanimous : *Kaané!* Refusing the Management Plan's rules and proposals, the Ingarikó disagreed with the Park's presence in their land. At the same time, their arguments and discourse provide an overview of existing natural resource management rules, making up their own environmental management system.

All areas in the Park are inhabited or used, following diverse patterns: stable, where families and communities have their homes, or time-discontinuous, linked to economic and subsistence activities based on natural resources. Hunting, fishing, garden planting, extraction of wood and other materials for housing, everyday use objects and craftworks manufacturing, fruit and medical herbs gathering, and so on.

« I am from this place, I go far away to hunt. I don't have animals in a fence like the white man (...). The indian has no animal raising close to him : he needs to go far and hunt to survive. (...) The Park will not let the indians hunt : if we kill a wild pig they will arrest us. (...) I don't want other people's homes in this area. I don't want white men here because they don't accept what we do to survive : gardens, logging, burning, hunting, etc. I don't accept Mount Roraima National Park » (Orsivaldo, Mapae).

« My wife lives far away, we have gardens, cattle gathering points, houses, in various different places. If the white man puts a fence around my garden and I go there thinking to go as I used to, the white

¹⁶ On behalf of FUNAI the mission was conducted by the Regional Administrator, Martinho Alves de Andrade Junior, and the author, contracted as *ad hoc* consultant for 20 days.

¹⁷ See V. Lauriola, « Parque Nacional do Monte Roraima : Kaané », FUNAI, Boa Vista, RR, Setembro de 2000.

¹⁸ Copies of the Management Plan zoning map and relevant parts about zoning rules were distributed to each community.

¹⁹ No ! in Kapon, the language spoken by Ingarikó indians.

man has weapons, he can even kill me, thinking he is the owner. No, I don't want, I don't accept this, because my gardens and hunting areas are far away » (Rosenio, Serra do Sol).

Areas of different uses often overlap in space and time. The forest represents at the same time a space for planting, hunting and gathering, crossed by access ways to natural and cultivated resources, commercial, social and religious trails to visit other indigenous « relatives » of the Akawaio, Patamona, Makushi and Taurepang ethnic groups, living in Brazil, Guyana and Venezuela, or to access sacred places fundamental in Ingarikó culture and mythology.

« I don't accept this proposal. I live here, but my relatives live in Guyana. If the white man closes here (pointing at the Park's intangible area) where will I pass to visit my families ? I don't want the white man to invade our land » (Anícia, Serra do Sol II).

« The sources of the Cotingo and Panarí rivers are two important geographic points for our people. These two points are Mount Roraima and Mount Caburaí, places which are part of our history and culture, and consequently of our survival, as we hunt and fish in these areas. Besides that, Mount Roraima is considered a sacred place for the Karib peoples as a whole, as it is in this region that all our people's mythology was built. (...) In other words, all the knowledge we have accumulated, through our predecessors, was passed on and lived by our people only in this region. We cannot tell the story of other peoples, all we know and learned was in this region. Inversely, no other indigenous group will be able to speak about our experiences lived around Mount Roraima » (Manalai meeting final document).

Fence-free borders do exist between communities and different ethnic groups, and are regulated by a complex system of sharing rules. South of the area the space is shared with the Makushi, east with the Patamona, north with the Akawaio of Guyana, west with the Taurepang of Venezuela.

« I do not accept IBAMA's proposal. I live here but I walk very far to hunt, as far as the Patamona area and in Guyana. Why this ? (showing the Park's demarcation) They put a fence around my area ! I am the owner ! Here is where I go hunting in all places ! If they enclose these areas, where shall I go hunting ? I walk this area across in just one day ! I want a large area because if I don't find game or fish here I must go elsewhere. Sometimes I need I walk down to the area of the Makushi relatives, in São Mateus, to catch big fishes which we don't have here » (Ermilindo, Serra do Sol I).

Through their own rules the Ingarikó have preserved the forest and their environment until now, as the basis of their self-supporting physical, social and cultural survival. Examples of these rules emerge mainly in the Ingarikó women's discourse against the Park's zoning.

« In this forest area I plant my gardens. The whole area is occupied : I plant my garden in various places because planting the garden in just one place ends up turning the forest into a field. I don't want this. I plant my garden in a place and then I change place, this way the forest lives. This is the way we are taking care of her » (Aulida, Manalai).

« This area (pointing on the map the region of the upper Uailan river, intangible area in the Park's zoning) is for our gardens and for the men to go hunting, traveling, celebrating... We already preserve it this way. It's the best area, the region's richest in game because we Ingarikó decided not to build homes, not to live in there. We left this area for the animals to reproduce, for our hunting use. We have our homes all around this area and want nothing to change » (Gelita, Manalai).

The Ingarikó do not like life in the city, they are aware of the problems of urban life and want to avoid them, by preserving their present and future well-being in their lands. The Park threatens to take over the vital space of these indians, who have no other place to live.

« We don't want the white man to take our land. There isn't much land, we are living in a small island, because there are many people, our population is growing, there are relatives in every corner : Taurepang, Makushi, Patamona, Akawaio, and we respect our boundaries. We don't want to look

for our living in any other place. We like our living here, we don't want to live like in the city : here our life is better. Certainly in the city there are many problems, which we don't have here » (Willicia, Manalai).

« We don't want to live like the white man in the city, having to pay for light, water, wood, food, etc. I don't need money to pay for food, light or tap water : I already have what I need and I drink clean, healthy and free water, because my water tank is Mount Roraima » (Elizete, Sauparu).

Shortly, the discussions carried out in the Ingarikó indigenous communities demonstrated that the Park's rules, such as outlined in the Management Plan's zoning, clash directly with the Ingarikós lifestyle and culture preservation, threatening the right to choose their future.

IX. What viable solution ? Indigenous management as a starting point for conservation policies

The information and data gathered with the Ingarikó rise serious doubts about the viability of the Park's implementation. The present situation does not allow optimistic forecasts for conflict resolution, between IBAMA and official nature preservation policies on one side, local indigenous populations and organisations, FUNAI, and indigenous cultural preservation policies on the other. At the local level IBAMA insists in implementing the Park unless the Indigenous Land is homologated. The ecological question will only harshen existing conflicts, unless the development of a true dialogue between different social, political and institutional actors makes a viable planning process for the area possible, putting the indians first.

Indian participation is essential, they will not give up their primary goal, "land", and they select their allies consequently. The homologation of Raposa-Serra do Sol as a continuous and single area being a pre-condition to discuss any further project, their institutional and political allies are clearly identifiable as those who stand for the same goal. On the environmental policy side, IBAMA's local position looks compromised : it will take a long time to gain the indians' trust, before it can hope to implement any project in Mount Roraima. A different actor, with no link with local politicians or with the anti-homologation cause, would stand better chances of negotiating a viable management plan.

The quality of indians' participation is also essential: the very definition of conservation objectives starting from the indians' cultural perspective, social objectives and their actual relationship with nature is the key of any management plan's viability and success. The indians' own conservation perspective can and must be integrated into the plan: depending for culture and lifestyle on their natural environment, the indians have a direct interest in making a sustainable use of it, and in most cases know how to preserve it for their children and grandchildren. An effort is required to understand the complex relationship between the Serra do Sol indians and their environment, their patterns and rules of space and natural resources use. Any plan or project which does not take the human, social and cultural factor as its starting point will not be viable. The experience of IBAMA's Management Plan need not be repeated to prove it.

Sound and viable management practices are part of the indians' culture. The existence of two examples emerge from the indians' discourse about the Park. The first one concerns hunting areas. The area of the upper Uailã river, classified as intangible zone, represents a hunting reserve for the Ingarikó. The very name of the river, which comes from the Ingarikó *wajja*, which means tapir can be translated as « place of the tapir »²⁰, by itself showing the role of that area in the indians' culture. The indians' description also provides elements for understanding their management rules: it is an area where the Ingarikó deliberately chose not to build villages, left it to the game for its life and reproduction, and exploit it through hunting social and cultural rules.

The second one concerns agricultural practices. The Ingarikó show consciousness of the interaction between their slash and burn agriculture and forest preservation. After forest clearing, a garden site is used for 4 to 5 years before being set aside for 7 to 10 years before is is possibly re-used. This is a deliberate

²⁰ See Souza Cruz, *op.cit.*, 2000.

rotation strategy, intended for « preventing the forest to turn into field ». Ingarikó lifestyle and culture depend on the resource richness and diversity the forest offers. Through direct and multiple resource use patterns, the forest represents the indians' investment in « natural capital », a more viable strategy than that of monoculture productivity maximisation. To protect the maintenance and viability of their lifestyle and relation to the forest is to protect the forest itself.

Top-down technical zoning is not only bound to conflict with the indians' patterns of space appropriation, natural resources extraction and use, but it is also likely to fail its very objective, biodiversity conservation. Cases are abundant in showing that an ecosystem can evolve unpredictably once human populations are removed. Two broad scenarios can be outlined. If human pressure is removed effectively, it is difficult to predict how animal and vegetal species population patterns will evolve : biodiversity could decrease. If, on the other hand, as it is often the case, top-down access prohibitions are not enforced successfully and durably, common access is replaced by free access *de facto*, leading to fast environmental degradation. In both cases a socially costly and ecologically ineffective policy.

If instead the normative reference to splitting man and nature is abandoned, and the indians' ecological knowledge is integrated into explicit management rules, an ecologically sound management system can be defined and implemented, maintaining or improving current natural resource use patterns, thus implying zero or negative social cost (i.e. social benefit). A model where indigenous activities and common appropriation rules emerge as a contribution to nature conservation.

X. Conclusion: re-directing global ecological funding towards indigenous peoples and commons

Today, a significant share of the worldwide willingness to pay for global environmental services could be re-directed to support indigenous and other traditional peoples in their direct and indirect contributions to conservation of biodiversity rich and sensitive areas. Programmes such as the PPG7 Indigenous Peoples' Demonstrative Projects (PDPI), or initiatives such as the recent call for proposals on Environmental Management in Indigenous Lands of the National Environment Fund (FNMA) are first steps in that direction. The promotion of socio-environmental and ethno-ecological research could contribute to the emergence of grassroot truly participative management plans for Indigenous Lands. ILs representing much greater areas of natural ecosystems than do all of the types of CUs combined, this represents a crucial issue in the context of Brazilian Amazonia conservation. The design of “green revenue”²¹ schemes, for the conservation services provided by indigenous and other local traditional populations would simultaneously relieve them from several kinds of external pressures to degrade their lifestyle and environment, and could represent the framework of a new sustainable development policy for Amazonia²².

Data on land category (ILs represent more than 20% of land) and forest cover (ILs include more than 50% of standing forest) in Brazilian Amazonia show the relevance and possibly the efficiency of common property in terms of conservation. Getting closer to the ground, ILs show, up to date, a remarkable record in conservation: satellite image analysis clearly shows cases where the recognition of indigenous common property acted as an effective barrier to deforestation. A more extensive analysis on the basis of satellite image detection of deforestation rates could also provide comparative data on the relative efficiency of common versus public or private property.

This does not mean that indigenous peoples can be considered inherently conservationist: cases and/or examples showing opposite trends do exist, as in many cases, in the absence of alternative options, indians react in a similar way of non-indians to the same kind of economic stimuli which produce environmental degradation. However, “the ability of indigenous peoples to defend and maintain their forests gives them

²¹ See Mauro Almeida, « Zoneamento e Populações Tradicionais », paper presented at the Amazon Economic-Ecologic Zoning Methodology Evaluation Seminar, Manaus, 03-05/10/2000.

²² See Philip Fearnside, « Serviços ambientais como estratégia para o desenvolvimento sustentável na Amazônia rural », in C. Cavalcanti (ed.), *Meio Ambiente, Desenvolvimento Sustentável e Políticas Públicas*, Cortez, São Paulo, 1997, pp. 314-344.

an as-yet unremunerated role in providing environmental services. In order to chart their future, they need to see that their conservation role is valuable and is also the source of their support²³.

Getting on the field, the Mount Roraima case study shows the existence of conscious and deliberate rules and strategies adopted by indigenous peoples to use their natural resources sustainably. The field also shows us how an approach can be developed to bring together indigenous peoples' common-based empowerment, cultural and bio-diversity conservation towards a sustainable common future.

To fully acknowledge ILS' common property status, both at the legal-institutional level and on the field, by recognising and adequately enhancing the conservation services provided by indigenous populations, represents a major challenge for policy design and implementation, possibly making Brazilian Amazonia the largest laboratory for commons based conservation worldwide. Such an acknowledgment represents a major political and institutional challenge in the Brazilian national and in the global conservation policy agenda. On one hand the full depth recognition of a commons status of such large areas of Brazilian territory would inevitably foster internal political debate beyond traditional state versus market, public versus private watersheds, as well as beyond a nationalist approach of sovereignty, towards local empowerment-based mechanisms of democracy. On the other hand, it would require a deep reorientation of global conservation priorities and funds, from strict protection to sustainable use conservation strategies, a process which has hardly begun.

²³ See Philip Fearnside, *Conservation Policy in Brazilian Amazonia: Understanding the Dilemmas*, working paper, 2001.

Annex

GLOBAL ENVIRONMENTAL and BIODIVERSITY FUNDING IN BRAZIL

Table A1 : WB-BIRD-KfW (PNMA)

International Funder	Programme / Project Name	Objective(s)	Total Budget (US\$ Million)	International Contribution (US\$ Million)	Duration (years)	Managing Institution
WB/BIRD/KfW	PNMA (National Environment Programme)	Providing long-term technical support to IBAMA staff in setting up a sustainable Protected Areas Management Plan	127.1	79.9	10 (01/91 – 12/00)	MMA/IBAMA
TOTAL			127.1	79.9		

Table A2 : GEF

International Funder	Programme / Project Name	Objective(s)	Total Budget (US\$ Million)	International Contribution (US\$ Million)	Duration (years)	Managing Institution
GEF	Amazonia 2000 (Protected Areas)	Expansion and consolidation of strict protected areas in Amazonia	68.0	30.0	Not available	MMA / IBAMA
GEF	FUNBIO (Brazilian Biodiversity Fund)	Long term project funding consistent with biome level priorities	34.5	20.0	6 ½ (09/96 – 02/03)	FUNBIO (independent private no profit organisation)
GEF	PROBIO (National Biodiversity Project)	a) priorities for conservation strategy b) biodiversity conservation network c) project funding	20.0	10.0	5 ½ (12/96 – 06/02)	MMA
TOTAL			122.5	60.0		

Table A3 : PPG7 First Phase (1996-2000): Total Funding

International Funder	Programme / Project Name	Objective(s)	Total Budget (US\$ Million)	International Contribution (US\$ Million)	Duration (years)	Managing Institution
G7, EU and The Netherlands	PPG7 (Pilot Programme for Tropical Forest Protection in Brazil): all programmes	Rain Forest Trust Fund, Co-financed and bilateral associated programmes/ projects	340	291.1	5 (or more depending on specific program)	Depending on specific programme
TOTAL			340	291.1		

Table A4 : PPG7 First Phase (1996-2000) specific subprogrammes on Environment, Biodiversity and Indigenous Lands/Peoples

International Funder	Programme / Project Name	Objective(s)	Total Budget (US\$ Million)	International Contribution (US\$ Million)	Duration (years)	Managing Institution
PPG7	SPRN (Subprogramme for Natural Resources)	Environmental management capacity building at State and Municipality levels	88.0	76.6	5 (01/96 – 12/00)	MMA
PPG7	Integrated Forest Management in Amazonia's Tropical Forests	Forest management in National Forests and Extractivist Reserves	27.7	26.0	6 (90-96)	IBAMA
PPG7	PD/A (Demonstrative Projects)	Local populations: natural resource management biodiversity protection & lifestyle improvement	22.2 (2)*	19.2 (1.7)**	5 (96-00)	ST-PD/A (Technical Secretariat)
PPG7	PPTAL (Indigenous Lands and Populations Protection)	a) FUNAI staff capacity building to support sustainable use of ecosystems + ecological economic development in Indigenous Lands b) legal recognition and protection of Indigenous Lands	22.3	20.1	8 (03/96 – 02/04)	FUNAI
TOTAL			160.2	141.9		

Notes: * Total PD/A funding to indigenous projects.

** External contribution to PD/A funded indigenous projects (estimate).

Table A5 : PPG7's (second phase) Indigenous Peoples' Demonstrative projects (PDPI)

International Funder	Programme / Project Name	Objective(s)	Total Budget (US\$ Million)	International Contribution (US\$ Million)	Duration (years)	Managing Institution
PPG7 (Second Phase beginning in 2001)	PDPI (Indigenous Peoples Demonstrative Projects)	Support indigenous peoples' activities and strenghtening of indigenous organisations in Brazilian Amazonia	13.5(*)	11(*)	5 (2001-2006)	MMA/SCA
TOTAL			13.5	11		