

# The sustainability challenges of indigenous territories in Brazil's Amazonia

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The overall context of Indigenous peoples in the Brazilian Amazon has changed dramatically since the 1980s. After the adoption of the 1988 constitution, large tracts of Indigenous lands have been recognized, which now cover more than 21% of the Brazilian Amazon. Well conserved for the most part, they play a key role in deterring deforestation and in climate change mitigation, while also undergoing drastic economic and social changes. There are many factors challenging the sustainability of Indigenous territories today, including the deficient enforcement of Indigenous rights. The injunction that Indigenous peoples should protect the environment is complicating the definition of which economic activities they are entitled to develop inside their territories. The focus of this paper is to review the current situation of Indigenous territories in the Brazilian Amazon, providing historical context and pointing out current challenges and the debates surrounding their sustainability.

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## Introduction

The Amazon holds a very important share of the world's biodiversity (more than 20% of all the world's fish, bird species or freshwater resources for instance), is a repository of cultural diversity with more than 375 Indigenous groups still retaining their language and culture, stocks enormous quantity of CO<sub>2</sub> and has a continental and global influence on climate and hydrological cycles [1–4]. Today, due to new legislations and important changes in the attitude towards Indigenous peoples, officially recognized Indigenous territories cover over 21% of the Brazilian Amazon, including some of the most

preserved areas. They thus constitute a very important element in the definition of the sustainability of the whole region with continental and global implications.

This is especially true in Brazil, which holds about two third of the Amazonian rainforest. The process of recognizing Indigenous land rights has been intense since the 1990s, following the 1988 Constitution which granted an exclusive and collective usufruct of all the soil and vegetation resources to Indigenous peoples, while the Federal Union is proprietary of the land itself. Although contested by some, Indigenous territories now account for more than 1.11 million km<sup>2</sup> in the Brazilian Amazon. As they are very effective in inhibiting deforestation [5], they are considered as key areas for carbon sequestration and climate change mitigation [6,7].

As a consequence of these elements, Indigenous peoples in the Brazilian Amazon are today facing new challenges. For most Amazonian Indigenous groups, the political struggle over land rights is no longer the priority,<sup>1</sup> as it has been the case until the early 2000s. Their agenda now include more complex and multifaceted challenges about how to manage their lands in order to meet their contemporary needs while meeting the exigencies expressed by Brazilian society about their contribution to environmental preservation.

This article reviews literature discussing the sustainability of the Indigenous territories of the Brazilian Amazon. To that end, we first review the emergence of Indigenous rights in Brazil, highlighting the importance of understanding historical factors underlying the current situation. We will then show that the relative (in)security of Indigenous territories and the potential vulnerabilities which arise from it are important factors which frame the definition of sustainability for such areas. Last, we will analyze the parameters under which Indigenous people can manage the environmental integrity and the economic development of their lands, showing that there are many constraints put on them, as well as new opportunities linked with the valorization of environmental services. As a conclusion, we will question how an Indigenous reformulation of sustainability may emerge from the current situation.

<sup>1</sup> Even if there are still many land conflicts in the Amazon about Indigenous land rights, especially when isolated groups are concerned.

## The late and conflictual emergence of Indigenous rights in Brazil

The history of Indigenous peoples in Brazil has been filled with genocide, forced displacement and exploitation since the first contacts with the Portuguese [8]. Estimations of the total Indigenous population at that time vary around 5 million people in 1500 [9]. Some estimate a decline around 90% after the first century of colonization. In 1950, anthropologist Darcy Ribeiro estimated the population around 100,000 [10]. Today, it is estimated that over 400,000 Indians live in the Amazon (see below).

Today's geographic distribution of the Indigenous peoples in the Amazon has little to do with what it was before the colonial conquest. Well organized and complex civilizations, which occupied the main rivers of the region and of which we know very little today; some experienced collapse early as is the case of populations inhabiting the Marajó island area and along the main courses of the Amazon, Madeira or Xingu valleys [11\*]. Others were displaced, fleeing before the newcomers and trying to find safety in the remotest parts of the region like the North-western borders or the upper Rio Negro river. But even when they stayed away from white settlements, Indigenous peoples were subject to raids by slave traders (even if Indian slavery was in thesis prohibited) and to attraction by missionaries [12]. At the same time many Indigenous groups also followed endogenous strategies of engagement and had their own goals, which levels of interactions with the colonial conquest varied much from one case to another.

Thus, an important consequence of the colonial conquest in the Amazon, which frames the contemporary situation, was the redistribution of its regional ethnic configuration. Some ethnic groups attempted large scale migrations in order to escape the destructive contact with white peoples and thus now occupy areas very distinct from their original homeland, like the Kayapó, who migrated from the northeastern savannahs to the State of Pará's rainforests, or the Wajãpi, who went from the Xingu River to the northern part of the State of Amapá. Many others simply disappeared. They also experienced an intense process of ethnogenesis [13], with disrupted groups merging into new tribes with renewed identities.

If during the XIX century, Brazil celebrated a fantasied Indianness in order to highlight its difference from its former colonial power, the situation of Indigenous peoples remained critical throughout the century, with brutal destruction and spoliation prevailing [14]. Indigenous occupation of land, at that time, was considered illegitimate and their territories were seized as soon as farmers or planters would need them. Only at the beginning of the XX century, under the influence of Marechal Cândido Rondon, did Brazil settle a protective policy for the Indigenous peoples. Until the 1970s, the main goal was

the "integration" of Indians, which meant the progressive erasure of their distinctive cultural or social features [15]. This was also the view adopted in the National Integration Plan (NIP) launched by the military government in 1970, during which several important infrastructures were constructed (like the Transamazonian highway), exposing previously uncontacted Indigenous groups like the Arara in Pará, the Panará in Mato Grosso and so many others, and inaugurating a new era of invasion and encroachment of traditional Indigenous territories.

In line with the new global attitude towards Indigenous issues emerging since the 1960s, during the 1970s a pro-Indian movement started confronting the NIP adverse impacts on the Indigenous peoples of the Amazon. Its audience widened considerably during the 1980s, when it made a political alliance with the environmental movement [16,17]. As a result, Indigenous peoples were presented as the best protectors of the rainforest during the RIOO-92 conference, at a time when Brazil was under heavy criticism due to intense deforestation in the Amazon. As we will show, this image still plays a critical role in defining what type of development or activities Indigenous peoples may legitimately develop on their lands.

The alliance with environmentalism and the political articulation of the pro-Indian movement were very influential during the preparation of the new Brazilian Constitution adopted in 1988. In this text the definition of Indigenous land rights has been widened in order to encompass not only the areas actually occupied, but also all the space "*necessary for the groups' physical and cultural survival according to their uses, customs and traditions*" (article 231) [18]. The land rights themselves are defined as an exclusive and collective usufruct of all the soil and vegetation resources, while the Federal Union remains proprietary of the land itself (and retains property and exploitation rights of the subsoil). Worth noting, some authors consider that such a definition makes Indigenous territories a type of common property, which may favor their sustainable management [19].

After the Constitution, also because of international financial support by the G7 program to the protection of tropical forests in Brazil [20,21], the recognition of Indigenous territories "skyrocketed" in the Amazon, reaching more than 1,111,000 km<sup>2</sup>, or 21.7% of the region's area [22\*]. Although this figure is already considerable, the process is not over yet. New claims are still emerging from groups which remained invisible during decades and sometimes centuries, but which are today reclaiming their Indigenous identities [23]. On the other hand, some demarcations made in the previous decades are today contested by Indigenous peoples who demand their expansion. This is the case for instance of the Manokí-Irantxe Indigenous territory in Mato Grosso which is currently 45,555 ha in extension but in demand for revision

and expansion up to 250,000 ha by the Indigenous population and the federal Indigenous agency (FUNAI).

### Theory vs practice of Indigenous rights: the relative (in)security of Indigenous territories

Because it still holds very significant portions of unclaimed public lands, which are easier for the state to recognize as Indigenous, the process of Indigenous territories recognition has been more active in the Amazon. Today, Indigenous areas in this region accounts for 98.5% of all Indigenous areas in Brazil although holding only less than 50% of the total Indigenous population in Brazil according to the 2010 national census. Some Indigenous territories in this region are very extensive, like the Yanomami (~96,500 km<sup>2</sup>) or the Kayapo & Xingu Indigenous Park complex (>140,000 km<sup>2</sup>) Indigenous territories, which compare to medium-size European countries in area (Figure 1). The mean size of Indigenous territories in the Amazon is about 2983 km<sup>2</sup> which is a rather important figure.

This success in Indigenous territorial demarcation is all the more remarkable because Indigenous peoples only form a small proportion of the regional population: there are about 433,000 Indigenous persons in the Amazon, or 2% of the overall Amazonian population.<sup>2</sup> Not all of them live in Indigenous territories. About 110,000 Indigenous persons in the Amazon (~25%) live in towns or cities. Contrary to the acculturation theory, this does not necessary imply the loss of all connections to their former cultural universes. Some research pinpoint on the contrary the existence of circulatory migration strategies where spending months and sometimes years in the city is part of the Indigenous life cycle [24–26]. Furthermore, many Indigenous communities today maintain houses in the city in order for their members to access specific resources or services (markets, advanced medicine or education, etc.).

Although it is based on constitutional rights, the security of Indigenous territories under the current political system in Brazil is not absolute. The Brazilian Congress has always opposed large Indigenous territories and its long-standing request is to be granted a veto right on the recognition process.<sup>3</sup> Many politicians also advocate the downsizing of large Indigenous territories, without success until now due to constitutional provisions.<sup>4</sup> But several legal devices, like the informed consultation right,<sup>5</sup> were already overlooked in the case of the iconic Belo Monte dam [27], showing the fragility of Indigenous territories legal protection and environmental conservation when state interests are at stake.

Also, the current government has developed a restrictive view on Indigenous peoples land rights, because the creation of new Indigenous territories is seen as blocking the path for new infrastructure projects, like dams or roads. It proposed that other administrations (like the Ministry of agriculture, which is in general not in favor of Indigenous land rights) should be consulted in the process of analyzing the future Indigenous territories whereas FUNAI has been exclusively in charge. However this decree has yet to be published. On the other hand, the federal government has also acted at times in order to enforce granted rights, such as the case in 2012 when hundreds of encroached families were removed by force from the Xavante territory in central Brazil named Marawaitsede, after three decades of juridical conflict.

From the political point of view, an important change since the late XX century is that the political pressure in favor of Indigenous peoples is today exerted by the Amerindian movement itself and less directly by support non-Indigenous organizations. Amerindian associations have appeared throughout the Amazon, and Indigenous leaders have also emerged [28]. They tend to be well educated, fluent in Portuguese, well aware of how the Brazilian political and juridical systems work [29\*\*] and understand well the international pressure on Brazil's environmental record. They have formed also dense regional networks, like the COIAB, the coordination of the Indigenous peoples of the whole Amazon region [30]. They also maintain ties with international NGOs or with different corporations [31,32] and are expert in counterbalancing their small demographics by important well articulated exposure to the media inside or outside Brazil. For instance they organize high profile symbolical acts in state capitals or in the Brazilian capital Brasília. Today, a national representative commission<sup>6</sup> is to be consulted (at least in theory) when new public policies are launched at state or national level with direct implications for Indigenous rights. Even if this is still controversial, Indigenous peoples are now generally considered as a stakeholder, especially in the Amazon where they control an important part of the region.

However, the debate over Indigenous territories still rages in Brazil 20 years after the adoption of the 1988 Constitution, in almost the same terms today than as in the past, with the pro-farmer lobby of the Congress denouncing that there is “too much land for too few Indians”. As a result neither the new statute for Indigenous peoples and communities<sup>7</sup> neither the new mining code (which should provide guidelines on how subsoil resources

<sup>2</sup> At a national level there are nearly 900,000 Indigenous persons in Brazil, or about 0.4% of the total population.

<sup>3</sup> Proposal of constitutional amendment (PEC) no. 215.

<sup>4</sup> This however, already happened with protected areas which also enjoy constitutional protection.

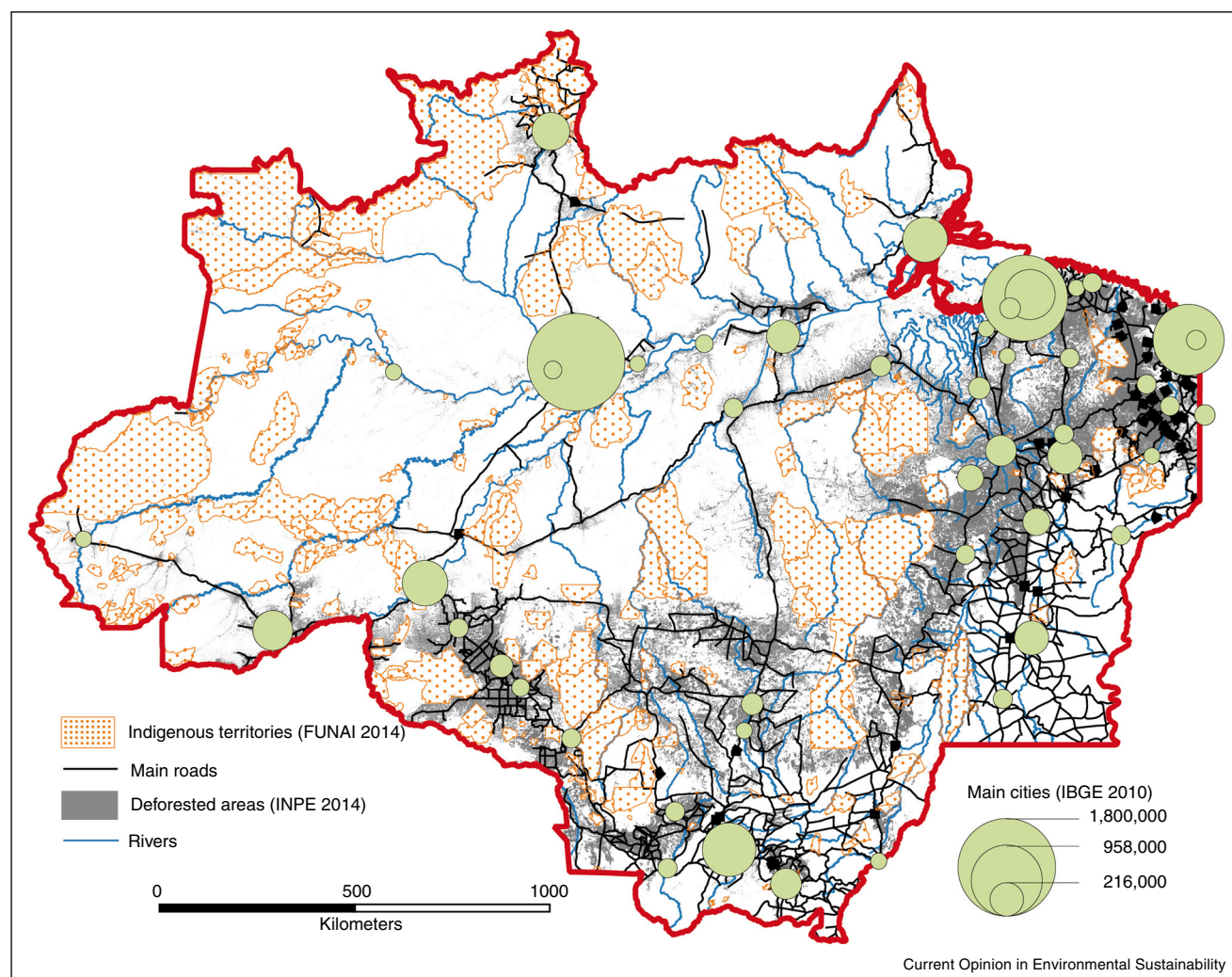
<sup>5</sup> Granted by the ILO 169 convention ratified by Brazil.

<sup>6</sup> National commission for Indigenous Policy – CNPI, which should be transformed into a permanent body if the law project 3571/2008 is approved.

<sup>7</sup> Which should replace the 1973 text, totally contradicted by the current Constitution.



Figure 1



Location of Indigenous territories in the Brazilian Amazon.

may be exploited in the Indigenous territories) have been adopted by the Brazilian Congress despite more than 20 years of talks and negotiations.

Enforcement of the protection of Indigenous territories<sup>8</sup> is a critical issue conditioning the path towards sustainability. Because they hold valuable resources, some of which are depleted in other regions, Indigenous territories are facing strong external pressures. They are regularly invaded by wildcat gold miners, ranchers, loggers, etc. Well known cases are: the Awá or Araribóia Indigenous territories in Maranhão (encroachment by loggers); Arara and Cachoeira do Irii Indigenous territories near the Transamazonian Highway, the Baú Indigenous territory in Pará (encroachment by farmers); the Cinta Larga

territory in Mato Grosso (encroachment by illegal diamond miners), to name just a few. Operations are regularly launched by the federal authorities but their pace is insufficient to curb the invasions. In the Yanomami territory, for instance, despite numerous operations and more than 20 years of struggle, gold panners still continue to operate clandestine airstrips [33]. The consequences of such invasions are serious, not only from the environmental point of view, but also because the invader's presence disseminates diseases which are lethal to Indigenous populations (flu, malaria, tuberculosis, etc.).

Last, even if the Constitution and laws in Brazil make large provision for Indigenous peoples as far as bilingual education, health or protection are concerned, enforcement of these issues is also insufficient. As a result of these flaws, the social situation is in general very difficult

<sup>8</sup> Where access is prohibited in principle to all non-Indigenous people.

inside the Indigenous territories of the Amazon. Health and social indices are among the worst in Brazil: infant mortality rate is much higher than the national, tuberculosis or malaria prevalence are extremely high [34,35], nutrition problems are commons and alcoholism or suicide are widespread. Indigenous peoples must always keep a political pressure on the federal government (for instance by invading regional offices of the health administration) in order to be granted the necessary. Also, the federal administration in charge of Indigenous peoples, the FUNAI, has consistently proved weak and inefficient. As one can imagine, those factors create a situation of continuous emergency in which long term planning of the territories' sustainability is not always a priority.

### Managing environmental integrity and economic development in the Indigenous territories

In a context of accelerated cultural and social changes driven by a wider contact with the Brazilian society and accelerated demographic growth [36,37], the Indigenous peoples of the Amazon face today some kind of double bind which comes directly from the condition under which they have conquered their recognition. On the one hand, they must guarantee the environmental integrity of their lands since the protection of the rainforest was a constant argument in their favor. What was an indirect obligation is becoming a requirement since the federal government now considers Indigenous territories as environmental protection areas<sup>9</sup> and has defined a national policy for their environmental management.<sup>10</sup> On the other hand, they need to find new economic activities in order to access western goods which are now part of their way of life (from basic tools to household goods such as freezers, TV sets and cell phones). Thus, the Indigenous territories of the Amazon today face the challenge of finding their sustainability [38] in a context of change. In this context their "traditional" production systems must be reformulated in order to yield monetary incomes which in many cases have been very peripheral until the recent years.

Hunting is a paradigmatic example of how those changes are taking place and of what the consequences are. It is still a pillar of the subsistence and way of life for many Indigenous groups. In many cases, the sustainability of hunting activities was guaranteed by norms, beliefs, and taboo systems, as well as technological limitations and frequent mobility that maintained low environmental pressure [38]. Today, the wider availability of guns, eventual sales of game on the market and the diminishing influence of old beliefs and worldviews lead towards an

increased impact of Indigenous hunting on the environment [39], with the risk of local extinction of some of the most hunted species. Given this scenario, many groups face the challenge of adapting and aligning existing cultural norms and rules with fast changing conservation policies governing [40]. These changes will represent new ways for Indigenous groups to think about their territories. Likewise, Indigenous groups continue to seek new means of securing income in ways compatible with social conditions and environmental regulations.

Such alternatives are not straightforward. First, the question of how Indigenous peoples may commercialize natural resources from their territories is a difficult one. Selling timber, fish or exploiting alluvial gold, for instance, which are activities permitted according to the Constitution, implies a risky loss of symbolical capital, as the Wajãpi of Amapá or the Tukano of the Alto Rio Negro experienced during the 1990s when they tried to exploit gold in their rivers. Also, such activities will probably be banned with the new environmental management policy for Indigenous territories. Based on ethnomapping and zoning, each territory will have to elaborate a management plan aiming at environmental conservation [41,42].

Another way to gain income from natural resources is to increase the production of handcraft, agricultural or non-timber forest products, like the Baniwa whose baskets are commercialized in furniture stores in São Paulo. But not every village is connected to a potential market and commercialization in fair trade circuits is not easy nor always profitable [43,44]. Productive activities were encouraged by special financing schemes in the 2000s, but with mixed results, either because of the difficult intercultural relationship between Indigenous peoples and non-Indigenous technicians involved in these projects [45] or, more generally, because they implied a capitalist orientation that more often than not conflicts with Indigenous social norms and cosmology (some authors have noted however that these relationships can be different among those influenced by Evangelic missionaries, see [46]), as the frustrating attempts of the Body Shop multinational with the Kayapó clearly showed. Furthermore, agricultural activities may result in land cover change which raises the same environmental and symbolical issues as above. The Parécis, for instance, grow soy bean and earn very good return for it, which allowed for cultural revival in many villages, but this activity has been condemned by outsiders as "non-traditional" [47]. Furthermore, as far as land cover conversion or agricultural practices are concerned, the options for Indigenous peoples will be more limited in the future because of the limits imposed by environmental management plans as mentioned above.

The cultural and environmental conditions of Indigenous territories may create new opportunities for ecotourism

<sup>9</sup> Decree no. 6040 of 02/07/2007.

<sup>10</sup> National Policy of Environmental Management of Indigenous Lands — PNGATI, 06/05/2012 decreto no. 7.747.

activities [48], but as of now, this activity is not allowed by the FUNAI, which is still working on a proposal to regulate this activity. Also, the potential impacts of eco-tourism activities are uncertain [49], and oversimplifying the Indigenous context and inner rivalries may lead to impasses as was the case observed among the Kayapó [50].

Various forms of financial compensation are developing in the region. Some Indigenous groups already charge tolls when roads cross their territory (case of the Parecis in Mato Grosso or the Tenharim in Amazonas, for instance). In other cases, “environmental compensations” are granted when a territory is impacted by roads, mines, transmission lines or dams (as the case of the Waimiri Atroari in Amazonas and the Xikrin in Pará). But they are in general reluctant since those projects also have environmental impacts which may affect dramatically their sustainability. Indigenous peoples of the Xingu thus have continuously opposed the Belo Monte project, even when granted millions in “environmental compensations” for fear that the dam may affect the fish which are their primary source of protein.

Much hope is placed today in the valorization of environmental services provided by Indigenous territories in the Amazon. This would be a logical counterpart to their designation as protected areas and their role in efficiently deterring deforestation in several regions [51,6]. But the process has been slow due to the absence of a well-defined legal framework for Indigenous territories, although this is slowly moving forward [52]. Also, how benefits are to be shared among villages, communities and individuals is a difficult and unresolved issue [53,54<sup>\*</sup>]. If the Suruí project [55] appears as a model, as for now few Indigenous peoples have found substantial financing mechanisms, although many have been approached by the so-called “carbon cow-boys” (as the case of the Mundurucu who were approached by an Irish company interested in buying carbon compensation rights for 30 years, a deal later denounced by FUNAI).

Today, social benefits and a number of local jobs (such as teachers, health assistants, etc.) constitute the major income sources inside many Indigenous territories in the Amazon.<sup>11</sup> This is a mixed situation. If, on the one hand, it allows the access to industrialized goods without important changes to Indigenous production systems, on the other hand it creates a dependency towards public policies. Last, as cash is now more easily available through governmental programs, there is a tendency in some villages to rely increasingly on purchased food than on

local agriculture. These trends may jeopardize Indigenous autonomy and further accelerate a process of nutritional transition as observed in a recent survey of Indigenous populations in Brazil [56<sup>\*</sup>].

### Conclusion: towards Indigenous reformulations of sustainability?

When it comes to territorial rights, the Indigenous peoples of the Amazon are a step ahead of other Indigenous groups of Brazil. Today they are challenged to find sustainable alternatives to manage their territories. Given the global stakes of the environmental preservation of the Amazon, this challenge has local (maintaining the Indigenous territories according to each group’s needs and philosophy) and global (preserving the rainforest in order to mitigate climate change and biodiversity erosion) dimensions.

Defining sustainability in this context is a complex task, especially as most Indigenous groups are experiencing social and cultural change moving them ever farther from the image of hunter-gatherers lost in the rainforest which most people, including Brazilians, have about them. At the same time, the inner perceptions of Indigenous communities about environment are still shaped by their distinct cultural history and cosmology, which are now shaping the way many groups negotiate the relations with outsiders and their expectations [57<sup>\*</sup>].

Until now, most “sustainable” initiatives in Indigenous territories were conducted according to Western definitions of this concept and have yielded mixed results. Moreover, other types of economic activities are also judged as in function of the way sustainability is defined by outsiders. Improving this situation implies new forms of intercultural dialogue and reselecting their own definition of sustainability. It is important to remember that they have been managing tropical rainforests and biodiversity for centuries [58] and are in a position to advice and collaborate with Western science in new ways to do so.

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