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Cooperation of Amazon Countries: A Comparative Analysis of Forest Law Towards a Cooperative Effort for the Conservation and (Sustainable) Development of the Amazon Rainforest

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COOPERATION OF AMAZON COUNTRIES:

A COMPARATIVE ANALYSIS OF FOREST LAW TOWARDS A COOPERATIVE EFFORT FOR THE CONSERVATION AND (SUSTAINABLE) DEVELOPMENT OF THE AMAZON RAINFOREST

By

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"We do not inherit the land from our forefathers;
we borrow it from our children"
A Soux Proverb

To my father,
and to Digo,
who echoes his dreams.

Acknowledgments

"Remember why you started."

As is often common in my life, the decision to come to Pace to pursue an LLM was not entirely my own. It was an opportunity that presented itself, by destiny, one might say, led by the desire to come to New York and pursue a dream, my dream. One of those serendipity moments, such as I love so much. As my father taught me, when a horse appears in front of you, you have to jump and ride it, so I did. I did not think that it would change much of my life, my career, or myself, and thought that everything would be as easy as getting in the program. I was wrong.

My year and a half at Pace was at the same time one of the most gratifying and one of the most painful in my life. Notwithstanding, it changed me completely, and the growing pains are already showing me that it was all for the best. I do not have many answers yet, and I still don't know exactly what awaits me in life, but I discovered one of my passions, and, as cheesy as this may sound, one of my purposes in life: to make my mark and help protect the Amazon rainforest, even if just a small part of it.

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Abstract

The Amazon region contains the world's largest river, the world's biggest tropical forest, and the world's richest biodiversitym and is shared by nine countries (Bolivia, Brazil, Colombia, Ecuador, Guyana, French Guyana, Peru, Suriname and Venezuela), each with its individual approach as to how to protect this environment. However, due to its unique value in the local, national, regional and global context, cooperation is required to manage this ecosystem. This thesis thus evaluates the approaches of environmental protection in the Amazon region at the national, regional, and international levels through the lens of forest protection.

At the international scale the international law on forests and negotiations to create a binding instrument were analyzed. Although there is no single binding document on forests, we analyze how other treaties and conventions can induce protection. At the regional level, we analyze the Treaty for Amazonian Cooperation (ACT), signed by Brazil, Bolivia, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela in 1978, and the Amazon Cooperation Treaty Organization (ACTO), established by the Protocol of Amendment to ACT, signed in 2002 by its signatories, within a context of cooperation within the Amazon region. At the core of this thesis, the development of this organization is studied, along with its practical effects. At the national scale institutional framework of forest management in Bolivia, Brazil, and Ecuador were evaluated as illustrations of how some Amazon countries are addressing the complex issues within the region and how national law related to the international and regional attempts of protection.

By analyzing the cooperation among Amazon countries in different scales overlapped in the Amazon, this study demonstrated that despite the existence of cooperation, forest governance is still incipient and current mechanisms have to evolve to further provide for a true sustainable development.

KEYWORDS: Treaty for Amazon Cooperation. Amazon Cooperation Treaty Organization. Regional Cooperation. Comparative Environmental Law. International Forest Law. Bolivia. Brazil. Ecuador.

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Introduction

The Amazon rainforest, with all of its riches, has been said to be the solution to the world's biggest environmental problem: climate change, and all of the consequences that come with it, such as water shortages and global warming. It has also been said to contain the answer to many of modern day's diseases. On the other hand, the Amazon countries have often been criticized for not taking good enough care of their forests and biodiversity, and the international community questions if they even deserve to own it in the first place. Discussions are often charged, with passionate opinions on both sides. However, no country or person has any answer or solution yet. The Amazon rainforest is less studied than the ocean floor, and there is a lot about it that is still unknown.

The Amazon rainforest is remote, and even among the countries that own it, a distant reality. Sparsely populated, the only nationals that know and cherish the forest itself are the ones that live there. In this sense, it still is somehow seen as an "El Dorado", a rich place that can solve all of our problems, but that is still a mystery. As an example, most Brazilians have no knowledge of the particularities of the Amazon rainforest, although it occupies the majority of Brazil's territory. The first chapter thus introduces the Amazon as a biome and unique ecosystem, with its many riches and peculiarities. Although this thesis follows a legal perspective, some scientific issues are briefly presented, as to give a broad overview of many of the environmental aspects that we attempt to protect: vegetation, biodiversity, water, threatened and endangered species. We thus begin this comparative analysis addressing the question of what the Amazon rainforest is, and why it is important.

Likewise, most Amazon nationals have no knowledge about the 30-year-old Amazon Cooperation Treaty, and the Amazon Cooperation Treaty Organization that emerged from its development. As an international body to induce cooperation between the Amazon countries, a forum of discussion and exchange of ideas, the organization should be more known to the Amazon community, and, in a practical manner, more effective. Although there are some scholarly works, mainly in Brazil, that discuss the Amazon Cooperation Treaty and the Amazon Cooperation Treaty Organization through its history and structure, as this thesis also does, this is the first research that goes deeper,

also looking at its relationship with the national laws of the member countries. Within this context, an explanation regarding the title of this thesis is necessary, given that it is based on the original language used in the Amazon Cooperation Treaty. The term sustainable development has not yet been coined in the 1978, the treaty uses similar terms as harmonious development and balance between economic growth and conservation of the environment. As such, we use the terms conservation and development as the goals of joint cooperation, but within the context of sustainability, which, although inexistent at the time, is what the Amazon Cooperation Treaty developed to.

After the overview of the international organization and an illustration of the projects it has developed, a critical review of its efficiency is presented. We therefore ask whether the treaty and the organization can continue to develop and break the current pattern of inefectivess, inducing a true cooperation of the Amazon countries, through common policies and joint efforts towards protection.

Due to the many gaps in the current law and policies of the treaty and the organization, we then look to international law to inquire whether it can provide some answers by scrutinizing the development of the international law on forests, the documents developed and the discussions provided, as well as other treaties and conventions that may help interpret and enforce current domestic, regional and international law. Although there is no international treaty on the law of forests, there are many international documents that can be of use to the Amazon rainforest, which we therefore analyze.

The true innovation of this thesis, however, is to look at the national law of the Amazon countries, and ask whether their environmental law has the necessary basis and framework to locally implement a more developed and effective Amazon Cooperation Treaty and Amazon Cooperation Treaty Organization. As such, this thesis is an attempt to understand the Amazon rainforest through the perspective of the countries who own it: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela. Due to the restrictions of this specific work, however, we chose to limit the analysis to an illustration of the Environmental Law – and forest law in particular – of three countries: Brazil, Bolivia, and Ecuador. It thus considers the law of forests within each of these countries,

to compare them and draw conclusions on how they are attempting to protect the forest, and how prepared they are for a more cooperative policy.

The analysis of the forest law of each of the Amazon countries illustratively presented follows the same framework. Since each country's history, general characteristics and information, such as current government, economy and demographics has a direct impact on its policy towards the forest, the comparative study starts with those factors. It continues to distinguish between the different Amazons within the main biome. Although the Amazon is one big interrelated ecosystem, it has peculiarities within each country and culture, and, as such, impacts it in different ways. For some countries, the Amazon rainforest has a bigger historical and cultural relevance, thus impacting a larger segment of the population and territory. For others, less. In this sense, the local population might have more or less personal relation with the region, which impacts how and how often politicians within their capitals bring up its importance.

After analyzing the main characteristics of each country, the investigation continues on their government structure, its branches, segments and organizations. This part considers how environmental matters, and forest matters especially, are brought up by the government. Within the Executive Branch, many countries have a special body within its Ministry of Environment to deal with the Amazon rainforest specifically. Within the Judicial Branch, many others are developing environmental courts, which are also getting more specialized and prepared to deal with judicial issues regarding the forest. By analyzing the government structure, it is easier to understand how environmental decisions are made.

The next part explores the law of each country regarding forests and protected areas. Although most countries have several laws that indirectly deal with the Amazon rainforest, such as water, wildlife, endangered species, and biodiversity, the focus of this work is how the countries are protecting the forest itself. This analysis outlines the countries legislative answers to a series of questions: (i) what is the legal status of forests and who owns them; (ii) what are the basic principles in which forest law is based on; (iii) what are the basic responsibilities of the national government regarding the protection of forests; and (iv) if and what type of protected areas are established, both in

public and private lands. The investigation of the law of each country ends with a breakdown of how indigenous groups are recognized and treated, and if and how property laws are conferred upon them. Indigenous rights over their territory is a trend in the majority of the countries analyzed, and represents an important step in achieving environmental protection within the Amazon forest.

The law regarding timber exploitation, concession, and other forest uses, mainly by private parties, communities or business entities, is briefly explained, since they provide exceptions to the general protection of forests. However, it is not the purpose of this work to provide an in-depth view of how the forests are economically explored, but rather how they are protected.

Property rights – or the lack thereof – are usually indicated as one of the main threats to enforcing forest rights. To properly establish the title of a property is still one of the biggest challenges in developing countries. Indigenous people have to fight long battles to have their property rights recognized and enforced; private landowners whose lands are expropriated to create protected areas have to fight long battles to go through the expropriation process and receive their compensation. Many landowners have a poor property title, with many duplicate registries in areas that are not so populated within the Amazon forest. In addition, many Amazon countries are still undergoing land reforms to redistribute lands more equally among the population. Although these issues have an important role in understanding deforestation, they were also not studied in this thesis, primarily because they involve property rights and concepts with different meanings within each country, which are harder to compare, and would take the focus away from the environmental law issues themselves.

The conclusions regarding whether the law is effective in protecting the forest and curbing deforestation is limited to the statistics and current numbers regarding deforestation rates and change patterns. Although many other factors are relevant in analyzing the way countries are addressing the issue, such as government personnel and enforcement policies, it would require field research to study issues that would be much broader than the scope of this thesis. In this sense, the consequences of non-compliance

with the laws set forth by the countries, such as sanctions and legal mechanisms available, were not studied.

In addition, since policies by the Executive Branch usually set forth goals rather than specific legal mechanisms to achieve them, and depend largely on the political purposes of the current government, and since some governments within those countries are still struggling with stability, they were also not analyzed. Finally, there are many infrastructure, energy, oil and gas and mining projects being developed within the Amazon region. These projects have a great potential to change the area, and could introduce the application of ecosystem services. Although these are very interesting, and show how the law is applied – or exempted – in practice, these were also beyond the scope.

The last chapter draws conclusions the similarities and differences among national law within the context of the Amazon Cooperation Treaty. We analyze if the national law itself is sufficient to embrace a more cooperative and effective organization, or if changes are required. We discuss how cooperation may be facilitated, and how the Amazon Cooperation Treaty Organization can serve this purpose. Some suggestions are presented on what could be improved within the Amazon Cooperation Treaty's framework to reach more effective practical purposes. The goal of this work is to provide the basis to a much broader discussion on how the Amazon countries can cooperate and develop joint policies. This is just the first step in this regard. Hopefully, it will boost further discussions and research, to induce the development of more effective mechanisms to achieve a true sustainable development within the region.

"Amazon has become a charged word that evokes strong emotions and stereotypes. Even when referring only to the geographic heart of South America, Amazon is a mysterious word that can denote the world's largest river, the planet's most expansive rainforest, or, to some, an environmental tragedy that is cynically ignored by politicians and developers alike."[1]

Chapter 1: *Amazonia*

1.1. What is the Amazon Rainforest?

The Amazon is a land of black waters and ancient lands[2]. It is a moist broadleaf forest that covers most of the Amazon Basin and 40 percent of South America. It is a 5.5 million km^2 area (2,100,000 square miles), comparable to the size of Australia. The Amazon rainforest is all superlatives. It represents over half of the planet's remaining tropical forests and one sixth of all broadleaf forests[3], and contains the largest and most species-rich region in the world. If it were a country, it would rank ninth largest in size. In addition, it contains the largest river in the world, the Amazon River[4].

The Amazon biome extends far beyond a local context and knows no political boundaries, spreading over nine countries. It ranges from the Andes to the Atlantic and is entirely ecologically connected[5]. Brazil has the largest portion, with 60.1 percent of the forest. It is followed by Peru, with 11.8 percent, Colombia, Bolivia, and Venezuela, with 7.3, 6.6 and 5.9 percent respectively. Guyana has 3.2 percent, Suriname, 2.1, Ecuador, 1.8, and finally French Guiana, with 1.2 percent[6].

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[1] MICHAEL GOUDLING ET. AL., THE SMITHSONIAN ATLAS OF THE AMAZON, 10 (2010).
[2] *Id*., at 21.
[3] *Id*., at 19.
[4] It was argued that the Nile was longer than the Amazon River, leading to a long-lasting controversy. However, scientists attested in 2007 that the Amazon River was indeed the longest one. John Roach, *Amazon Longer Than Nile River, Scientists Say*, NATIONAL GEOGRAPHIC (June 18, 2007) http://news.nationalgeographic.com/news/2007/06/070619-amazon-river.html. *See* also MICHAEL GOUDLING ET. AL., *supra* note 1, at 23
[5] MICHAEL GOUDLING ET. AL., *supra* note 1, at 11.
[6] WWF, HOW WE PLAN TO MAKE IT HAPPEN, *available at* http://awsassets.panda.org/downloads/living_amazon_initiative_brochure.pdf (last visited July 24, 2013). Although the French Guiana does have part of the Amazon forest biome, it does not share the Amazon Basin. For this reason, it usually does not participate in collaborative efforts, and is not a part of the ACT and the ACTO. As such, this country will not be addressed in this thesis.

Rainforests, or megathermal moist forests (MTMF) occur in tropical regions with an abundance of rainfall, less than a four months long dry season, and frost-free areas, meaning, with a monthly temperature minimum of 18°C (64.4°F), and a small annual variation in temperature[7]. In the present climate regime, these conditions are only met within the tropics. The Amazon rainforest is situated right at the Equator, which provides for yearlong high temperatures and constant rain, with a six months long rainy season. The climate is therefore warm and humid, with a greater difference between day and night temperatures than in between seasons.

1.2. History of the Amazon Rainforest

The Amazon rainforest has existed for at least 55 million years[8]. The first settlements date to 11,200 years ago, at the Caverna da Pedra Pintada, where cave paintings were found[9]. The forest is named after the Amazon River, which is its life force. The river was discovered in 1500 by Vicente Yañez Pinzon, a Spanish explorer, who originally called it "*Río Santa María de la Mar Dulce*", the "freshwater sea"[10]. When he first saw the brown dark water of the Amazon River, he believed he was at the Ganges River, in India. For that reason, he started called the native people Indians[11]. A folk legend explains that the name "Amazonia" derives from the female warriors who fought Francisco de Orellana, a Spanish adventurer, in 1540[12]. However, the real source of the name is the term "*amassona*", designated to the bore that destroyed boats at spring tides in the lower portion of the river[13].

The first decades of European colonization was marked by violence and conquest of the civilizations in the area. They conquered the Inca Empire, in one of the most

[7] Mark Maslin et. al., *New views on an old forest: assessing the longevity, resilience and future of the Amazon rainforest*, 30, TRANS. INST. BR. GEOGR., 477 (2005), *available at* http://earth.leeds.ac.uk/ebi/publications/Maslin_2005.pdf.
[8] *Id*.
[9] A.C. Roosevelt et. al., *Paleoindian Cave Dwellers in the Amazon: The Peopling of the Americas*, 272, SCIENCE, 373 (1996), *available at* http://www.sciencemag.org/content/272/5260/373.short.
[10] ISAAC TAYLOR, NAMES AND THEIR HISTORIES: A HANDBOOK OF HISTORICAL GEOGRAPHY AND TOPOGRAPHICAL NOMENCLATURE 44-45 (2nd ed., 1898), *available at* http://books.google.com/books?id=vqgYAAAAIAAJ&pg=PA44&hl=en#v=onepage&q&f=false.
[11] JOHN HAMMING, ÁRVORE DE RIOS: A HISTÓRIA DA AMAZÔNIA 15 (2011).
[12] ISAAC TAYLOR, *supra* note 10.
[13] *Id.*. JOHN HAMMING, *supra* note 11, at 43.

extraordinary downfalls in history led by Francisco Pizarro[14]. Afterwards, they began a search for spices and gold, looking for the legend of the El Dorado. Most of the expeditions were decimated, since the Europeans did not learn how to survive in the forest[15].

Orellana was one of the first Europeans to successfully travel the Amazon River and described a complex civilization. Since no later traveler confirmed what he saw, his descriptions were for long thought to have been fictitious. Yet recent excavations showed that approximately 5,5 million people[16] populated the area in the 16th century, thus proving that Orellana's descriptions were real. The discoveries attested that large civilizations have inhabited the Amazon. Anthropologists developed a theory that changed the traditional romantic concept of the forest as an untouched environment, a *terra nulis*, or land of nobody. Recent discoveries showed that Indians and hunters have in fact altered and improved the forest through a soil management technique known as "*terra preta*", a soil of miracular fertility that shaped the region[17].

1.3. The Amazon River Basin

The Amazon rainforest is the drainage basin for the Amazon River and its 15,000 tributaries and sub-tributaries. The basin has 7 million km^2 (2,722,00 square miles), almost the same size of the United States[18]. The Amazon River is the largest river system in the world, as well as the one that carries the greater volume of water[19]. It begins in the Peruvian Andes, and goes east over the northern half of South America until it meets the Atlantic Ocean in Brazil. Two of its transnational tributaries – the Madeira and the Negro – are also among the ten largest rivers in the world[20].

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[14] JOHN HAMMING, *supra* note 11, at 27.
[15] *Id*., at 28-35.
[16] John Hamming also calculates that between 4 and 5 million people inhabited the region, of which 3 million were in Brazil. They were divided in groups of approximately 400 people. *See* JOHN HAMMING, *supra* note 11, at 24.
[17] UNNATURAL HISTORIES: AMAZON (BBC 2012), *available at* http://www.youtube.com/watch?v=HUXLim2HIvU and http://www.bbc.co.uk/programmes/b0122njp.
[18] SMITHSONIAN NATIONAL ZOOLOGICAL PARK, AMAZON BASIN FACTS, http://nationalzoo.si.edu/animals/amazonia/facts/basinfacts.cfm (last visited Aug. 4, 2013).
[19] MICHAEL GOUDLING ET. AL., *supra* note 1, at 10.
[20] *Id*.

Its landscape contains 4,195 miles of winding rivers[21], representing 16 percent of the world's river water flows. It is the source of over two thirds of the world's freshwater[22]. The Amazon River is responsible for approximately 20 percent of all the freshwater discharge into the oceans and drains 38 percent of South America. 57 million gallons of water flow into the Atlantic per second, diluting its salinity for more than 100 miles offshore. In two hours the Amazon River would supply New York City's 7.5 million residents for a year[23]. The Amazon River Basin also hosts the longest wave in the world, due to the big roar known locally as "*pororoca*"[24]. These factors place the Amazon as one of the world's main water resources.

There are two main sources of water. First, the Amazon receives 60 to 120 inches of rain every year[25]. Annual totals of 470 inches have been recorded in some regions, since the amount of rain often varies within the Amazon. 60 percent of that amount returns to the atmosphere through the foliage of trees, thus contributing to its humidity through a process called evatranspiration[26]. The other 40 percent returns to the Atlantic through the network of rivers[27]. The Amazon ranks among the three largest contributors of fluvial sediments to the oceans[28]. Secondly, most of the river's water derives from the annual snowmelt in the Peruvian Andes and the Lake Lauricocha[29]. Between June and October, the water level rises 30 to 45 feet, flooding millions of acres of rainforest up to 12 miles inland.

[21] Investigators have tried to precisely determine the length of the Amazon River, and a 5% error margin is usually expected. *Id.*, at 23, 24.
[22] WWF, *Amazon*, http://worldwildlife.org/places/amazon (last visited July 27, 2013).
[23] MICHAEL GOUDLING ET. AL., *supra* note 1, at 28.
[24] *Id*., at 30.
[25] *Id*., at 27.
[26] *Id*., at 25.
[27] *Id.*
[28] Yellow River (China) and Ganges-Brahmaputra (India) rank first and second, respectively. *Id*., at 31.
[29] SMITHSONIAN NATIONAL ZOOLOGICAL PARK, *supra* note 18.

1.4. Amazon Vegetation

Tropical rainforests have an unparalleled biodiversity within vegetation types[30]. From above, the Amazon looks like a continuous layer of large crowns. But instead of a uniform green area, it is a mosaic of landscapes and ecosystems, each within its unique biodiversity. There are several different Amazons, endemic areas separated like islands through rivers[31]. In this sense, the rainforest is divided between four layers or communities, each with unique ecosystems: the emergent layer, the canopy, the understory, and the forest floor. The emergent layer can reach up to 200 feet, and is exposed to fluctuation of temperature, wind, and rainfall. The main layer is the canopy, filtering out about 80 percent of the sunlight. The understory only gets about two to five percent of the available sunlight, with plants adapting to the shadows, and grow up to twelve feet high. The forest floor is the lowest layer with almost no plants due to the presence of only two percent of sunlight. The floor is littered with decomposing vegetation and organisms that are broken down into usable nutrients[32].

Due to these characteristics, the Amazon soil is very poor in nutrients[33]. The forest floor is a porous mass that prevents minerals and nutrients from being washed away and lost. Nine tenths of the forest's energy is stored in the leaves and tissues of the trees themselves. There is a maximum seize of resources, guaranteeing the balance of the ecosystem. A layer of decomposed leafs, dead animals, and branches is converted into nutrients. The ecosystem is therefore highly interconnected, and renews itself to continue the cycle, thus maintaining the balance to form the most efficient ecosystem in nature.

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[30] WWF, TERRESTRIAL ECOREGIONS, TROPICAL AND SUBTROPICAL MOIST BROADLEAF FORESTS, http://worldwildlife.org/biomes/tropical-and-subtropical-moist-broadleaf-forests (last visited July 28, 2013).
[31] *Id.*.
[32] *See* GREEN TRACKS, *Amazon Rainforest*, http://www.greentracks.com/amazon-rainforest.html (last visited Jul. 15, 2013); C.M. Shorter, *Layers of the Rainforest*, TIGER HOMES, http://www.tigerhomes.org/animal/layers-rainforest.cfm (last visited Jul. 15, 2013); ACTION FOR OUR PLANET, *Amazon Rainforest*, http://www.actionforourplanet.com/#/amazon-rainforest/4558761309 (last visited Jul. 15, 2013); BLUE PLANET BIOMES, *Amazon Rainforest*, http://www.blueplanetbiomes.org/amazon.htm (last visited Jul. 15, 2013).
[33] MICHAEL GOUDLING ET. AL., *supra* note 1, at 43.

1.5. Amazon Biodiversity

As a result of its peculiar singularities, the Amazon is the world's most diverse terrestrial ecoregion[34]. One in ten known species in the world lives there, constituting the world's largest collection of living plants and animal species. Nonetheless, the canopy of Amazonia is less studied than the ocean floor. Therefore, there is still a lot to learn in the region, and scientists believe that it may contain half of the world's species.

In this sense, the number of species found within the Amazon often varies[35]. Over 500 mammals, 4,000 species of butterflies, 428 amphibians, 175 lizards, and 370 reptiles species are estimated to live in Amazonia. About 30 million insect types can be found there, 3,000 bees just in the Brazilian part of the forest. One in every five birds in the world, as well as one in every 5 fishes originates from the region. This totals 1,294 birds and 3,000 fishes, more than in the entire Atlantic Ocean. Each week, a new species of fish is discovered. In addition, about 40,000 plant species were already registered, including 1,000 different trees. In a single tree, 95 species of ants were found, 10 less than in the entire German territory. The role and amount of species are still unknown, making it difficult for science to understand the ecosystem[36].

However, a lot of these species are threatened. Most of them are rare, even endemic restricted to specific regions or ecological conditions, with low concentrations. In this sense, clearing a single part of the forest has the potential to extinct a large number of species. Scientists attest that virtually all of the Earth's ecosystems have been dramatically transformed through human action, being the Amazon basin one of the primary examples[37].

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[34] WWF, *supra* note 30.
[35] *See* WWF, *supra* note 30; WWF, *Amazon Alive! A decade of discovery 1999-2009* (2010), *available at* http://wwf.panda.org/?196057/Amazing-Discoveries-in-the-Amazon-New-Species-Found-Every-Three-Days-Over-Last-Decade.
[36] Leandro Beguoci, *O tesouro escondido na selva*, VEJA (Sep. 2009) http://veja.abril.com.br/especiais/amazonia/tesouro-escondido-na-selva-p-072.html.
[37] WORLD RESOURCES INSTITUTE, Millenium Ecosystem Assessment, *Ecosystems and Human Well-Being: Biodiversity*, Synthesis, 42 (2005), available at http://www.unep.org/maweb/documents/document.354.aspx.pdf.

In addition to the biodiversity of species, scientists are discovering solutions for many modern diseases in the region. Indigenous groups have used different plants for centuries as cures and potions for their health and survival. The Amazon is also the source of the majority of the developed world's diet. The knowledge about of medicinal species of plants and organisms is, nonetheless, also deeply threatened. An estimated 10 million Indians were living in Amazonia about five hundred years ago. Today there are less than 200,000 left, with more than 90 tribes destroyed since the 1900's. With their dizimation, their ancient knowledge also dies. This loss is unrecovered.

1.6. Human Settlements in Amazonia

The Amazon Basin is one of the most sparsely populated areas on Earth, with less than four people per km^2 (0.4 square mile)[38]. However, the Amazon is still inhabited by 420 different indigenous and tribal peoples that speak 86 languages and 650 dialects. At least 60 communities live in complete isolation. Its 38.7 million inhabitants account for 11 percent of the population of the eight Amazon countries[39].

La Paz, in Bolivia, is the most populated city in the Amazon drainage, with 1.5 million people. Manaus is the largest city in the lowlands, with a population of 1.4 million. Santa Cruz de la Sierra (Bolivia) and Pucallpa (Peru) are growing cities[40]. The most heavy colonized areas are the Chapare region (Bolivia), Puerto Maldonado (Peru), Urubamba (Peru), Oriente (Ecuador) and the upper Putumayo and Caquetá Valleys (Colombia)[41].

1.7. Deforestation in the Amazon Rainforest

Deforestation is the biggest threat in the Amazon rainforest. More than 20 percent of the original area has already been destroyed. Deforestation is mainly caused by clearing pasture for cattle, which responds for 91 percent of the land deforested since

[38] MICHAEL GOUDLING ET. AL., *supra* note 1, at 53.
[39] ACTO, Cooperation Opportunities in the Amazon Region http://otca.info/portal/admin/_upload/publicacoes/770-Pasta.OTCA-completo.ingles.pdf (last visited Feb. 4, 2014).
[40] MICHAEL GOUDLING ET. AL., *supra* note 1, at 53.
[41] *Id.*, at 55.

1970. Human settlements is another big cause, due to a population of 30 million depending on its resources and services, including more than 220 indigenous groups[42]. Although medium and large ranchers possess 89 percent of the Amazon's private land, small farmers are responsible for 30 percent of deforestation. Development of the land, agriculture, especially for soybeans, along with destructive farming practices and logging are additional threats. Increased prices of soybeans, beef, and timber in the international market have a direct effect in the increased deforestation rates. Illegal logging is still a concern due to poorly enforced laws and inefficient extraction processes. Mining operations and poorly planned infrastructure, mainly industrial power plants and transportation, also play a part in clearing lands.

The original Amazon rainforest biome in Brazil of 4,100,000 km^2 was reduced to 3,403,000 km^2 by 2005, representing a loss of 17.1 percent. The destruction is such that areas cleared of forests are visible to the naked eye from outer space. As a consequence, experts estimate that 130 species of plants, animals, and insects are lost every day. Additionally, tropical forests converted to pasture increase the presence of an earthworm (Pontoscolex corethrurus) that dramatically reduces soil macroporosity and gas exchange capacity, increasing soil methane emissions and thus contributing to climate change[43]. At the current rate of destruction, it is estimated that 30 percent of forests will be lost by 2030[44].

1.8. Climate Change and the Amazon Rainforest

Climate change also increases deforestation, due to the boost of forest fires and droughts. The Amazon contains 90 to 140 billion metric tons of stored carbon – the release of even a portion of which would accelerate global warming significantly. It is estimated that 22,000 tons of CO_2 are emitted per km^2 cut and burned. The entire Amazon, if completely cleared, would emit a total of 366 billion tons of CO_2, equaling 10

[42] WWF, FOR A LIVING AMAZON!, *available at* http://wwf.panda.org/what_we_do/where_we_work/amazon/ (last visited Jul. 16, 2013).
[43] WORLD RESOURCES INSTITUTE, *supra* note 37.
[44] WWF, *supra* note 42.

years of global emissions[45]. Changes in land use can therefore induce a trend of drought and heat. Nonetheless, it also has the capacity to absorb 1 to 2 billion tons of CO_2 per year. Since 20 percent of the earth's oxygen is produced by the Amazon rainforest, it has been continuously described as the "Lungs of the Planet".

In fact, climate change itself poses a threat to the Amazon rainforests. First, forests are more prone to fires. Although 58 percent of the Amazon rainforest is currently too humid to induce fire activity, land use change and climate change might increase its vulnerability, reducing this rate to 37 percent by 2050[46].

Climate change may also impact the world's major rivers. The Amazon Basin accounts for one-fifth of the world's total river flow, with a flow speed of five meters per second. The longest underground river in the world, the Hamza, also flows from the Andean foothills to the Atlantic coast, in the same direction as the Amazon River. With global warming, the glaciers of South America, particularly in the tropical Andes, have been melting. As a consequence, springtime river flow can be reduced, posing a threat to the Amazon River basin[47]. Changes on the river flow can substantially affect the region, alter global climate and increase the risk of biodiversity loss[48]. However, since annual precipitation can increase, the annual medium river flow might remain unchanged[49].

In this sense, the future can lead either way. The region can help solve some of the world's biggest environmental threats and diseases, or boost them. It depends on our priorities, as well as on the innovative solutions to face some of the challenges ahead.

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[45] WWF, *supra* note 10.
[46] IPCC, WORKING GROUP I CONTRIBUTION TO THE IPCC FIFTH ASSESSMENT REPORT, *Climate Change 2013: The physical science basis*, Final Draft Underlying Scientific-Technical Assessment (7 Jun. 2013), 6-66, available at http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf.
[47] *Id*., at 12-87.
[48] WWF, *Climate change impacts in the Amazon: Review of scientific literature*, available at http://wwf.fi/mediabank/1064.pdf (last visited Oct. 2, 2013).
[49] IPCC, *supra* note 23, at 12-87.

Chapter 2: Cooperation between Amazon countries

> "A busca de um novo significado para as relações de vizinhança na Amazônia já está impondo o redirecionamento da ação pública, com reflexos na geopolítica. Esta última caminha, contemporaneamente, no sentido da integração, em diversas escalas, das fronteiras políticas, como forma de reafirmar, também em diferentes escalas, a presença nacional dentro de um espaço mundial crescentemente perpassado por diversas forças unificadoras e, ao mesmo tempo, excludentes." [50]

2.1. History of Cooperation in the Amazon region

2.1.1. Early forms of cooperation: From Bilateral Agreements to Regional Integration[51]

The cooperation between Amazon countries started while those territories were still under colonial power[52]. However, these were not focused on environmental aspects, but rather mainly on border issues. This trend followed in the subsequent years, especially in the 19th century, with several bilateral friendship treaties between those countries to establish borders[53] or allow free navigation. For example, in 1851, Brazil and

[50] BERTHA BECKER, AMAZÔNIA, GEOPOLÍTICA NA VIRADA DO III MILÊNIO, 65 (2007). Free translation: The search for a new meaning to good neighborly relations in the Amazon is already imposing redirection of public action, with reflections on geopolitics. The latter contemporaneously directs towards integration in different levels, of political boundaries, in order to reaffirm also at different scales, national [Brazilian] presence within a world space increasingly permeated by several unifying and at the same time, exclusive forces.

[51] Global treaties, as opposed to regional or bilateral agreements, are not included within this section, but rather on Chapter 3. This is not meant to be a complete description of all of the cooperation mechanisms negotiated by the Amazon countries, bur rather to illustrate how cooperation developed through some examples.

[52] For example, the papal bull Inter Caetera of 1493, redefined in 1494, also known as Tordesilhas Treaty, which divided the "New World" between Portugal and Spain. *See* BEATRIZ GARCIA, THE AMAZON FROM AN INTERNATIONAL LAW PERSPECTIVE, 51 (2011).

[53] For example, the 1851 treaty between Brazil and Peru, the 1853 treaty between Brazil and New Granada (present day Colombia), the 1859 treaty between Venezuela and Brazil, and the 1867 treaty between Bolivia and Brazil. *See* David França Ribeiro de Carvalho, O Tratado de Cooperação Amazônica no Contexto dos Processos de Integração Regional: da unidade fragmentada à unidade integrada 65 (2009) (unpublished Masters thesis, PUC-MG), available at www.biblioteca.pucminas.br/teses/Direito_CarvalhoDF_1.pdf.

Peru signed a Fluvial Convention that ensured free navigation in the Amazonas River to neighboring riverine States[54].

The first attempt for a regional integration among the Amazon region arose in 1864, through a proposal by a Brazilian lawyer and politician that encompassed law, economy, trade, navigation, limits, and external policy for the countries in the Amazon Basin[55]. Although the project was not successful, it was the birthplace of the theory for the Amazon Pact[56].

Some cooperative mechanisms also emerged addressing the relationship between bordering countries within the framework of the Organization of American States (OAS). For example, the declaration concerning the industrial and agricultural use of international rivers limited the exclusive right of exploitation through the obligation not to injure the equal rights of a neighboring State[57]. As such, it urged countries to avoid damages to other riparian States and seek prior consent before altering the course of international rivers. Although the primary goal was agricultural rather than environmental, this agreement addressed the transboundary effects of water issues of local projects on bordering States, and represented the first cooperative mechanism within this context.

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[54] Treaty between Brazil and Peru of Oct. 23, 1851, expired Oct. 23, 1858; treaty of Jul. 26, 1851, came to an end on Dec. 9, 1863. *See* John Bassett Moore & Francis Vharton, A Digest of International Law, vol. 1, §131, 645 (1906).
[55] Proposal by José Antônio Pimenta Bueno, *see* David França Ribeiro de Carvalho, *supra* note 53, at 65.
[56] Daniel de Campos Antiquera, A Amazônia e a política externa brasileira: análise do Tratado de Cooperação Amazônica (TCA) e sua transformação em organização internacional (1978-2002), 25 (unpublished Masters thesis, UNICAMP/IFCH, 2006).
[57] Resolution LXXII (1933) *in* Pan American Union, Seventh International Conference of American States, Plenary Sessions, Minutes and antecedents, Montevideo, 114. (Dec. 24, 1933), available at http://www.fao.org/docrep/005/w9549e/w9549e06.htm.

In 1948 UNESCO attempted to create the International Institute of the Hylean Amazon as part of the Hylean Amazon Project[58]. The institute would provide for scientific research and education as a response to the lack of knowledge within the region[59]. The idea was based on the premise that only an international body jointly maintained by the countries of the Amazon region and those which, although not a part of it, are specially interested in its natural and social sciences problems, would be capable of ensuring lasting results[60]. As such, the institute would not be limited to the Amazon states, since it welcomed additional members unrestrictedly. Although the idea was approved by all present States[61], only Ecuador and France ratified it. The Brazilian government refused to ratify the proposal since non-Amazon parties would have the same rights as Amazon ones. Therefore, it was the main advocate for other countries to back out of the proposal, since it had concerns of "internationalization" of the Amazon rainforest and other threats to its sovereignty over the region. Without the approval of the Amazon countries, the proposal did not go forward.

In addition to the broader agreements mentioned, several bilateral agreements induced cooperation in the region[62], for example, the 1976 Treaty of Friendship, Cooperation, and Trade between Brazil and Suriname[63] and the 1977 Friendship and

[58] International Hylean Amazon Institute, suggestion presented to the Executive Board by Paulo E. de Berredo Carneiro (Nov. 8, 1947) available at http://unesdoc.unesco.org/images/0012/001267/126738eb.pdf.
[59] *See* Yearbook of the United Nations, III: UNESCO, Hylean Amazon Project, 707-708, available at http://unyearbook.un.org/1946-47YUN/1946-47_P2_CH3.pdf.
[60] UNESCO, General Information on the Conference for the Establishment of the International Institute of the Hylean Amazon, IIHA/1, Nat. Sci/42, 7 (February 12, 1948). *See* BEATRIZ GARCIA, *supra* note 52, at 69.
[61] Bolivia, Brazil, Colombia, Ecuador, France, Italy, the Netherlands, Peru, and Venezuela.
[62] For a detailed description of the delimitation of boundaries and the history of regional cooperation in the Amazon, *see* BEATRIZ GARCIA, *supra* note 52, at 51.
[63] Brazilian Ministry of Foreign Affairs, Divisão de Atos Internacionais, *Coleção de Atos Internationais*, vol. 875, Brasília, 1978. Cited in BEATRIZ GARCIA, *supra* note 52, at 66.

Cooperation Treaty between Brazil and Venezuela[64]. These agreements generally specified cooperation in areas such as cultural exchange, dissemination of language and culture, technical and scientific cooperation by joint scientific research, training, and regular exchange information. While they were not specifically related to the environment, they were indirectly so, since they induced environmental protection within its framework.

Following the trend started by the 1972 United Nations Conference on the Human Environment[65], the Amazon States started to adopt bilateral agreements with the primary goal of protecting the environment[66]. For example, the 1976 agreement on the conservation of fauna and flora in the Amazonian territories between Brazil and Peru designated local bodies among both countries to regularly exchange information on directives and programs related to the conservation and development of wildlife and plant species in Amazon territories[67]. It intended to create nurser1ies in boundary areas to protect species of fauna and flora of scientific and economic interest, and to establish biological reserves between both countries[68]. It also prohibited hunting and other activities that affected threatened species. This was indeed the first cooperation agreement that previewed the creation of binational protected areas as a path to ensure

[64] Brazilian Ministry of Foreign Affairs, Divisão de Atos Internacionais, *Coleção de Atos Internationais*, vol. 941, Brasília, 1978. Cited in BEATRIZ GARCIA, *supra* note 52, at 66.
[65] 1972 Declaration of the United Nations Conference on the Human Environment, Stockholm Declaration (June 16, 1972), U.N. Doc. A/Conf. 48/14/Rev. 1 (1973); 11 ILM 1416 (1972).
[66] *See* BEATRIZ GARCIA, *supra* note 52, at 67.
[67] Brazil, Federal Decree No. 78802, (Nov. 23, 1976), which implemented the Legislative Decree No. 39 (May 17, 1976).
[68] *Id*., art. 6.

sustainability of the shared ecosystem[69]. Nonetheless, there is no record of shared protection areas established within the context of this agreement.

It is also important to mention a trend that started in the 1960s in the Amazon region for an economic integration and tariffs agreement. During that period, the ALALC[70] and CEPAL[71] were created with the intention to develop a free commerce zone. Brazil was not included in these undertakings, and for several reasons they were not successful. In 1969, the Andean Community (CAN) was created. It established a common market for the Andean countries, and was successful at the beginning. Again, Brazil was not included in the regional cooperation, and the idea for an Amazon Pact arose to address this issue[72].

2.1.2. The Amazon Cooperation Treaty

In the late 1970s, the Amazon countries started negotiations to create an "Amazon Club" to enhance regional cooperation and protect the region against external interference. Negotiations arose in the context of military dictatorships and authoritarian regimes among several of the potential members, with high concerns, especially within the Brazilian government, about the broad global interest in the region. The idea also arose as a reaction to the Andean Pact, using the Amazon as a factor for integration[73].

[69] *Id*., art. 3, c.
[70] Associação Latino-Americana de Livre Comércio (ALALC), later substituted by Associación Latinoamericana de Integración (ALADI), see ALADI, http://www.aladi.org (last visited Apr. 15, 2014).
[71] Comisión Económica para América Latina y el Caribe, *see* CEPAL, http://www.eclac.cl (last visited Apr. 15, 2014).
[72] Vinicius Modolo Teixeira and Rita de Cássia Martins de Souza Anselmo, *Integração e Conflitos na Região Amazônica in* REVISTA DE GEOPOLÍTICA, PONTA GROSSA – PR, vol. 2, No. 1, 60 (Jan./Jun. 2011).
[73] *Id*.

Acknowledging that the region was vast and underdeveloped, the idea was based on a spirit of defense, aimed at ensuring national sovereignty through a protective barrier. One of the strongest arguments for the proposal was to incorporate the territory within the national economies of member countries. Without exception, the Amazon region represents the lowest rates of social development and the least occupied areas. In this sense, the proposal was both for an international integration with the possibility to reduce regional disparities and a national integration[74]. The plan was to create a regional cooperative scheme to increase relations between countries, creating international bodies based on a system of unanimous votes to ensure equality among members[75]. The Brazilian government started to refer to the region as Pan-Amazônia, thus defining a multinational area as opposed to the previous natural correlation with the Amazon rainforest restricted within the territory of Brazil.

In this regard, the Brazilian Ministry of Foreign Affairs presented a first draft of the Amazon Pact in 1976. The draft was largely based on the Prata Basin Treaty, signed in 1969 between Argentina, Bolivia, Brazil, Paraguay and Uruguay to ensure navigation, rational use of water, among other purposes[76].

Venezuela was at first suspicious of the cooperation mechanisms, and several meetings were held with the Brazilian government to discuss its concerns. Primarily, the country was worried about the impact of the treaty on border disputes due to the long

[74] *Id*., at 61.
[75] *See* BEATRIZ GARCIA, *supra* note 52, at 75-83.
[76] Tratado da Bacia da Prata, signed on April 23, 1969, published in the Diário Oficial da União, 7371-7372 (Aug. 20, 1970).

border disputes in the region[77]. Since other countries shared those concerns, they made sure that no provision could be used as an argument in any posterior border dispute[78]. Another suspicion arose regarding the potential effect of the treaty on the Andean Pact, which integrated the economy of the five Andean countries[79]. However, Brazil made clear that the Amazon Pact would not establish a common market or address tariffs within the region. The treaty's character was legal and geographical rather than economic and commercial, with the groups being complementary rather than concurrent. The argument, however, is only partially true, since the initiatives have the same goal of pursuing better development condition through integration[80].

Three meetings followed in November 1977, March 1978 and June 1978 to address those and other issues. The original draft by Brazil was thus fundamentally changed to incorporate the countries' concerns[81]. For example, one of the most important provisions suggested by Brazil addressed the use of shared rivers. Any use of watersheds that bordered two countries should require a previous bilateral agreement. Rivers that ran through different States would be subject to a reasonable and extraordinary use rule, meaning that each riverine State could use it according to its needs, but only so that it did not damage other States to which the river flew[82]. The article would thus maintain the limitation of the OAS agreement mentioned, as well as other rules of International Law.

[77] Venezuela had border disputes with Guyana and Colombia, Guyana with Suriname, Ecuador and Peru, and Bolivia's issues with access to the ocean.
[78] Fernanda Mello Santana, Cooperação Internacional e Gestão Transfronteiriça da Água na Amazônia 90-91 (unpublished Masters Thesis, Universidade de São Paulo, 2009).
[79] Initially Bolivia, Colombia, Ecuador, Peru, Chile.
[80] Vinicius Modolo Teixeira et. al., *supra* note 72, at 61.
[81] Fernanda Mello Santana, *supra* note 78, at 93. For a historical analysis of the negotiations *see* David França Ribeiro de Carvalho, *supra* note 53, at 70-80.
[82] First draft of the Amazon Cooperation Treaty, art. V.

The language was entirely reproduced from the Prata Basin Treaty[83]. However, other States rejected it. Due to the removal of this provision – which had a more coercive flair, one of the few within it –, there is still no direction within the ACT's framework as to how to address transboundary water issues, or any other.

After the countries reached a final decision on the language of the treaty, the ACT was adopted in Brasilia, Brazil on July 3, 1978[84]. It took all countries two years to ratify the agreement. The ACT finally entered into force on August 2, 1980, following the required 30 days after Venezuela, the last country to ratify it, deposited its ratification in Brasília, Brazil[85].

2.1.3. First period of cooperation within the ACT's framework

The treaty recognized the transboundary status of the Amazon and creates incentives for economic and ecologic development of the region. However, during the first period of cooperation, concerns were primarily focused on ensuring national sovereignty of the member countries. Within a context of political and economic crisis among countries, this period was marked by general inactivity [86].

2.1.4. Second period of cooperation within the ACT's framework

However, a Meeting of the Foreign Ministers organized in Ecuador in 1989 led to the Declaration of Quito[87], which redirected the focus of the ACT to the destruction of

[83] For a complete analysis of the draft and the rejected provisions *see* David França Ribeiro de Carvalho, *supra* note 53, at 77-78.
[84] Treaty for Amazonian Cooperation (Amazon Cooperation Treaty - ACT), 17 ILM, 1045 (July 3, 1978). Brazil, Federal Decree No. 85050 (Aug. 18, 1980).
[85] ACT, *supra* note 84, art. XXVIII.
[86] Fernanda Mello Santana, *supra* note 78, at 91.
[87] ACT, Declaración de San Francisco de Quito (Mar. 1989).

the environment and the violations of human rights of indigenous communities. This led to the second period of cooperation, with the creation of UNAMAZ[88], an association of Amazon universities, to exchange scientific and technological information in the Amazon region. While countries were undergoing a process of reestablishing democracy, members sought alternatives to further influence the global agenda on environment and sustainable development matters. As a result, an action plan was developed focused on five areas of cooperation, including management of natural resources. In this period Special Commissions started to be established, and incentives to bilateral and multilateral projects were created.

The 1992 United Nations Conference on Environmental and Human Development[89] was an opportunity for the Amazon countries to show unity through ACT and positively impact the international community. For the first time, a joint coordinated position by the countries was presented, starting a new trend for regional coordination.

It is important to note that Mercosur[90] was formalized during that period as an economic bloc for South America. Although this was an important aspect to restrict the ACT to an environmental focus, it also meant that ACT was no longer the most important integration project in the region, and for Brazil especially, since the country now had a leading role in two regional integration projects[91].

[88] UNAMAZ (Association of Amazonian Universities) is a multilateral cooperation agency with educational and scientific goals, achieved through the cooperation of universities and research institutions in Amazon countries.
[89] United Nations Conference on Environment and Development (1992), held in Rio de Janeiro, Brazil, between 3-14 June 1992, hereby "1992 Rio Conference".
[90] MERCADO COMÚN DEL SUR, www.mercosur.int.
[91] Vinicius Modolo Teixeira et. al., *supra* note 72, at 61.

2.1.4. Third period of cooperation within the ACT's framework

The third development phase of development of the ACT was based on the main goals to further develop the cooperation between Amazon countries and strengthen the institution. As such the Amendment Protocol was signed during that period.

2.1.4.1.Amendment Protocol to the Amazon Cooperation Treaty

The Amendment Protocol to the Amazon Cooperation Treaty [92] created the Amazon Cooperation Treaty Organization (ACTO)[93]. The Protocol took into account the advisability of institutionally improve and strengthen the cooperation process which began under the ACT[94]. To ensure its power to enter into agreements with Contracting Parties, non-member states and international organizations, the ACTO was created with corporate body status[95].

The ACTO was built as an international organization within three acting spheres: political-diplomatic, strategic, and technical. In this sense, it functions to ensure political and diplomatic coordination both regionally and globally, and to ensure periodical meetings of high-level representatives to address the problems within the Amazon region. It also functions in the strategic sphere in the sense that it is a forum for these countries to think about the Amazon Basin and rainforest as a whole, and, as such, make decisions regarding its social, economic and sustainable development. Finally, it functions in the

[92] Protocol of Amendment for the Creation of the Organization of the Amazon Cooperation Treaty (ACT Amendment Protocol), agreed on Dec. 14, 1998. Legislative Decree 1999 (Set. 25, 2002).
[93] ACT Amendment Protocol, *supra* note 92, I.
[94] ACT Amendment Protocol, *supra* note 92, Preamble.
[95] ACT Amendment Protocol, *supra* note 92, I.

technical sphere as it induces research and analysis to indeed understand the problems in order to form a proper basis to technologically address the regional issues.

In summary, the ACTO is a forum for cooperation, exchange of knowledge and joint protection to strengthen, deepen and broaden the dialogue between Amazon countries, in order to continue to preserve and fully protect their territories, facilitating the rapprochement among their peoples, and promoting the harmonious, participatory and sustainable development[96].

2.1.4.2. Headquarters' Agreement

After the contracting parties agreed to launch the Permanent Secretariat[97], Brazil signed an Agreement with ACTO to institute its headquarters in Brasília[98]. Brazil therefore provided for the office space, as well as computers and other required material to properly establish the Secretariat[99]. At this time, countries also agreed to start paying an annual amount to fund the organization, thus fully proving their political will to develop the institution.

2.1.4.3. ACTO 2004-2012 Strategic Plan

The ACTO 2004-2012 Strategic Plan[100], released in October 2004, describes the goals of the Permanent Secretariat from 2004 to 2012 for various projects to promote sustainable development and to protect the Amazon Basin. The Strategic Plan thus guided the ACTO's activities for that period, and established joint cooperation areas and

[96] ACTO, *supra* note 39, at 1.
[97] V MMFA, Resolution V MRE-TCA/1 (Lima, 4-5 Dec. 1995).
[98] Acuerdo de Sede entre el Gobierno de la República Federative del Brasil y la Organización del Tratado de Cooperación Amazónica, (Dec. 13, 2002) [Headquarter's Agreement].
[99] Headquarter's Agreement, Annex A.
[100] Approved through RES, VIII MMFA, held in Manaus, Brazil, on Sep. 2004.

initiatives, enabling cooperation initiatives with non-reimbursable technical and financial assistance from partner governments and international organizations[101]. The Plan established joint areas and initiatives for cooperation[102]. ACTO has developed goals for each of the following sectors: water, forests/soils and protected natural areas, biological diversity, bio-technology and biotrade, territory ordering, human settlements and indigenous affairs, social infrastructure, health and education; and transportation, electric power and communication infrastructure.

2.1.5. Fourth period of cooperation within the ACT's framework

In 2009, the Heads of State of Member Countries agreed to relauch the ACTO with a new and modern role as a forum for cooperation, exchange, knowledge and joint projects to face new international and complex challenges[103]. Consequently, ACTO started a process of institutional review, revisiting its internal rules and developing new projects through a new Strategic Agenda[104].

2.1.5.1. 2009 New Amazonian Strategic Cooperation Agenda

As a result of the 2009 Manaus Declaration of the Heads of States, the Member Countries, instructed the MMFA to prepare a new strategic agenda for ACTO with projects for the short, medium and long terms. This mandate took into account the transformations in the national and regional realities of the Member Countries, as well as

[101] ACTO, Amazonian Strategic Cooperation Agenda, 11 (Nov. 2010).
[102] ACTO, *supra* note 39, at 2.
[103] Declaración de los Jefes de Estado sobre la OTCA, Manaus, Brazil (Nov. 26, 2009).
[104] http://www.otca.info/portal/admin/_upload/publicacoes/589-BOLETIN_2_INGLES.pdf

regional actions to support the national initiatives in order to strengthen cooperation and build unity while respecting diversity and preserving the Amazonian common heritage[105].

As a consequence, the new Amazonian Strategic Cooperation Agenda with an 8-year implementation horizon was approved[106]. Based on two crosscutting axes, (i) conservation and sustainable use of renewable natural resources; and (ii) sustainable development, the roles and action guidelines of the Permanent Secretariat, the ACTO's agenda and projects were reformulated[107]. Thematically, the plan integrated areas such as forests, water resources, endangered species, protected areas, indigenous affairs, regional development, climate change and energy[108]. In addition, the Amazonian Strategic Cooperation Agenda intended to identify actions to reduce and monitor deforestation (including preserving biodiversity); strengthen the institutional and political mechanisms available to indigenous peoples; protect the Amazon's water resources; promote food security; coordinate environmental surveillance (especially in frontier areas); further develop ecotourism; promote a scientific and technological agenda including traditional knowledge for the region; have the ACTO's Permanent Secretariat participate in international negotiations on issues such as climate change, biodiversity, and forests; and hold ministerial meetings in different relevant sectors. The Agenda broadened the role of the Permanent Secretariat, including mandates to facilitate dialogue, coordinate policies and seek consensus among parties, and pursue financial cooperation sources[109]. In addition, it established action guidelines in which to underpin its work, such as

[105] ACTO, *supra* note 39, at 2.
[106] ACTO, Amazonian Strategic Cooperation Agenda (Nov. 2010). RES/X MRE-OTCA/5, approved in the X MMFA, held in Peru, Lima, on Nov. 30, 2010.
[107] *Id*., at 13.
[108] ACTO, *supra* note 39, at 3.
[109] ACTO, Amazonian Strategic Cooperation Agenda , 21 (Nov. 2010). *See* Chapter XXX.

permanently consult member countries and stakeholders, promote transparent communications, and disseminate annual reports[110].

2.2. The Amazon Cooperation Treaty Explained

2.2.1. Initial Considerations on the Amazon Cooperation Treaty

The ACT is an international treaty[111], classified as an umbrella agreement[112]. As such, it is limited to establishing a legal basis for regional cooperation, but requires the further subscription of specific agreements and understandings for its full implementation[113]. Indeed, the treaty provides for general cooperation efforts, flexible enough to be further adapted to the present and future needs of the parties as the organization develops. Consequently, the ACT contains a general obligation for parties to undertake additional operational agreements and understandings, as well as pertinent legal instruments to attain to the treaty's goals[114]. Signatories are indeed encouraged to negotiate specific obligations as their needs progress. Hence, the development of the treaty's framework was foreseen, leading to its later amendment as well as agreements, either bilateral or multilateral. As such, its implementation and structure is left to protocols and annexes. Due to this structure, the treaty is narrow and presents limited obligations to parties.

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[110] *Id*.
[111] Vienna Convention on the Law of Treaties, UN Treaty Series, vol. 1155, 331 (Jan. 27, 1980), art. 2, 1 (a): treaty means an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation.
[112] For a discussion on whether it is an umbrella agreement, a protocol of intentions, or an integration agreement, and the different positions of scholars, *see* David França Ribeiro de Carvalho, *supra* note 53, at 85-88.
[113] Luis Barrera, and Guido Soares, The impact of international law on the protection of the Amazon region and further development of enviromental law in Brazil, 201 *in Amazonia and Siberia: legal aspects of the preservation of the environment and development in the last open spaces* (Nantinus Nijhoff, org., 1993).
[114] ACT, *supra* note 84, art. I.

2.2.2. Ratification

A treaty enters into force after ratification, a unilateral way to express the consent to be binded by it[115]. The treaty required Member States to sign the the treaty, therefore manifesting their general consent[116]. The Executive Branch usually has the power to sign international treaties, therefore the Member Countries fulfilled the requirement through bodies within its structure. Brazil is the ACT's depository[117], and the ratification instruments were deposited with its Ministry of Foreign Relations until the ACTO was created[118]. As expressly established in the ACT, the treaty entered into force 30 days after the last country ratified it[119]. Venezuela was the last country to ratify the treaty, in July 1980. Therefore, the treaty entered into force in October 1980[120].

2.2.3. Member Countries and Treaty's Domain of Validity

Although treaties are generally applied in the entire territory of its member parties[121], this is not the case with the ACT. In exceptional occasions and due to technical reasons, the treaty's domain of validity can be restricted[122]. As one of those exceptions, the ACT is strictly applied within the respective Amazonian territory of its member countries[123]. Since the Amazonian territory is not always clearly defined by the country's government, this might present a challenge[124].

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[115] Vienna Convention, art. 10.
[116] ACT, *supra* note 84, art. XXVIII. *See* Vienna Convention, art. 10.
[117] ACT, *supra* note 84, art. XVIII.
[118] David França Ribeiro de Carvalho, *supra* note 53, at 202.
[119] ACT, *supra* note 84, art. XXVIII.
[120] David França Ribeiro de Carvalho, *supra* note 53, at 202.
[121] Vienna Convention, art. XXIX.
[122] David França Ribeiro de Carvalho, *supra* note 53, at 202.
[123] ACT, *supra* note 84, art. I.
[124] Brazil is an exception, since it legally defines the "Legal Amazon", *see* Chapter 4.2.

The treaty therefore limited enforcement to the parties' territories in the Amazon Basin as well as in any of its territories, which, by virtue of its geographic, ecologic or economic characteristics is closely connected with that Basin[125]. Since it expands to connected countries outside the basin itself, Suriname and Guyana were included in the treaty[126]. Suriname and Guyana do not share the Amazon Basin do share but the biome of the Amazon rainforest.

As such, the ACT members can be classified according to three different groups: (i) riverine countries by the Amazon River itself, which include Peru, Brazil, and Colombia (although only by a margin); (ii) riverine countries by tributaries of the Amazon River, which include Bolivia, Ecuador, and Venezuela; and (iii) countries that are not Amazonian from a hydrological perspective, but are located on the zone of influence of the Amazon Basin, which include Guyana and Suriname[127].

French Guyana shares the Amazon Basin, according to the hydrological aspect, and would theoretically be considered within the second category. Notwithstanding, it was diplomatically excluded from the treaty due its status as an overseas department of France, and its consequential dependence from Europe[128]. It can be thus inferred that the political aspect was given more weight than the environmental aspect in deciding which countries to include as member parties. None of the contracting parties wanted to negotiate with a colonial power, therefore the countries agreed by consensus on the issue[129]. French Guyana has, however, been granted an observer status at the meetings

[125] ACT, *supra* note 84, art. II.
[126] BEATRIZ GARCIA, *supra* note 52, at 86.
[127] David França Ribeiro de Carvalho, *supra* note 53, at 75; 109.
[128] BEATRIZ GARCIA, *supra* note 52, at 86.
[129] Luis Barrera, and Guido Soares, *supra* note 113, BARRERA, at 212.

since 2004, due its common interests in the region[130]. As such, the country can attend meetings and share its perspective on issues, although it has no voting power. Even if French Guyana's status as a French colonial department changes, it could only become a member country through an amendment to the treaty, since it is a closed treaty, which forbids further adhesions[131].

Table 1, *infra*, comparatively highlights the size of the Amazon Basin and the size of the Amazon rainforest in each country according to three criteria, (i) the size of the Amazon Basin or the Amazon rainforest in the country, (ii) what this area represents within their domestic territories, and (iii) what it represents to the Amazon Basin or the Amazon rainforest as a whole.

Table 1: Amazonian territory among ACTO members[132]

Country	National Basin Area (km^2)	% of national basin over total national area	% of national basin over total basin area	National Rainforest Area (km^2)	% of national rainforest over total national area	% of national rainforest over total basin area
Bolivia	724,000	65.9%	11.8%	567,303	51.6%	9.3%
Brazil	3,869,953	45.4%	63.3%	4,196,943	49.3%	68.6%
Colombia	345,293	30.2%	5.6%	452,572	39.6%	7.4%
Ecuador	146,688	51.7%	2.4%	76,761	27.1%	1.3%
Guyana	12,224	5.7%	0.2%	214,960	100.0%	3.5%
Peru	967,176	75.3%	15.8%	782,786	60.9%	12.8%
Venezuela	53,000	5.8%	0.9%	391,296	42.7%	6.4%
Suriname	--	--	--	142,800	100.0%	2.3%
Total	**6,118,334**	**N/A**	**100%**	**6,825,421**	**N/A**	**112%**

By looking at the size of the national basin compared to the size of the Amazon Basin as a whole, we can set up four different groups of influence: (i) countries with a

[130] ACT, *supra* note 84, art. XXVII.
[131] David França Ribeiro de Carvalho, *supra* note 53, at 142.
[132] UNEP, ACTO and CIUP, Geo Amazonia: Environmental Outlook in Amazonia 41 (2009).

large basin area, which only includes Brazil; (ii) countries with a medium basin area, which includes Bolivia and Venezuela, both with more than 10 percent over the total basin area; (iii) countries with a small basin area, including Colombia, Ecuador and Venezuela; and (iv) countries with an insignificant basin area, almost nonexistent (and, for this reason, generally not considered to have an Amazon Basin area at all), which include Guyana and Suriname.

However, Bolivia and Peru, for example, countries included within the medium influence category, both have around 75 percent of their national territory composed by the Amazon Basin. In this sense, they are the most "Amazonian" countries through a hydrological perspective. Brazil is close, with almost 60 percent of its national territory composed by the Amazon Basin. With less than half of it, but also representing large areas, are Colombia and Ecuador, countries with a small influence in the basin as a whole. Lastly, Venezuela, Guyana and Suriname have less than five percent of their national territory as Amazonian through this perspective, which corresponds to their influence in the entire basin.

Given these disparities in some of the countries, it is important to look at both aspects to understand how the Amazon impacts each country in social, economic, legal, and political aspects, among others. Bolivia is the most interesting case since almost the entire country is in the Amazon Basin. As such, Amazon issues are at the core each decision taken by the government, in both a more protective, as well as a more developmental way, since this limitation may not completely hinder development. These issues will be specifically analyzed when looking at each country separately.

2.2.4. Adhesion

Whenever previously authorized by the treaty and agreed upon by the current members, other States can become parties to the ACT through a posterior adhesion to it. The ACT however, is a closed treaty, and, as such, does not allow the posterior adhesion of non-original Member States to it[133]. However, there is an inherent contradiction within the language of the treaty, since it also presents certain openness to other States that due to its geographical, ecological or economical characteristics are considered strictly attached to the Amazon Basin[134]. To include other States – French Guyana, for example, if it became an independent country –, the ACT would have to be amended[135].

2.2.5. Duration

The ACT has an unlimited duration, being therefore a permanent treaty of successive effects, and its execution is prolonged over an indefinite set of time[136].

2.2.6. Dissolution and Termination

The decision to renounce the ACT must be announced by the departing Member State to the other Member States at least ninety days prior to formal delivery of the instrument of denunciation to Brazil[137]. The treaty will no longer be binding on the Member State denouncing it one year after the delivery of the denunciation instrument to Brazil[138].

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[133] ACT, *supra* note 84, art. XXVII.
[134] ACT, *supra* note 84, art. II.
[135] As per Vienna Convention, art. 39.
[136] ACT, *supra* note 84, art. XXVII.
[137] ACT, *supra* note 84, art. XXVIII, §2.
[138] *Id*.

2.2.7. ACT's Main Goals

When analyzing the ACT, it is important to keep in mind the context in which it arose. During the 1970s, the member countries, especially Brazil, had the purpose to integrate their hugely underdeveloped territories into their economies through cooperation [139]. Their Amazonian territories were under-developed and remote, so promoting development was a way to ensure sovereignty, protect borders, and economically and socially develop the country. As such, it addressed the fear of Andean countries of Brazilian hegemony in the region, and of Brazil or of international occupation by non-Amazon countries[140].

Within this context, the treaty was designed to foster the sustainable development[141] of the Amazon River. The Member States agreed to undertake joint actions and efforts to promote the harmonious development of their respective Amazonian territories in a way that these could produce equitable and mutually beneficial results, preserve the environment, conserve and rationally use their natural resources. It was thus an instrument to help parties incorporate the Amazonian territory within their economies, through larger participation of communities, increased infrastructure, and environmental protection.

The treaty has thus three main goals: (i) to ensure each country's autonomy in developing the region, (ii) to promote rational use of natural resources, and (iii) to

[139] ACT, *supra* note 84, Preamble.
[140] David França Ribeiro de Carvalho, *supra* note 53, at 81-82.
[141] Although the term did not exist at the time, the treaty uses terms such as "harmonic development", "environmental preservation", "conservation", and "rational use of natural resources". *See* Ernesto Roessing Neto, *Brasil, Bolívia, o Tratado de Cooperação Amazônica e as Hidrelétricas do Rio Madeira*, REVISTA DA FACULDADE DE DIREITO DA UFMG NO. 51, 83 (Jul – Dez 2007), available at http://www.direito.ufmg.br/revista/index.php/revista/article/viewFile/51/48.

strengthen the exchange of information regarding development of respective territories through cooperation[142]. The first goal was thus development rather than environmental protection. As such, it was not a conservation agreement *per se*, but rather a cooperation mechanism of a noneconomic nature, directed at exchanging information and experience to foster development[143]. Nonetheless, it had an environmental base at its core.

However, during its 35 years of existence, the treaty developed, and its goals shifted to more preservationist efforts. As such, the vision in the 2009 Strategic Plan is to "achieve sustainable development in the Amazon region reconciling use, protection and conservation of its resources, with equitable conditions that ensure integral sustainable development, effective presence of the State in its different levels of Government and Amazonian populations that fully exercise their rights and obligations in the framework of the national laws in force and international agreements"[144].

In addition to maintaining sovereignty, ACTO's current strategic objectives are to promote strategic sustainable development and sustainable livelihoods, facilitate and foster actions to preserve, protect, conserve and sustainably use the forest, biodiversity and water resources of the Amazon, promote management of Amazonian resources in a context of respect and harmony with nature and the environment; promote and disseminate the Amazonian cultures, and foster respect and protection of ancestral and current knowledge and wisdom; promote coordination of plans and programs of Member

[142] *Id*., at 78.
[143] BEATRIZ GARCIA, *supra* note 52, at 85.
[144] ACTO, *supra* note 39, at 5. ACTO, Amazonian Strategic Cooperation Agenda 15 (Nov. 2010).

Countries for the development of Amazonian populations, paying particular attention to vulnerable groups, indigenous peoples, and other tribal communities[145].

In this sense, it is interesting to observe how the focus shifted from developing the territory and ensuring sovereignty to a broader array of issues. Although forests and biodiversity were not even mentioned in the original language of the ACT, it is one of the primary goals of its current agenda. As a more recent development, indigenous groups and its culture are also increasingly taking up a bigger role in ACTO's actions. In this sense, although the ACT is not an environmental agreement *per se*, it became one through the decisions and actions of its bodies.

2.2.8. ACT's Guiding Principles

The treaty is based on four main principles[146], which form the basis of the relationship between the countries within its framework. These principles were set forth in the treaty's preamble.

The main pillar is the countries' sovereignty, which is exercised without restrictions, except from those from International Law[147]. This principle has two aspects: the national sovereignty[148] and the sovereignty over natural resources[149]. The first aspect relates to the right to develop their respective Amazonian territories, and the general prohibition of ACT's policies interfering with national projects and undertakings. The second aspect ensures the exclusive right to the use of natural resources within the

[145] *Id*.
[146] Scholars disagree on how many and which principles were established in the ACT. *See* David França Ribeiro de Carvalho, *supra* note 53, at 92-96.
[147] ACT, *supra* note 84, art. IV.
[148] ACT, *supra* note 84, Preamble; art. XVI.
[149] ACT, *supra* note 84, Preamble; art. IV. 2004 Declaration of Manaus, §3.

region[150]. This principle protects the parties against threats of internationalization of the Amazon, reinsuring their right to develop and occupy the region through cooperation[151]. It thus states that sovereignty cannot be undermined in any case.

On the other hand, the sovereign right shall be employed with due respect to the environment through a sovereign responsibility with respect to the protection of the Amazon[152]. There is an inherent duty to preserve the Amazon's ecosystem, with a commitment to its preservation, conservation and rational use of natural resources[153]. Sustainable development is therefore a path to achieving overall development within Amazonian territories, through a balance between economic growth and environmental conservation and an equitable distribution of the benefits of development[154]. Additionally, it is a path to ensure the sovereign right over the region.

In addition, the treaty and its subsequent organization shall be based on the principle of absolute equality among its members[155]. Through a system of unanimous vote within the institutional bodies, each country has the same weight within the organization, and any type of hegemony of one State over the others is prohibited[156]. The equality shall be maintained regardless of each country's share within the basin or the rainforest, and regardless of their financial contribution to the ACTO's structure.

Finally, the relationship between member countries, as well as within the Amazonian territory itself shall be based on the principle of cooperation on specific

[150] Later consolidated by the 1972 Stockholm Declaration, *supra* note 65, Principle 21 and 1992 Rio Declaration, *supra* note 196, Principle 2.
[151] David França Ribeiro de Carvalho, *supra* note 53, at 92-96.
[152] 2004 Declaration of Manaus, §2.
[153] ACT, *supra* note 84, art. I.
[154] ACT, *supra* note 84, Preamble.
[155] ACT, *supra* note 84, art. XXV.
[156] ACT, *supra* note 84, art. XXV.

common matters in order to benefit the region as a whole, as well as the countries individually[157]. Cooperation is based on the premise that the Amazon Basin is indivisible, and shall be jointly and commonly developed between the riverine countries.

ACTO's current vision for the future, which is the basis for its current actions and pursuits, is to be "an Organization that is internationally recognized within the Member Countries and in the international environment as a reference in regional cooperation, discussions and positions on topics of the international agenda related to the Amazon, and sharing experiences, guided by the principles of full sovereignty, respect and harmony with nature, integral sustainable development and reducing asymmetries between the nations of the region"[158].

In this sense, elementary principles upon which the ACT was based has also developed to a broader spectrum, expressly including sustainable development and harmony with nature. It also includes within the sustainable development principle the intent to reduce inequalities among countries – social and economic. However, the principle of full sovereignty still comes first, guiding – and limiting – ACTO's actions completely.

2.2.9. Reservation and Treaty Interpretation

Reservation[159] by any country is prohibited by the treaty[160], meaning that they must accept all provisions within the treaty, or none at all. Accordingly, no interpretative

[157] ACT, *supra* note 84, Preamble.
[158] ACTO, *supra* note 39, at 5. ACTO, Amazonian Strategic Cooperation Agenda, 15 (Nov. 2010).
[159] Vienna Convention, art. 2 (d) "'reservation"' means a unilateral statement, however phrased or named, made by a State, when signing, ratifying, accepting, approving or acceding to a treaty, whereby it purports to exclude or to modify the legal effect of certain provisions of the treaty in their application to that State.
[160] ACT, *supra* note 84, art. XXVI.

declaration is accepted[161]. However, the treaty is interpreted in light of the principles set forth in the Vienna Convention[162], such as the principle of good faith and the principles set forth in the ACT's preamble itself, as well as its development in its more than 30 years of existence[163].

2.2.10. Member countries' rights

As a consequence of the sovereignty principle, member countries have the exclusive right to fully use natural resources within their territories[164]. This right is based on the premise that countries have specific needs according to their economy, which shall not be hindered due to environmental protection. The treaty also ensured a general right to navigation within the Amazon Basin[165], based on reciprocity among States. At the time the treaty was drafted this was one of the primary goals. This right, however, is not absolute, since it is subject to regulation within national territory. In addition, as a corollary of the equality principle, countries have the right to be equality treated, regardless of the percentage of their Amazonian territory or their financial contributions to the ACTO, as well as the right to an equal vote within the organization.

Finally, the veto right is a consequence of the unanimous voting system. All decisions adopted by the MMFA, the CCA, and the Special Commissions require unanimous vote by all member countries[166]. As such, the ACT implicitly conferred upon

[161] When a member country interprets certain provisions of the treaty according to its own view, and expressly declares it when signing the treaty.
[162] Vienna Convention, art. 31.
[163] David França Ribeiro de Carvalho, *supra* note 53, at 140-141.
[164] ACT, *supra* note 84, art. IV.
[165] ACT, *supra* note 84, art. III.
[166] ACT, *supra* note 84, art. XXV.

all members a veto right[167]. The veto right ensures the respect to the countries' sovereignty, legal equality, auto-determination and non-interference[168].

2.2.11. Member countries' obligations

Although some general obligations can be inferred from the treaty, it is essential to clarify that its language is fairly vague[169]. Since there is no specific and mandatory legal obligation, the treaty has been regarded as soft law[170], leading to a large discretion by the States as to what needs to be done, and by which means. Execution can therefore hardly be assessed by external objective control mechanisms, such as a process of judicial control[171]. For example, although the States acknowledge a responsibility to preserve the environment[172], this is not an enforceable or absolute duty. That being said, the treaty still provides guidance to the adoption of further documents and mechanisms, including strengthening the institution itself. In addition, it induces a political and moral pressure on the States to comply with its guidance[173].

[167] David França Ribeiro de Carvalho, *supra* note 53, at 140.
[168] *Id.*
[169] For example: "declare that", "shall make efforts", "agree on the advisability of", "agree to encourage", "seek to maintain", "give special attention to" (ACT, *supra* note 84, arts. 4; 5; 10; 11; 15; 17). *See* BEATRIZ GARCIA, *supra* note 52, at 95.
[170] Soft Law, as opposed to Hard Law, has a voluntary character, consistent with the principle of subsidiarity. It establishes directives, leaving to the Member States to choose the best national strategy to achieve it. It discusses common goals and interests, the exchange of knowledge and experience, thus respecting both the unity and diversity among states. In soft law mechanisms there is no coersion, and the obligations do not bind the Member States. *See* R Keohane Abbott, AM Slaughter, and D Snidal, The Concept of Legalization in International Organization 54, 3, Summer, pp 401-419, by Fhe Foudation and The Massachusetts Institute of Technology, 2000.
[171] BEATRIZ GARCIA, *supra* note 52, at 95.
[172] ACT, *supra* note 84, Preamble. *See* Ernesto Roessing Neto, *supra* note 141, at 79.
[173] Ernesto Roessing Neto, *supra* note 141, at 79.

The treaty sets forth a general duty to cooperate[174]. The duty to cooperate is manifested in specific areas, specifically water[175], navigation[176], ecological balance and preservation of species[177], health[178], research[179], and tourism[180].

Member States commit to make efforts towards the rational use of water resources due its social and economic role within each country[181]. These efforts have included the establishment of a hydro meteorological database of the Amazon region, strengthening technical cooperation between countries in hydrology and climatology, and encouraging the use of remote sensing.

The Member States have a duty to maintain a permanent exchange of information and cooperation among themselves, as well as with other agencies operating in the Amazon River Basin[182]. Exchange of information encompasses scientific research[183] and conservation measures[184] between ACT parties and cooperative international agencies[185] in areas such as flora, fauna, and diseases. The exchange of information is one of the treaty's main and the most complied with obligations.

Environmental protection, which is based over the undertaking of sustainable development[186] and ecological balance[187], is a central concern. The duty to protect the

[174] ACT, *supra* note 84, Preamble.
[175] ACT, *supra* note 84, art. 5.
[176] ACT, *supra* note 84, art. 6.
[177] ACT, *supra* note 84, art. VII.
[178] ACT, *supra* note 84, art. 8.
[179] ACT, *supra* note 84, art. IX.
[180] ACT, *supra* note 84, art. XIII.
[181] ACT, *supra* note 84, art. V.
[182] ACT, *supra* note 84, art. VII(a).
[183] ACT, *supra* note 84, art. VII(a).
[184] ACT, *supra* note 84, art. VII(h).
[185] ACT, *supra* note 84, art. XV, art. IX, 2.
[186] ACT, *supra* note 84, art. I.
[187] ACT, *supra* note 84, art. VII.

environment, however, is not absolute. It is important to keep in mind that sovereignty over natural resources and inducing development can always be argued to limit environmental protection. As such, countries are still undergoing major projects within the Amazon rainforest, in the areas of exploitation of oil and gas, mining and energy, among others regardless of its effects on the ecosystem as a whole or on either bordering country specifically.

The treaty itself does not mention forests as well as prevention of transboundary pollution and protection of indigenous populations [188]. However, it specifically provides for the protection of water resources[189], fauna and flora[190], and the conservation of the region's ethnological and archeological wealth[191]. The treaty's silence regarding forests was addressed by subsequent resolutions and nonbinding instruments adopted under the ACT's framework[192]. In this sense, the current duty to protect the environment spreads over several areas, such as forests, water, soil, natural protected areas, biological diversity, biotechnology, and biotrade [193] . Since the organization's policies have developed beyond the specific areas set forth initially, it can be inferred that those do not limit the scope of the treaty and the organization.

[188] BEATRIZ GARCIA, *supra* note 52, at 92.
[189] ACT, *supra* note 84, art. V.
[190] ACT, *supra* note 84, art. VII.
[191] ACT, *supra* note 84, art. XIV.
[192] Garcia explains that Environmental Law was still in its infancy at the time, and environmental issues were not as developed as they are today. For example, the term "biodiversity" was not introduced in the original language, and "environment" and "natural resources", terms that were indeed used, were not defined. BEATRIZ GARCIA, *supra* note 52, at 92-93.
[193] Defined in the 2004-2012 Strategic Plan as the programmatic areas identified relating to the environment.

In addition to the general obligations, the treaty also subject parties to restrictions from International Law [194]. The express reference to International Law reinforces mandatory and enforceable obligations that generally apply to all states, such as the 1972 Stockholm Declaration[195] and the 1992 Rio Declaration[196]. These ensure, for example, that States also have the obligation to avoid environmental damage in other States and beyond its natural borders within the ACT's framework[197].

2.2.12. Dispute Resolution

The ACT does not contain any specific provisions on dispute resolution. Instead, the ACT operates only by consensus for all significant decisions, based on the guiding principle of equality among Member States. The Treaty emphasizes the sovereignty of each country; therefore, a Member State cannot be obligated to undertake any action that it did not approve. However, conflicts may still arise due to the undertaking of project in one country, with negative impacts on another. In such occasions, countries have to turn to answers within general International Law mechanisms, due to the absence of regional solutions.

2.2.13. Participation of Third Parties and the Role of Multiple Stakeholders

When implementing projects, the ACTO invites the participation of multiple stakeholders from both international institutions and local civil society, especially as project partners and sponsors. In addition, the Permanent Secretariat encourages the

[194] ACT, *supra* note 84, art. IV.
[195] 1972 Stockholm Declaration, *supra* note 65.
[196] A/CONF.151/26 (Vol. I), Report of the United Nations Conference on Environment and Development, held in Rio de Janeiro between 3 - 14 June 1992, Annex I: Rio Declaration on Environment and Development (Aug. 12, 1992).
[197] Stockholm Declaration, *supra* note 65, Principle 21.

active participation of regional and local players, especially indigenous people, in developing Amazon cooperation initiatives[198].

The ACTO hence actively seeks lasting ties with multinational organizations, such as the World Health Organization, United Nations Educational, Scientific and Cultural Organization, the World Bank, the Inter-American Development Bank, the European Union, and the national cooperation agencies of many countries. The ACTO has also worked with international non-governmental organizations, such as the International Union Conservation of Nature (IUCN) and the World Wildlife Fund (WWF). Since the establishment of the Permanent Secretariat, the ACTO has worked to reinvigorate the treaty's structure and strengthen its relationships with UN organizations and other specialized agencies. Since the Member States each have their own national policies on international cooperation in the Amazon region, the Permanent Secretariat has made a push for increased coordination with national governments on this front in order to avoid conflicts and duplication of efforts. As a consequence, new guidelines for international cooperation were established for agreements with third parties[199].

2.2.14. Funding and Financing

The original language of the ACT has no explicit provision addressing funding and financing. Since the organization largely relied on funds from international institutions, which took from one to three years to become available, most activities

[198] *See* 2004-2012 Strategic Plan, Chapter XX.
[199] RES/X MRE-OTCA/7, approved in the X MMFA, held in Peru, Lima, on Nov. 30, 2010.

planned under its framework had limited development[200]. The funding mechanism was therefore unclear and, as a consequence, insufficient.

For the Permanent Secretariat to have full managerial capacity, it was indispensable that it had a stable financial support mechanism by the member countries. In this sense, by the occasion of its official creation, the ACT members agreed to a system of compulsory contributions proportional to each country's level of development. As such, member countries have annual quotas[201], divided into four categories of contributions: i) Brazil, with 70 percent; ii) Colombia, Peru and Venezuela, with 40 percent; iii) Bolivia and Ecuador, with 18,57 percent; and iv) Guyana and Suriname, with 5,71 percent[202]. Countries can also make extraordinary contributions according to their possibilities.

However, these dues only cover the yearly costs of maintaining of the Permanent Secretariat. Specific projects still have to rely on external funding. Many of the project activities are financed with money from international organizations (such as the European Union, various entities of the UN, the Inter-American Development Bank, and the Organization of American States). Consequently, the ACTO is constantly studying alternative mechanisms for funding in order to move beyond ACTO's dependence on foreign funds. In order to facilitate contributions, the ACTO has developed general guidelines. These guidelines aimed at establishing additional sources of funding for the organization, through voluntary contributions by public or private companies which value the Amazonian culture, and administrative taxes from executing international cooperation

[200] BEATRIZ GARCIA, *supra* note 52, at 117.
[201] First established in 2000, through Resolution VI MRE-TCA/6 (Apr. 6 2000).
[202] RES/X MRE-OTCA/4, adopted in the X MMFA, in Peru, Lima, on Nov. 30, 2010.

projects of external financing sources or from one or more Member Countries, in addition to voluntary contributions by Member Countries to finance activities and specific strategies[203].

Funding and financing is therefore one of the biggest problems in the organization structure and development. Although its basic activities are covered, its development to ensuring effective projects and measures still largely relies on external funding, which is often irregular and unreliable.

2.3. The Structural Organization of the Amazon Cooperation Treaty and the Amazon Cooperation Treaty Organization

2.3.1. Legal Status of the ACTO

The ACTO is an international organization established under the auspices of the Meeting of the Ministers of Foreign Affairs of the Member States (MMFA). It is a regional entity that promotes South-South cooperation and serves as a liaison for ongoing activities in the American territory and interconnection with the actions by Unasur[204], which coordinates procedures within the framework of ACT. Its legal personality is exercised through the Permanent Secretariat[205].

[203] RES/XI MRE-OTCA/03, art. 1, approved in the XI MMFA, held in Manaus, Brazil, on Nov. 22, 2011.
[204] UNASUR – Union of South American Nations.
[205] Headquarters' Agreement, art. II.

Figure 1: ACTO's Structure[206]:

2.3.2. The Meeting of the Presidents

Although not an ordinary sphere of the ACT's institutional structure, the Meeting of the Presidents is a fundamental forum for dialogue on common interests, exchange of opinions and consensus on actions geared to achieving regional development through common policies and strategies, and functions as a major policy coordinator[207]. It was created through practice and there are no mandatory meetings.

Meeting of the President's held

The Presidents of the Amazon countries have met in three occasions, all of them held in Manaus, Brazil. The first meeting, in May 1989, was held to discuss the future of regional cooperation regarding the rich heritage of the respective territories, and their common interests in the Amazon region. It resulted in the 1989 Amazon Declaration[208], through which the countries affirmed the political will to strengthen the ACT through multilateral and bilateral relations[209], in order to promote cooperation in the common

[206] *See* ACTO, Structure, http://www.otca.info/portal/admin/_upload/documentos/organigrama_english.pdf (last visited Mar. 20, 2014).
[207] ACTO, Meeting of Presidents, http://otca.info/portal/reuniao-de-presidentes.php?p=otca (last visited Feb. 20, 2014).
[208] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, Manaos, Brazil, May 6, 1989, available at http://otca.info/portal/admin/_upload/presidentes/I_REUNION_PRESIDENTES_ESP.pdf.
[209] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 1 and 3.

areas of interests for the sustainable development of the region[210]. As such, they acknowledged the need to conserve the Amazonian heritage through the rational use of resources so that the present and future generations can benefit from its legacy[211]. This was a landmark, since they recognized he rights of future generations to enjoin he region as well, and the political will to preserve it for them. The countries determined that the sovereign right over natural resources should be balanced by the need to socially and economically develop the country[212]. Since addressing the foreign debt and social and economic issues is essential to properly conserve the environment, the countries recognized the primary need for economic growth and financial and technological cooperation from developed countries[213]. Within this context, balance could be achieved through national, bilateral and regional cooperative measures[214], as well as constant dialogue and meetings[215].

In this sense, although the Amazon countries recognized an inherent duty to preserve the rainforest, it was impossible to do so without previously achieving some sort of economic prosperity. This, in its turn, required both foreign and regional cooperation and mutual aid. The meeting thus reinforced the basic principles that are in constant opposition and need for balance within the framework of the ACT and ACTO: sovereign right to natural resources, economic growth, cooperation and environmental protection.

[210] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 1.
[211] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 2.
[212] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 4, 6.
[213] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 7, 8.
[214] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 4, 5.
[215] Declaración de Manaos de la I Reunión de los Presidentes de los Países Amazónicos, art. 10.

The second meeting, held in February 1992, was prior to the 1992 Rio Conference[216] and resulted in a joint position from the countries to be presented in the international negotiations, the 1992 Manaus Declaration[217]. For the first time, the countries presented a common perspective on issues such as climate change, biological diversity and biotechnology, forests, soil degradation, water and indigenous and local communities[218]. They committed to consolidate regional cooperation and endow ACTO with a more active cooperative role. Yet, the countries also reaffirmed the need for financial aid from developed countries to ensure sustainable development[219]. They thus recognized their larger responsibility in the progressive deterioration of the environment, which prevented them from imposing restrictions on developing countries[220].

The second meeting thus represented a turning point as the Amazon countries started to coordinate at the international level, with a combined stronger weight to require more responsibility from developed countries. The coordination by each country's leader also reflected their political will to fortify the ACT and led to the creation of the Pro Tempore Secretariat by the MMFA a few years later.

After a long hiatus, the third meeting of the presidents was held in November 2009, prior to United Nations Conference on Climate Change (COP15), and resulted in the 2009 Declaration of the Heads of States on the ACTO[221]. The declaration set forth the

[216] *See supra* note 89.
[217] Declaración de Manaos de la II Reunión de los Presidentes de los Países Amazónicos, Manaos, Brazil, Feb. 10-11, 1992, available at http://otca.info/portal/admin/_upload/presidentes/II_REUNION_PRESIDENTES_ESP.pdf.
[218] Documento de Posición Conjunta de los Países Amazónicos con miras a la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo.
[219] Declaración de Manaos de la II Reunión de los Presidentes de los Países Amazónicos, art. 6.
[220] Declaración de Manaos de la II Reunión de los Presidentes de los Países Amazónicos, art. 5.
[221] Declaration of Heads of State on the Amazon Cooperation Treaty Organization (Nov. 26, 2009).

content for the development of a new strategic agenda for an integral vision for the regional cooperation of the Amazon region, in order to provide the ACTO with a renewed and modern role. Among others, the agenda should include actions for deforestation and sustainable use of natural resources, strengthening institutional and political mechanisms for indigenous groups within the ACTO, and a regional agenda for science and technology in respect to traditional knowledge. In addition, it urged the organization to address the issues of food security and eradication of poverty.

The agenda should be guided by the principles of reducing regional asymmetries, adopting complementary and solidary economic alternatives for the sustainable and rational use of Amazonian biodiversity and other resources, and improving the quality of life of the local populations. In addition, the organization should encourage the participation of multiple stakeholders, especially indigenous communities, as well as develop mechanisms and studies with indicators to assess and address their specific issues. It is important to notice how the principles guiding the future of ACTO furthered from the original ACT principles, with a bigger concern on the social and economic equality among members and their people. Within this context, the presidents required the Permanent Secretariat to accompany the international negotiations on issues related to the Amazon cooperation, especially regarding climate change, biological diversity and forests. Yet the positions reflected internationally should also be preceded by the approval of the member countries.

2.3.3. The Meeting of Ministers of Foreign Affairs (MMFA)

The Meeting of Ministers of Foreign Affairs (MMFA) is the maximum body within the institutional framework of the ACTO, and functions as its normative and political level[222]. It is incumbent upon the MMFA to establish common policy guidelines, evaluate the progress of the Amazon cooperation process, and make relevant decisions that guide the implementation of the treaty[223].

The ACT only determined the obligation to set the first meeting within two years of the treaty entering into force[224] and to schedule additional meetings whenever deemed opportune or advisable to achieve the aims of the treaty[225]. This gap was addressed by the MMFA's regulation, which required ordinary meetings to be held every two years[226]. However, they can set to occur with a more stable frequency and the parties have discussed a yearly meeting to set up the speed of the organization. Extraordinary meetings can be additionally held at the initiative of any of the Member States, whenever supported by four other Member States[227], or by recommendation by the CCA[228]. However, only one extraordinary meeting occurred, to elect ACTO's interim secretary general[229].

Before the plenary meetings, a preparatory meeting occurs, to establish the meeting's president, designate the secretary general, the agenda, constitute commissions, establish deadlines for presenting proposals, and determine the approximate period of

[222] ACT, *supra* note 84, art. XX.
[223] ACT, *supra* note 84, art. II; MMFA Regulation, art. 2.
[224] ACT, *supra* note 84, art. XXII(2).
[225] ACT, *supra* note 84, art. XX.
[226] MMFA Regulation, art. 4.
[227] ACT, *supra* note 84, art. XX(1). MMFA Regulation, art 3.
[228] MMFA Regulation, art 3.
[229] I Extraordinary MMFA, Dec. 6, 2002, held in Brasilia, Brazil.

sessions[230]. The meetings are hosted by rotation of countries in alphabetical order[231]. As a result of the MMFA a declaration and specific resolutions are unanimously adopted[232].

MMFA plenary sessions are public. Conversely, meetings by commissions and subcommissions are private[233], attended by delegations, secretarial staff and invited observers only. Observers are interested states such as French Guyana[234], the United Nations and its specialized agencies, the OAS, the Association of Latin American Integration, and the Latin American Economic System, who are invited to participate at the meetings[235].

Meetings of the Ministers of Foreign Affairs held

The MMFA did not meet regularly within its first decades of existence. During the 1980s, three meetings were held to discuss the organization itself, its financing and institution[236]. In the 1990s, two meetings were held, in which among other things, *ad hoc* groups, financial mechanisms, and the Pro Tempore Secretariat were created[237].

[230] David França Ribeiro de Carvalho, *supra* note 53, at 126.
[231] ACT, *supra* note 84, art. XX(2).
[232] ACT, *supra* note 84, art. XXV.
[233] MMFA Regulation, art. 13.
[234] BEATRIZ GARCIA, *supra* note 52, at 102, note 128.
[235] MMFA Regulation, art. 6.
[236] The I Meeting, held in Belém, Brazil, on October 1980, discussed preparatory measures and defined goals, and resulted in the 1980 Belém Declaration. The II Metting, held in Santiago de Cali, Colombia, on December 1983, discussed the need to establish a financial mechanism, and resulted in the 1983 Santiago de Cali Declaration. The III Meeting, held in Quito, Ecuador, discussed the issue of drug trafficking within the Amazon region, and the institutional strengthening of the ACT, and resulted in the 1989 Declaration of San Francisco de Quito.
[237] The IV Meeting, held in Santa Cruz de la Sierra, Bolivia, on Nov. 1991, discussed the meeting of the presidents for the following year, the creation of ad hoc groups to discuss institutional strengthening, and created a financial mechanism, and resulted in the 1991 Santa Cruz de la Sierra Declaration. The V Meeting, held in Lima, Peru, on Dec. 1995, created the Pro Tempore Secretariat, instituted the financial mechanism, created the Special Commission for Education, debated the adoption of a document with sustainability indicators, established an institute for investigation and protection of genetic resources, and further discussed drug trafficking within the region, resulting in the 1995 Lima Declaration.

Since 2000 the frequency of the meetings has been more regular, which resulted in the strengthening of the ACT's structure. During the 2000 MMFA, the Coordination Committee of the Amazon Cooperation Council (CCACC) was created[238]. During the 2002 meeting, the headquarters agreement was signed[239]. In 2004, the Strategic Plan 2004-2012 was approved[240]. In the same occasion, the MMFA decided to convene thematic ministerial meetings in areas such as biodiversity, intellectual property and physical integration; as well as invite observers to attend meetings[241].

In 2005, in the occasion of the ACT's 25th anniversary, the MMFA was held in Iquitos, Peru, to celebrate and reflect on the integration mechanisms[242]. They emphasized the importance of Member States to continue to articulate joint positions regarding environment and sustainable development in international forums, especially those related to forests and water. They also decided to adopt measures to reduce environmental degradation, such as control illicit forest fires, illegal mining activities, and illegal traffic of forest products, flora and fauna, as well as genetic resources.

The next meeting was held in 2010, when the MMFA decided to renew the ACTO as a forum of cooperation, exchange, knowledge and joint protection. Within this spirit, a

[238] Created through Resolution VI MRE-TCA/2 of 6 April 2000. During the VI Meeting, held in Caracas, Venezuela, on April 6, 2000, which also adopted the Regulation of the Permanent Secretariat (Resolution VI MRE-TCA/1 of 6 April 2000) and discussed the strategic role of the ACT, and resulted in the 2000 Caracas Declaration.
[239] VII Meeting, held in Santa Cruz de la Sierra, Bolivia, on Nov. 2002, which also adopted the Permanent Secretariat Staff Regulations (Resolution VII MRE-TCA/5 of 22 November 2002).
[240] VIII Meeting, held in Manaus, Brazil, on Sep. 2004, which also discussed the defense and physical integration of the territories, and the importance of participation by the civil society in decision making, and resulted in the 2004 Manaus Declaration.
[241] VIII MMFA, held in Manaus, Brazil, on Sep. 14, 2004, which, among other things, reestablished discussions regarding a regulation of navigation within Amazon rivers, reassured methods of monitoring deforestation, reaffirmed the need to create a biotrade program, and resulted in the 2004 Manaus Declaration.
[242] IX MMFA, held in Iquitos, Peru, on Nov. 2005, which resulted in the 2005 Iquitos Declaration.

new structure of the Permanent Secretariat[243]; new regulations for the MMFA, ACC, CCACC, PS, and PS Staff[244]; and the new Strategic Agenda for Amazonian Cooperation were adopted[245]. In addition, new guidelines for international cooperation from his parties were established[246].

In 2011, the MMFA discussed how it could be closer to the initiatives of each Member States, and their respective Amazon population[247]. The MMFA established financial mechanisms as a way to strengthen the institution[248]. The countries also prepared a joint statement for Rio +20, in which, among other considerations, they emphasized the importance of South-South cooperation to reduce asymmetries, and reinforced the need for a stronger commitment by developed countries[249].

The last MMFA occurred in 2013[250]. In that occasion, the countries recognized the harmony of nature as essential for sustainable development, supporting the regional trend of recognized nature rights[251]. The MMFA established a Regional Amazon Observatory as a permanent forum for the study of the region, and a reference center for information on biodiversity, natural resources and socio-diversity. By addressing the need to protect traditional indigenous knowledge and develop mechanisms to enforce indigenous rights, they requested the ACC to prepare a proposal for regional initiative. In order to avoid multiple efforts with the same purpose, they emphasized the need for

[243] RES/X MRE-OTCA/2, adopted at the X MMFA meeting, held in Lima, Peru, on Nov. 2010.
[244] RES/X MRE-OTCA/3 Lima, Peru, Nov. 30, 2010
[245] RES/X MRE-OTCA/5, approved in the X MMFA, held in Lima, Peru, on Nov. 30, 2010.
[246] RES/X MRE-OTCA/7, approved in the X MMFA, held in Lima, Peru, on Nov. 30, 2010.
[247] Manaus Compromise, approved in the XI MMFA, held in Manaus, Brazil, on Nov. 22, 2011.
[248] RES/XI MRE-OTCA/3, approved in the XI MMFA, held in Manaus, Brazil, on Nov. 22, 2011.
[249] Declaración de los Ministros de Relaciones Exteriores de los Países Miembros de la OTCA para la Conferencia de Rio+20. Manaus, Nov. 22, 2011.
[250] XII MMFA, held in El Coca, Ecuador, on May 2013.
[251] For example, Ecuador and Bolivia.

coordination between ACTO and other regional groups[252]. In addition, they established policies for sustainable management of Amazon forests, and promotion of access to technologies to investigate deforestation as a priority.

It is clear that MMFA are becoming more frequent and more effective. A great effort has been put into strengthening the institution and structure of the ACTO, through constant self-analysis and revisions. The organization has learned from its development, and is attempting to constantly improve. As such, it is distancing itself from the general acknowledgments from the first resolutions and declarations, and is achieving more focused decisions, leading to development of concrete actions and projects.

Following the initial period of setting up the structure and strengthening of the institution itself, and joining forces to agree on environmental and sustainable development goals, the MMFA is entering a new phase of broadening the dialogue through a multi-stakeholder participation, focusing on addressing social and economic issues, and enforcing environmental policies.

2.3.4. The Amazon Cooperation Council (ACC)

The Amazon Cooperation Council is the second highest body within the ACT hierarchy, and has diplomatic level[253]. The ACC is comprised of high-level diplomatic representatives of the Contracting Parties[254]. It exercises authority between the policies set forth by the MMFA and the policies executed by the PNCs. Since it has both

[252] Unisur, Andeand Community, Mercosul, CARICOM, and the Community of Latinamerican and Caribbean States.
[253] BEATRIZ GARCIA, *supra* note 52, at 103.
[254] ACT, *supra* note 84, art. XXI.

normative and executive capability, it ensures coordination and cooperation among the PNCs[255].

The duties of the ACC include: ensuring compliance with the treaty's objectives; carrying out the decisions taken at the MMFA; recommending extraordinary MMFA and preparing the agenda; analyzing projects, initiatives and technical cooperation projects submitted by Member States, as well as bilateral or multilateral studies or plans, and assessing their progress[256]. The ACC also must provide for its self-regulation, and receive or request reports from the Permanent Secretariat on specific issues[257].

The ACC holds annual ordinary meetings[258]. Extraordinary meetings can be additionally held through the initiative of any member country with the support of at least four other members, the majority of ACTO[259]. Also, preparatory meetings may be held prior to the ACC meetings itself[260]. The meetings shall be convened by the Permanent Secretariat. All Member Countries must be present and decisions shall be made by unanimous vote[261]. As a result of these meetings, resolutions shall be adopted[262]. There is an alphabetical rotation between countries to chair the meetings[263], and the head of the delegation of the host country chairs the session[264]. Guests, either governmental, international, regional, non-governmental organizations or experts may be invited to

[255] David França Ribeiro de Carvalho, *supra* note 53, at 78.
[256] ACT, *supra* note 84, art. XXI, 1-6. Regulations for the Amazon Cooperation Council (CCA), art. 2.
[257] Regulations for the Amazon Cooperation Council (CCA), art. 2.
[258] This requirements has not been complied with, and meetings have been held mostly every two years. *See* BEATRIZ GARCIA, *supra* note 52, at 104-105; David França Ribeiro de Carvalho, *supra* note 53, at 128.
[259] Regulations for the Amazon Cooperation Council (CCA), art. 3. ACT, *supra* note 84, art. XXI(1).
[260] Regulations for the Amazon Cooperation Council (CCA), art. 22.
[261] Regulations for the Amazon Cooperation Council (CCA), art. 18; 20. ACT, *supra* note 84, art. XXV.
[262] Regulations for the Amazon Cooperation Council (CCA), art. 4. *See* BEATRIZ GARCIA, *supra* note 52, at 104.
[263] Regulations for the Amazon Cooperation Council (CCA), art. 3. ACT, *supra* note 84, art. XXI(2).
[264] Regulations for the Amazon Cooperation Council (CCA), art. 8.

attend as observers through the suggestion of the Member Countries[265]. If necessary, working groups may be established to discuss the issues submitted for their consideration by the ACC[266].

2.3.5. The Coordination Committee of the Amazon Cooperation Council (CCACC[267])

The Coordination Committee of the Amazon Cooperation Council (CCACC) was created in 2000[268] as the consultative and auxiliary body of the ACC to promote intergovernmental coordination[269]. Diplomatic officers of each country's diplomatic representations in Brasília form the CCACC, and other representatives from each government might also be appointed to join the Committee[270]. The Council is in charge of monitoring the planning, programming and execution of the Permanent Secretariat's, especially regarding budget, and evaluating the activities developed within the framework of the treaty. It also prepares the agenda of the ACC meetings, evaluates its activities and decisions and prepares recommendations[271]. The CCACC serves as the communication and coordination channel between Member Countries, the PNCs and the Permanent Secretariat. It responds to consultations from the Permanent Secretariat and makes recommendations regarding the tasks and activities to support compliance[272].

There is no decision-making power, only consultative and liaison functions within the competence of the ACC. In practice, the CCACC discusses issues related to the

[265] Regulations for the Amazon Cooperation Council (CCA), art. 7.
[266] Regulations for the Amazon Cooperation Council (CCA), art. 11-13.
[267] The official acronym is CCOOR.
[268] Although created in 2000, the CCACC only formally began working in 2002.
[269] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 1.
[270] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 2.
[271] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 3.
[272] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 3.

Permanent Secretariat's administration and personnel; including staff travel expenses, salary policies and scales, and the evaluation of vacant posts.

The CCACC shall meet at least once quarterly, but in practice meets on a monthly basis[273]. All Member Countries shall be present at CCACC's sessions[274] and decisions shall be adopted unanimously[275]. The directive board of the ACTO attends meetings, ambassadors of Member States in Brazil, and representatives of the Brazilian chancellery. As in the ACC meetings, guests may be invited to attend the CCACC's meetings[276]. The Permanent Secretariat shall provide secretarial services to CCACC [277]. Since meetings are more frequent, it has provided a regular exchange of information and greater participation of ACTO Member States in the Permanent Secretariat's activities.

2.3.6. The Pro-Tempore Secretariat of the Amazon Cooperation Treaty Organization (PTS)

Initially, the ACT's institutional structure was simpler and more flexible, and included a temporary Secretariat (Pro-Tempore Secretariat). It's headquarters rotated among parties in alphabetical order, established in the country where the next ACC regular meeting was scheduled to occur, initially for a one-year period, later extended to three years[278]. Although all member countries were supposed to host the secretariat, Guyana and Suriname did not[279]. Each State's Ministry of Foreign Affairs served as the

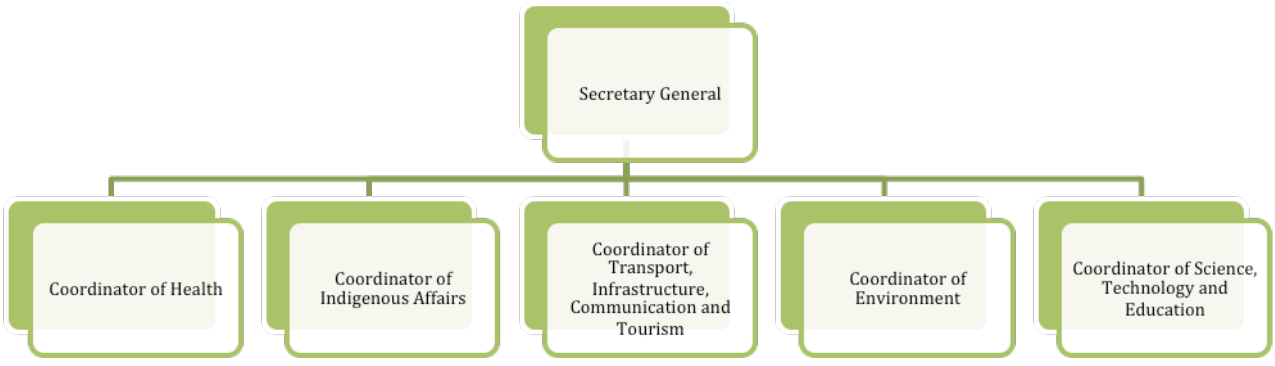
[273] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 4.
[274] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 5.
[275] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 6.
[276] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 9.
[277] Regulations for the Coordination Committee of the Amazon Cooperation Council (CCACC), art. 7.
[278] ACT, *supra* note 84, art. 22. RES/VI CCA-3, RES/V MRE-TCA/3, approved at the V MMFA (2002).
[279] David França Ribeiro de Carvalho, *supra* note 53, at 130. The Pro-Tempore Secretariat was located in: Peru (Oct. 1980 – Jul. 1983); Bolívia (Jul. 1983 – Sep. 1986); Brazil (Sep. 1986 – Mar. 1988); Colômbia

treaty's secretariat, and had a limited role of sending pertinent documentation to parties, and coordinating the ACC's meetings[280].

After a decision to strengthen the ACT's institution by the III MMFA, the secretariat's attributions were broadened. It started to include the responsibility to ensure compliance with the treaty's objectives, the MMFA, and ACC resolutions in addition to the secretarial tasks[281]. It also established an ad hoc consultation committee to support activities of the Pro Tempore Secretariat, and facilitate the adoption of common positions by ACT parties[282]. However, the rotation scheme slowed the Secretariat's activities, and hindered a good development of its capacities. The Pro-Tempore Secretariat developed its activities from October 1980 to 2003, when the Permanent Secretariat was adequately equipped to take its place[283].

2.3.7. The Permanent Secretariat of the Amazon Cooperation Treaty Organization (PS)

Figure 2: Permanent Secretariat's Structure:



(Mar. 1988 – May 1990); Ecuador (May 1990 – Jul. 1993); Peru (Jul. 1993 – Mar. 1997); Venezuela (Mar. 1997; Apr. 2000); Bolívia (Apr. 2000 – Nov. 2002); Brazil (Nov. 2002 – 2003).

[280] ACT, *supra* note 84, art. 22.

[281] 1991 Regulation of the Pro Tempore Secretariat, art. 5.

[282] BEATRIZ GARCIA, *supra* note 52, at 104-105.

[283] David França Ribeiro de Carvalho, *supra* note 53, at 130.

The Permanent Secretariat was established in 1995 and based in Brasilia[284], but it took members until 2002 to develop its structure and objectives[285]. It is the legal personality of the ACTO[286] and the executive supportive body of the political organs of the ACT[287]. As such, it is auxiliary to the MMFA and ACC, and does not function as a political organ itself[288]. It was established to provide for a strategic guideline for ACTO, minimizing geographical discontinuities in dialogues, and protecting regional interests[289].

As a consequence of its legal personality, it is entitled to rights and obligations, including signing contracts and agreements with member countries, third parties and national and international organizations, dispose of goods and properties, and represent the ACTO legally[290]. However, this power is limited to when unanimously authorized by the Member Countries, dependent on specific mandates given by the MMFA and ACC[291], since the Permanent Secretariat has no supranational powers[292].

The body is responsible for preparing, in consultation with the Member States, the work plan, program of activities, and budget for ACTO[293]. These items must be unanimously approved by the ACC before becoming effective. One of the major goals of the PS is to increase the use of the ACT through various projects and decisions made at the MMFA and the ACC. To implement the projects, the PS works through technical

[284] ACT, *supra* note 84, art. 22, as modified by Amendment Proocol to ACT.
[285] Res. V MRE-TCA/1, 5th MMFA, Dec. 4-5, 1995.
[286] Headquarter's Agreement, art. II.
[287] Regulation of the Permanent Secretariat of the Amazon Cooperation Treaty Organization, art. 1.
[288] BEATRIZ GARCIA, *supra* note 52, at 109.
[289] ACTO, *supra* note 39, at 6. *See* BEATRIZ GARCIA, *supra* note 52, at 112.
[290] Regulation of the Permanent Secretariat of the Amazon Cooperation Treaty Organization, art. 1; 4. Headquarter's Agreement, art. II.
[291] Regulation of the Permanent Secretariat of the Amazon Cooperation Treaty Organization, art. 1.
[292] Ernesto Roessing Neto, *supra* note 141, at 80.
[293] Regulation of the Permanent Secretariat, art. 5.

units on the regional and national level in order to avoid creating any additional bureaucracies.

The PS can represent Member States in issues related to the cooperation within Amazonia. It shall promote cooperation, ensure the execution of resolutions and decisions by the MMFA and ACC, present proposals for cooperation and scientific investigation to Special Commissions, as well as support the development of their programs; coordinate logistical aspects and prepare documents for the MMFA and CAA meetings, among other secretarial functions[294]. It shall promote the ACTO as a forum for the exchange, knowledge, joint protection and cooperation[295]. In fulfilling its duties, the PS shall consider the recommendations of CCOOR[296].

The structure of the PS was altered in 2010[297]. The Secretary General heads the Permanent Secretariat. He is a national of one of the Member States unanimously elected by the MMFA for a three-year period[298]. The Secretary General is empowered to enter into agreements whenever parties unanimously authorize him/her to do so. In this sense, there is only an apparent authority, but limited to the approval of all Member States.

There are also five coordinating offices that oversee the different aspects of the ACT: environment; health; science, technology, and education; infrastructure, tourism, transport, and communication; and indigenous affairs [299]. The Coordination of Environment addresses conservation, protection and sustainable use of renewable natural

[294] Regulation of the Permanent Secretariat, art. 5.
[295] Regulation of the Permanent Secretariat, art. 1, paragraph 1.
[296] Regulation of the Permanent Secretariat, art. 1, paragraph 2.
[297] RES/X MRE-OTCA/2, adopted at the X MMFA meeting, held in Lima, Peru, on Nov. 2010.
[298] Regulation of the Permanent Secretariat of the Amazon Cooperation Treaty Organization, art. 2, paragraph 1.
[299] RES/X MRE-OTCA/2, adopted at the X MMFA meeting, held in Lima, Peru, on Nov. 2010.

resources. Based on ACT's work plans, it is in charge of developing mechanisms and instruments in the context of regional cooperation proposals and initiatives, as a way to gradually consolidate the Amazon as an area of conservation and sustainable use of biodiversity. The Coordination of Indigenous Affairs shall increase active and effective participation of indigenous people in the actions, activities and regional development process.

The 2009 Agenda broadened the PS's role, determining that it must function as (i) liaison, fostering consensus among members to develop activities, programs and projects that involve national, regional and international players; (ii) facilitator, establishing spaces for political and technical dialogue among the Member Countries to ensure compliance with its mandates, including topics of interest of international forums like those related to climatic change, forests, biological diversity and trade of endangered species; (iii) coordinator, to regionally manage and administer the execution of activities, programs and projects based on the mandates received from the Member Countries; (iv) arranger of regional and international cooperation support, identifying financial cooperation sources to develop specific regional activities commissioned by Member Countries based on their priorities, with full respect for national sovereignty; (v) generator of regional information, producing reference regional information to propose analysis scenarios for the Amazon through experience and knowledge shared by the Member Countries; and (vi) promoter of actions to strengthen institutional capacity within the Member Countries according to their needs[300].

[300] ACTO, Amazonian Strategic Cooperation Agenda, 21 (Nov. 2010).

It also established action guidelines in which to underpin the PS's work. As such, the PS should always search for consensus and results; permanently consult the Member Countries and its stakeholders through the MFA; promote fast and periodic information exchange using Information and Knowledge Technology – IKT; promote effective coordination with the PNCs through the MFA; foster transparent communication; strengthen synergy and cross-cutting action between the Coordinating Offices; increase participation of MFA focal points; stimulate broad publicity for its activities and projects; plan, monitor and periodically evaluate activities and projects; disseminate the annual reports produced by ACTO and its Member Countries in the framework of the ACT and others considered relevant by the Member Countries themselves; and facilitate procedures to expedite decision-making by the Member Countries[301].

2.3.8. The Permanent National Commissions (PNC)

At the national level, each country has a Permanent National Commission (PNC). PNCs are inter-institutional bodies for enforcing the treaty within the countries' national territory[302], and its development contributes to the strengthening of the strategic framework of ACTO. Presided by the Foreign Affairs Ministries, these bodies are composed of the entities in charge of Amazonian cooperation and development in their respective territories, such as the Ministry of Foreign Affairs, of Environment, Health, Transportation, Defense, Education, and Planning.

The PNCs are responsible for applying the provisions of the ACT within their respective territory; carrying out the decisions and agreements adopted by the MMFA

[301] *Id*.
[302] ACTO, *supra* note 39, at 35.

and the CCA; coordinating policies involving sustainable development in the Amazon region; and suggesting relevant policy measures[303]. The PNCs are also being encouraged by the ACTO to take a more proactive role in formulating policies and strategies. The majority of the activities promoted within the ACTO's framework are supposed to be developed by the PNCs[304].

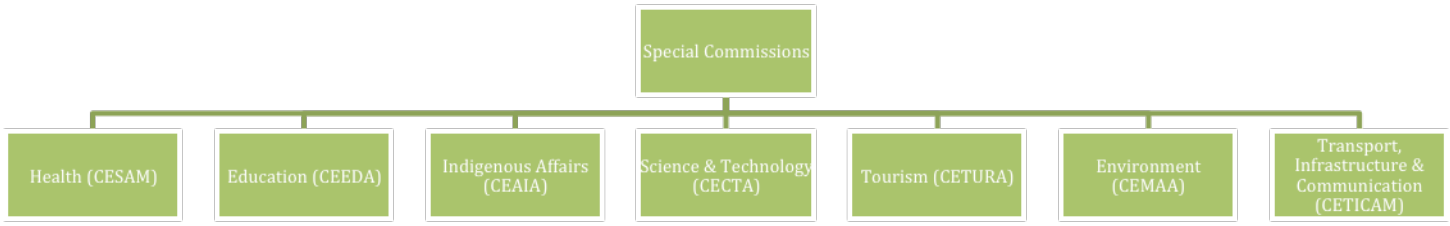
In practice, however, PNCs have not been operative and only operated on a limited scale[305]. This problem has been explored by the Permanent Secretariat and solutions have been brainstormed on how to reinforce their role within the ACT's framework[306].

The PNCs held their first international meeting in 2004, composed of ministries, governmental and nongovernmental institutions. The meeting's goal was to discuss the Strategic Plan 2004-2012, the strengthening of this body and its relationship with the Permanent Secretariat[307]. Each State can adopt national regulation to govern their respective national commissions. II Meeting (Brasília, May 2005), III Meeting (Georgetown, Guyana, Nov. 2006)

[303] ACT, art. XXIII.
[304] David França Ribeiro de Carvalho, *supra* note 53, at 130.
[305] BEATRIZ GARCIA, *supra* note 52, at 104.
[306] In the meetings held on July 12, 2004 and May 10-12, 2005.
[307] ACTO, I International Meeting of the National Permanent Commissions 18 (Jul. 1-2, 2004).

2.3.9. Special Commissions (SC)

Figure 3: Special Commissions (*ad hoc*):



The ACT authorizes the creation of Special Commissions at the operative level to study and promote specific matters related to the Treaty[308]. These Special Amazon Commissions work with the CAA, the Permanent Secretariat, and relevant national institutions in their sectors of interest. They are subordinate to MMFA and CAA with regards to the execution of specific measures[309]. Since they do not require participation of all member countries, they work faster than the other bodies, and can reach concrete results regarding specific themes[310].

Currently, there are seven Special Amazon Commissions: Health (CESAM); Indigenous Affairs (CEAIA); Environment (CEMAA); Transport, Infrastructure and Communications (CETICAM); Tourism (CETURA); Education (CEEDA); and Science and Technology (CECTA).

CEMAA is a permanent body created to promote environmental conservation within the region to propose joint actions for environmental preservation that develop projects of sustainable development within the Amazon. In addition, it is the body

[308] ACT, *supra* note 84, art. XXIV.
[309] David França Ribeiro de Carvalho, *supra* note 53, at 132. Mattos, 1981, p. 117.
[310] David França Ribeiro de Carvalho, *supra* note 53, at 132.

responsible for analyzing the possibilities of compatibility between environmental law of the countries, and exchanging information regarding national programs for environmental protection[311]. It has established criteria to prioritize projects and evaluate their own activities, in addition to analyzing human and financial capacity to put projects into practice[312].

CEAIA was created[313] due to the need to develop a social and economic development of the human resources within the Amazon region[314], as well as to adopt measures for preservation of ethnological and archeological heritage[315]. They are responsible for promoting cooperation on indigenous affairs, promote an ethnical identity and conservation of their historical and cultural heritage, promote the exchange of information, ensure indigenous participation in each country with regards to implementation and enforcement of programs and projects, and create a database of indigenous systems of use of natural resources[316].

The ATCO has made several strategic partners to work with[317]. These partnerships can have a technical, financial or managerial nature. For example, formulating projects depend on technical cooperation of UNAMAZ and OEA.

The Amazonian Parliament (PARLAMAZ)

In 1989, the same countries that are parties to the ACT established the Amazonian Parliament (PARLAMAZ) – a permanent body composed of the representatives from the

[311] David França Ribeiro de Carvalho, *supra* note 53, at 130. ACTO, 2002, p. 331.
[312] BEATRIZ GARCIA, *supra* note 52, at 107.
[313] Resolution in III MMFA, 1989.
[314] ACT, *supra* note 84, art. XI.
[315] ACT, *supra* note 84, art. XIV.
[316] David França Ribeiro de Carvalho, *supra* note 53, at 130. ACTO, 2002, p. 333-334.
[317] For complete information, *see* ACTO, *supra* note 39, at 6.

democratically elected Parliaments of the Member States. The Amazonian Parliament, which is headquartered in Caracas, Venezuela, works in close cooperation with ACTO and aims to promote political and parliamentarian exchange in the Amazon Basin. PARLAMAZ is a regional organism to propose norms and policies for the region, oversee its execution after approval by the parliaments of each country[318]. As such, it assists branches of government and authorities within countries to adapt their laws and regulations for the sustainable development of the Amazon region[319].

PARLAMAZ consists of the Assembly, the Board of Directors, the Executive Secretariat, and the Standing Committees (which include the Commission on Sustainable Development, Ecology and Biodiversity; the Committee on Legal Affairs, Legislative, International Cooperation and Integration; the Committee on Political Affairs, Women, Human Rights and Ethnic People of the Amazon; and the Committee on Cultural, Scientific, Technological and Education Issues). Its activities ended in 2001, but a political will to relauch it arose in 2006[320].

The clear link between PARLAMAZ and the ACTO was never clear, since it is not part of its institutional structure[321]. However, the ACTO has been participating in the meetings to relauch it, and has included this goal as one of its missions.

[318] Norma da Silva Venancio Pires, Parlamentos regionais e o processo de integração 56 (2009), (unpublished Masters thesis, IUPERJ), available at http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/3953/parlamentos_regionais_pires.pdf?sequence=4.
[319] *Id*.
[320] Declaration of Pando (Dec. 13, 2006).
[321] OLIVIER DABÈNE, THE POLITICS OF REGIONAL INTEGRATION IN LATIN AMERICA: THEORETICAL AND COMPARATIVE EXPLORATIONS, 139 (2009).

2.3. The ACTO in practice

2.3.1. Bilateral Agreements within the framework of the ACT

The ACT encourages its development through legal mechanisms among parties, as well as others that include only a selective part of it, due to different reasons. As such, member parties have often entered into bilateral agreements. For example, Ecuador and Colombia have a bilateral agreement regarding the management of the San Miguel and Putamayo Basin, which includes a proposed action for the sustainable development of the transborder zone. Brazil and Bolivia have a program for joint effort regarding the environmental issues within the Amazon region, for developing integrated binational plans for neighboring communities.

Regarding environmental issues and conservation specifically, Brazil and Peru have signed a cooperation agreement for conservation and sustainable use of flora and wildlife within their Amazonian territories[322]. Brazil and Bolivia also have a similar agreement[323], to reduce hunting and degradation, as well as trade of endangered fauna and flora, especially within transborder areas. This agreement included a proposal to create a contiguous protected area and conservation unit[324], which was not developed.

[322] Brazil, Federal Decree No. 5,865 (Aug. 1, 2006), promulgating the *Acordo de Cooperação para a Conservação e o Uso Sustentável da Flora e da Fauna Silvestres dos Territórios Amazônicos da República Federativa do Brasil e da República do Peru*, signed on Aug. 25, 2003.
[323] Brazil, Federal Decree No. 3,026 (Apr. 13, 1999), promulgating the *Convênio entre o Governo da República Federal do Brasil e o Governo da República do Bolívia para a Preservação, Conservação e Fiscalização dos Recursos Naturais nas Áreas de Fronteira*, signed in Aug. 15, 1990.
[324] *Id*., art. III.

2.3.2. ACTO's Projects: An Illustration

In order to fulfill the goals of the ACT and bring them to practice, projects are developed within its framework. It is important to note that the ACT expressly states that those shall not be to the detriment of projects and undertakings executed within the members' respective territories[325]. This requirement is also a premise of the equality principle, since no ACTO project would be approved if it could potentially have a negative impact on other members or their national project. In this sense, most of the practical development of the ACT and its projects still remain largely based on research and exchange of information. As an illustration, some current projects will be briefly explained, in order to get a sense of what the organization has in fact been doing[326].

2.3.2.1. GEF Amazon Project

In 2005, ACTO, in partnership with the Global Environment Facility ("GEF"), the General Secretariat of the Organization of American States (OAS) and the United Nations Development Programme (UNDP), launched the "Integrated and Sustainable Management of Transboundary Water Resources in the Amazon River Basin Considering Climate Variability and Climate Change Project" (the "GEF Amazon Project")[327]. The project effectively began in 2011, and is scheduled to end in August 2014[328].

[325] ACT, *supra* note 84, art. XVI.
[326] For current projects, *see* ACTO, *supra* note 39.
[327] ACTO, Proyecto GEF Amazonas, Integrated and Sustainable Management of Transboundary Water Resources in the Amazon River Basin Considering Climate Variability and Climate Change Project http://www.mtnforum.org/sites/default/files/news/files/gef.amazonas.final_ingles_3_0.pdf (last visited Apr. 2, 2014).
[328] ACTO, Proyecto GEF Amazonas, Estructure del Proyecto, http://otca.info/gef/sobreoprojeto (last visited Apr. 2, 2014).

The Project has the primary goal of creating a shared vision among the Member States concerning water resources and land use, thus inducing the common responsibility for the sustainable management of the basin as a whole. The first two phases focused on understanding the Amazon society and the natural resources through technical research, projection of scenarios, and study of institutional and legal standards. In the first stage, and furthering South-South cooperation, ACTO negotiated a contract with the Brazilian National Water Agency, which has acquired much knowledge and experiences in water management. As a result, many technicians from the other Member Countries were trained in Brazil[329].

For these first two phases, which have already been concluded, the project has mapped and analyzed the institutional framework for water resources management in the Amazon Basin at the national and regional level, as well as ACTO's potential role in coordinating actions for international water resource management. Legal experts have also prepared an inventory of national legislation related to water resources management, biodiversity and climate change, identifying legal spaces and opportunities for regional cooperation. The Hydroclimatic Vulnerability Atlas and the Assessment of the Sediment Basin Aquifers in the Amazon Hydrogeological Province in Brazil and Pilot Cities are also being developed[330].

[329] GEF, Global Environment Facility, GEF Amazon Project – Water Resources and Climate Change, http://www.thegef.org/gef/news/gef-amazon-project-water-resources-and-climate-change (last visited Apr. 2, 2014).
[330] ACTO, Proyecto GEF Amazonas, Integrated and Sustainable Management of Transboundary Water Resources in the Amazon River Basin Considering Climate Variability and Climate Change Project, 4, available at http://www.mtnforum.org/sites/default/files/news/files/gef.amazonas.final_ingles_3_0.pdf (last visited Apr. 2, 2014).

The third phase includes the development of the Transboundary Diagnostic Analysis and a Strategic Action Framework Program ("SAP") agreed among the eight countries for work in the Amazon Basin[331]. This is the core of the project since it creates pilot ventures on integrated management of water resources and priority adaptation measures to climate change, as well as information and communication systems and funding strategies. The last two phases involve the management, monitoring and evaluation of the project as a whole.

Although some concrete projects are being developed, the cooperation opportunities are still largely reduced to information gathering and sharing. A more practically oriented research includes field excursions in critical areas, which are developing scientific knowledge to provide input for decision-making. In addition, the effects of sea level rise at Marajo Island are being studied in order to develop ready and concrete proposals to support local governments in their adaptation policies, including relocation of affected communities. This part of the project is already in the last stage of development. The most illustrative cooperative measure within GEF's Amazon Project is the Dios-Acre-Pando undertaking at the Acre River, which is based on Bolivia, Brazil and Peru, which analyzes the ability of local governments and communities to respond to extreme events[332].

Although the results are still emerging, the ACTO Member Countries established a regional dialogue about transboundary water resources management. Among the topics discussed are the project's expected outputs and other aspects inherent to the region's

[331] ACTO, *supra* note 39, at 7.
[332] *Id*.

future institutionalism, sustainability and coordination. Through the intensive research the project is looking at the vulnerabilities of the region, and searching for ways to address one of the world's main concern, climate change.

Amazon Regional Program

In cooperation with the Directorate General for International Cooperation of the Netherlands (DGIS), the German Federal Ministry for Economic Cooperation and Development (BMZ), and the German Organization for Technical Cooperation (GTZ), ACTO established the Amazon Regional Program[333] regarding the sustainable use and conservation of forests and biodiversity in the Amazon Region. The Amazon Regional Program was developed based on the ACTO 2004-2012 Strategic Plan and focuses on being a forum for cooperation and communication among the Member States in the areas of forests, biotrade, tourism, indigenous affairs, and institutional strengthening. For example, in terms of forests, the Member States have developed 15 indicators, which correspond to eight criteria, to measure and evaluate the effectiveness of forest management in the Amazon. This evaluation system was implemented by each Member State and involved training programs, information gathering, identifying key stakeholders, and holding regional talks.

[333] PROGRAMA REGIONAL AMAZÔNIA, http://www.otca.org.br/programaregional/ (last visited Jan. 14, 2014).

Chapter 3: The absence of a binding global treaty on forests: does it pose a significant threat to the protection of the Amazon rainforest?

Although International Environmental Law has greatly developed over the years, we still face an absence of a convention dealing specifically with deforestation and forest conservation. It is beyond dispute that current international forest regime is not having the effect it should, providing conditions to ensure conservation, sustainable management and sustainable development of forests[334]. The challenges faced for building a binding international treaty are multiple, but the main reason relates to the political economy and history of national forestry programs.

FAO defines forest as "land spanning more than 0.5 hectares with trees higher than 5 meters and canopy cover of more than 10 per cent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use."[335] Due to this broad definition, countries with a large forest area or with an important forest products sector are very diverse. They share some characteristics, but range from forest-rich to forest-poor, from natural forests to plantation forests, from the wealthiest to the poorest countries, from the most democratic to the ones that rank among the lowest in terms of governance[336].

Forest law is complex because it must blend conflicting interests, such as environmental protection and resource extraction. International obligations of

[334] RICHARD G. TARASOFSKY (ED.), ASSESSING THE INTERNATIONAL FOREST REGIME: GAPS, OVERLAPS, UNCERTAINTIES AND OPPORTUNITIES, IUCN Environmental Policy and Law Paper No. 37, 3 (1999).
[335] FAO, GLOBAL FOREST RESOURCES ASSESSMENT UPDATE 2005: TERMS AND DEFINITIONS (2004).
[336] CONSTANCE L. MCDERMOTT ET. AL., GLOBAL ENVIRONMENTAL FOREST POLICIES: AN INTERNATIONAL COMPARISON, 40 (2010).

environment and trade, as well as concerns related to climate change, intellectual property rights, genetically modified organisms, timber certification and labeling, and the rights of Indigenous People must be taken into account.

3.1. Development of forestry discussion in the international community

3.1.1. UNCED and Forest Principles

Though increasing international awareness laid the groundwork for significant anti-deforestation initiatives[337], the first major official discussion of forestry related issues happened at the 1992 United Nations Conference on Environment and Development. After intense negotiations, governments agreed on the "Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests", also known as the "Forest Principles", as well as Chapter 11 of Agenda 21: Combating Deforestation[338].

Though not legally binding, the Forest Principles raised a wide-ranging spectrum of issues, and showed the willingness of the international community to recognize the problem of deforestation and provide guidance to address it. It was the first global consensus on forests; therefore, it provided ample guidance to all types of forests, rather than specific ecosystems or regions.

[337] Al Zachary Lazarus, *A War Worth Fighting: The Ongoing Battle to Save the Brazilian Amazon*, 9 L. & BUS. REV. AM. 399, 417 (2003); Andronico O. Adede, *The Treaty System from Stockholm (1972) to Rio De Janeiro (1992)*, 13 PACE ENVTL. L. REV. 33, 37-38 (1995).
[338] United Nations Conference on Environment and Development, 31 I.L.M. 814, 817 (1992).

For example, the principles acknowledged yet again the sovereign right of states to exploit their own resources pursuant to their own environmental policies[339]. States have the liberty to choose policies on forest conservation planning, but also the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. This premise is pursuant to the aforementioned principles of the Stockholm and Rio Declarations[340].

Using the concept of sustainable development that was just acknowledged at the 1992 Rio Conference[341], the Principles established that forest resources and forestlands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations[342]. There was thus a strong incentive for sustainable development and conservation measures, with implementation to occur at the individual state level. A framework for national policies and strategies is therefore provided, including the development and strengthening of institutions and programs for the management, conservation and sustainable development of forests and forestlands[343].

The Principles also addressed the issue of funding by determining that specific financial resources shall be provided to developing countries with significant forest areas that establish programs for the conservation of forests including protected natural forest

[339] U.N. General Assembly, Report of the United Nations Conference on Environment and Development, Annex III: Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests (Forest Principles), ¶ A/CONF.151/26 (Vol. III) 1(a) (Aug. 14, 1992).
[340] *See supra* note 65, and *supra* note 196.
[341] *See supra* note 89.
[342] Forest Principles, *supra* note 339, 2(b).
[343] Forest Principles, *supra* note 339, 3(a).

areas. These resources shall be directed notably to economic sectors, which would stimulate economic and social substitution activities[344].

Access to biological resources, including genetic material, shall be conducted with due regard to the sovereign rights of the countries where the forests are located and to the sharing on mutually agreed terms of technology and profits from biotechnology products that are derived from these resources[345]. Benefits arising from the utilization of indigenous knowledge should therefore be equitably shared with such people[346].

The U.N. Committee on Sustainable Development created an Intergovernmental Panel on Forests to aid in implementation of the Forest Principles.

3.1.2. Forests as "Common Heritage of Mankind"

The discussion of this agreement took place in Brazil, which is especially relevant due to the deforestation of Amazonia, and helped raise attention to their role in the global environment. At that occasion, the internationalization of those resources began to be discussed[347], since forests were referred to as "common heritage of mankind"[348]. The internationalization of the Amazon would mean the transfer of these states sovereignty to a supranational entity that would have the power over it in the name of all existing nations. The strong position was mainly defended by developing country, such as the

[344] *Id*., 7(b).
[345] *Id*., 8(g).
[346] *Id*., 12(d).
[347] Ronnie D. Lipschutz, *Why is there no international forestry law?; An examination of international forestry regulation, both public and private*, 19 UCLA J. ENVTL. L. & POL'Y 153, 2 (2000/2001).
[348] Jennifer A. Loughrey, *The Tropical Forest Conservation Act of 1998: Can the United States Really Protect the World's Resources?-the Need for A Binding International Treaty Convention on Forests*, 14 EMORY INT'L L. REV. 315, 354 (2000); Matthew B. Royer, Note, *Halting Neotropical Deforestation: Do the Forest Principles Have What it Takes?*, 6 DUKE ENVTL. L. & POL'Y F. 105, 135 (1996).

U.S., which through the ex-Vice President Al Gore, stated: "Contrary to what Brazilians think, the Amazon is not their property, it belongs to all of us".

Responding to international question of national sovereignty over its territory, the Brazilian government stated that the Amazon belongs to the Brazilians and that even though the importance of preservation is acknowledged, development is also necessary. In the State of the World Forum in New York in 2000 a Brazilian Senator, Cristovam Buarque, was asked about his thoughts on the topic of the internationalization of the Amazon, considering a humanist perspective instead of a Brazilian's. He answered that he was for it, as long as other world's treasures were also internationalized: "As a humanist, I accept to defend the internationalization of the world. But as long as the world treats me as a Brazilian, I will fight to keep Amazonia ours. Ours alone![349]".

Equally, the Mexican representative stated: "this is not the common heritage mankind; it is a heritage of Mexicans-Mexican generations, present and future. We are not ready to give away these resources, which, according to the principle of sovereignty over natural resources, belong to the Mexican nation."[350]

Due to the strong opposition, discussions regarding the internationalization of the Amazon did not continue. A North-South divide is evident when examining tropical forest conservation efforts. Issues such as the underlying causes of deforestation, Northern consumption patterns, and appropriate financial mechanisms and technology

[349] The full speech was published by the Brazilian newspaper *O Globo*, (Oct., 10, 2000). The translated version in English is available on World Rainforest Movement, *The Internationalization of Amazonia*, Cristovam Buarque, http://www.wrm.org.uy/oldsite/countries/Brazil/amazonia.html.

[350] As Preamble (e) states that the Principles apply "to all types of forests, both natural and planted, in all geographical regions and climatic zones, including austral, boreal, subtemperate, subtropical, and tropical." UNCED, *A Global Consensus on Development of all Types of Forests*, 31 I.L.M. 881 (1992).

transfer, prevented a consensus on a Global Forest Convention (GFC)[351]. As a consequence, soft law instruments were created.

3.1.3. Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF)

The IPF and IFF represented five years of international forest policy dialogue. The Commission on Sustainable Development (CSD) established the IPF for a two-year period (1995-97) to provide a forum for forest policy deliberations. In 1997, the ECOSOC established the IFF for three years (1997-2000). Both represented intergovernmental forums for international forest policy development.

IPF and IFF examined a wide range of forest-related topics over a five-year period. Key outcomes of the deliberations were presented in the final reports, IPF4[352] and IFF4[353], in the form of 270 proposals for action towards sustainable forest management, which are considered collectively as the IPF/IFF Proposals for Action[354].

The Panel discussed several important issues in forestry, such as land-use programs, causes of deforestation and forest degradation, traditional knowledge, financial assistance and technology transfer, and trade of forest products and services[355].

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[351] Melanie Steiner, *The Journey from Rio to Johannesburg: Ten Years of Forest Negotiations, Ten Years of Successes and Failures*, 32 GOLDEN GATE U. L. REV. 629, 633 (2002).
[352] U.N. ECOSOC, *Report of the Ad Hoc Intergovernmental Panel on Forests on its Fourth Session* (IPF4), ¶ E/CN.17/1997/12 (Mar. 20, 1997). Bolivia, Brazil, Colombia, Guyana, Peru, and Venezuela participated as members; Ecuador participated as observer.
[353] U.N. ECOSOC, *Report of the Intergovernmental Forum on Forests on its fourth session* (IFF4), ¶ E/CN.17/2000/14 (Mar. 20, 2000). Brazil, Colombia, Guyana, Peru, and Venezuela participated as Member States; Ecuador participated as Observer.
[354] U.N. Intergovernmental Panel on Forests, *Proposals for Action*, available at http://www.un.org/esa/forests/pdf/ipf-iff-proposalsforaction.pdf (last visited Oct. 30, 2013).
[355] IPF4, *supra* note 352.

The Panel for IPF4 concluded that there was a strong need for coordination among international organizations and multilateral institutions to provide a holistic approach for all types of forests[356]. Although several institutions work closely with forest-related issues, there was no single multilateral body with the capacity to address all issues regarding forests. In addition to a unified body, the Panel addressed the issue of the need of a global instrument that dealt with the interrelated aspects that impact forests[357]. Such body and instrument would create the framework to develop and implement indicators for sustainable forest management (SFM)[358].

Adding on to the strategy for action suggested by IFP4, through national forest programs, IFF4 recognized the diversity of countries, and the different priorities at the national level. Implementation and enforcement of proposals for action would therefore be held at national and subnational levels, with significant international support[359].

Likewise, the IFF4 underscored the need for financial mechanisms and measures to support development assistance, especially for developing countries and least developed countries[360].

The Forum highlighted certain regional initiatives, including the Sub-Network of Protected Areas of the Amazon[361], the Central American Convention on Forests, and the

[356] *Id*., item 136.
[357] *Id*., item 142.
[358] *Id*., item 141.
[359] IFF4, *supra* note 353, item 3.
[360] *Id*., item 2; 20-31.
[361] Agreed by the Ministers of Environment of the Parties to the ACT (Mar. 1998).

regional workshops held under the auspices of the FAO Regional Forestry Commissions for Asia and the Pacific, Africa and Latin American and the Caribbean[362].

The Forum recognized the need to develop a common understanding of key concepts, definitions and terms at the national and international levels, as well as criteria and indicators for SFM[363]. The impact of international trade in forest products was also addressed, according to the positive and negative impacts of trade policies on SFM[364].

Although the IPF/IFF proposals for action are not legally binding, participants are under a political obligation to implement the agreed proposals for action and each country is expected to conduct a systematic national assessment of the IPF/IFF proposals and to plan for their implementation. They can provide guidance in the implementation of relevant treaties and represent a beginning in building synergies. However, they are not always explicit as how they relate to existing instruments or specific enough to reflect a true international consensus[365].

An informal, high level Interagency Task Force on Forests (ITFF) was set up in July 1995 to coordinate the inputs of international organizations to the forest policy process. ITFF was made up of eight international organizations.

[362] IFF4, *supra* note 353, item 8.
[363] *Id*., items 14-15.
[364] *Id*., item 33.
[365] RICHARD TARASOFSKY, *supra* note 334, at 5.

3.1.4. United Nations Forum on Forests (UNFF)

The UNFF was established by the Economic and Social Council of the United Nations' (ECOSOC)[366] as part of a new international arrangement on forests, to carry on the work developed by the IPF and IFF processes. It is a subsidiary body with the main objective to promote the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end. It functioned as the main vehicle of international cooperation and policy.

The UNFF1 Report[367] outlined the UNFF Plan of Action (target was progress on the implementation of the IPF/IFF proposals for action and demonstrable progress towards sustainable forest management by 2005) and the first Multi-Year Program of Work (MYPOW)[368] from 2001-2005. The Forum feeds into broader global environment and development processes with inputs such as the UNFF2 Ministerial Declaration to the World Summit on Sustainable Development[369].

ECOSOC Resolution 2006/49[370], based on the outcome of UNFF6, contained a package of measures that greatly strengthened the international arrangement on forests,

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[366] ECOSOC, Res. 2000/35, U.N. ECOSOC, 46th plenary meeting, Resolutions and Decisions of the Economic and Social Council, Resumed Substantive Session of 2000, at 64 (Oct. 18, 2000).
[367] U.N. Forum on Forests, *Report on the organizational and first sessions*, ¶ E/2001/42/Rev.1, E/CN.18/2001/3/Re/1 (12 and 16 February and 11-22 June 2001).
[368] It was adopted at the seventh session of UNFF (UNFF7), and reflects the new biennial format for the Forum. U.N. Forum on Forests, *Report on the seventh session*, ¶ E/2007/42, E/CN.18/2007/8 (24 February and 16-27 April 2007).
[369] Such as: a) Advance sustainable forest management as a critical means to eradicate poverty, reduce land and resource degradation, improve food security as well as access to safe drinking water and affordable energy, and highlight the multiple benefits of both natural and planted forests and trees to the well-being of the planet and humanity; (b) Enhance political commitment to achieve sustainable forest management by endorsing it as a priority on the international political agenda, taking full account of the linkages between the forest sector and other sectors through integrated approaches. *See* U.N. General Assembly, *Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development*, third session, ¶ A/CONF.199/PC/8 (Mar. 19, 2002).
[370] ECOSOC, Res. 2006/49. U.N. ECOSOC, 6th session of the UNFF, 43rd plenary meeting (Jul. 28, 2006).

and provided clear guidance on the future work of the Forum. In particular, the resolution included the adoption of the four Global Objectives on Forests, and the addition of three principal functions for the UNFF (in addition to the six already contained in ECOSOC resolution 2000/35). ECOSOC also decided that UNFCC should conclude and adopt a non-legally binding instrument on all types of forests.

The Global Objectives on Forests are: (i) reverse the loss of forest cover worldwide through sustainable forest management (SFM), including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation; (ii) enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people; (iii) increase significantly the area of sustainably managed forests, including protected forests, and increase the proportion of forest products derived from sustainably managed forests; and (iv) reverse the decline in official development assistance for sustainable forest management and mobilize significantly-increased new and additional financial resources from all sources for the implementation of SFM.

UNFF8, which happened in 2009, discussed forests in a changing environment, within the context of climate change, as well as means of implementation. In the International Year of Forests, UNFF9, in 2011, focused on forest for the people, within the context of livelihoods and poverty eradication. This years meeting, UNFF10 discussed forests and economic development. The last one, UNFF11, in 2015, will provide a review and future direction.

The Collaborative Partnership on Forests [371] was established in April 2001, following the recommendation of ECOSOC[372]. This innovative partnership of 14 major forest-related international organizations, institutions and convention secretariats, works to support the work of the UNFF and its member countries and to foster increased cooperation and coordination on forests. The CPF is chaired by FAO and is serviced by the UNFF Secretariat.

3.1.5. Non-Legally Binding Instrument on All types of Forests

The Instrument was adopted by the General Assembly of the United Nation during the 62nd Session, on 17 December 2007[373]. It is considered a milestone, as it was the first time Member States agreed to an international instrument for sustainable forest management. It was indeed the first comprehensive international policy instrument dealing with all types of forests.

The instrument intends to impact international cooperation and national action to reduce deforestation, prevent forest degradation, promote sustainable livelihoods and reduce poverty for all forest-dependent peoples. The purpose of the instrument is (a) to strengthen political commitment and action at all levels to implement effectively sustainable management of all types of forests and to achieve the shared global objectives on forests; (b) to enhance the contribution of forests to the achievement of the internationally agreed development goals, including the Millennium Development Goals, in particular with respect to poverty eradication and environmental sustainability; (c) to provide a framework for national action and international cooperation.

[371] CPF, COLLABORATIVE PARTNERSHIP ON FORESTS, http://www.cpfweb.org/73947/en/.
[372] ECOSOC, Res. 2000/35, *supra* note 366.
[373] G.A. Res. 62/98, ¶ U.N. Doc. A/RES/62/98 (Jan. 31, 2008).

It applies to all types of forests, and uses the concept of sustainable forest management to maintain and enhance the economic, social, and environmental values of forests for the benefit of present and future generations. Through the resolution, Member States commit themselves on a voluntary basis to implement 25 national policies and measures to foster sustainable forestry management practices[374], and to periodically report on progress to UNFF. As such, it provides a policy framework, thus enhancing coordination among various forest-related policy process, which are often fragmented[375].

3.1.7. Other Instruments

Although there is no broad legally binding convention on forests and deforestation, a framework for an international law on forests can be constructed from international agreements that address these problems. As such, a common policy for the Amazon countries can be derived from these provisions, hereby highlighted:

Table 2: Relevant multilateral conventions related to forests[376]

Convention	Adoption	Entry into force	No. of parties	Amazon Parties
Climate Change Convention[377]	May 9, 1992	March 21, 1994	195	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[378]

[374] Such as encourage instruments for environmental impact assessment (EIA) in projects that impact on forests, enhance contribution of forestry to poverty reduction and sustainable development, promote efficient production and processing of forest products, promote an enabling environment for private sector investment in SFM, promote the recognition of values of goods and services provided by forests.
[375] FAO, A GUIDE TO MONITORING AND EVALUATION OF THE NON-LEGALLY BINDING INSTRUMENT ON ALL TYPES OF FORESTS (NLBI) 3 (2011), available at http://www.fao.org/docrep/015/mc364e/mc364e00.pdf.
[376] BARBARA RUIS, FAO, NO FOREST CONVENTION BUT TEN TREE TREATIES, available at http://www.fao.org/docrep/003/y1237e/y1237e03.htm (last visited Oct. 30, 2013).
[377] United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol (Dec. 11, 1997): Article 2 states that industrialized parties shall "implement and/or further elaborate policies and measures ... such as ... promotion of sustainable forest management practices, afforestation and reforestation". Under the protocol, certain human-induced activities in the land-use, land-use change and forestry sector (known as LULUCF) that remove greenhouse gases from the atmosphere, namely afforestation, reforestation and tackling deforestation, may be used by industrialized countries to offset their emission targets. Conversely, changes in these activities that deplete carbon sinks, such as deforestation, will be subtracted from the amount of permitted emissions.

Convention on Biological Diversity[379]	June 05, 1992	December 29, 1993	193	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[380]
Desertification Convention[381]	June 17, 1994	December 26, 1996	195	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[382]
Ramsar Convention on Wetlands[383]	February 02, 1971	December 21, 1975	168	Bolivia, Brazil, Colombia, Ecuador, Peru, Suriname, Venezuela[384]
World Heritage Convention[385]	November 16, 1972	December 17, 1975	190	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[386]
Convention on International Trade in Endangered Species[387]	March 03, 1973	July 01, 1975	178	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[388]
Ozone Layer Convention[389]	March 22, 1985	September 22, 1988	197	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[390]

[378] UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, Status of Ratification of the Convention, http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php (last visited Oct. 30, 2013).

[379] A large part of the world's terrestrial biological diversity is found in forests; forest ecosystems are estimated to contain 70 percent of the world's plant and animal species. Since its adoption, CBD has considerably expanded its horizon to include forests within its purview. CBD has influenced the global dialogue on forests also through its leading role in support of recognition of the traditional forest-related knowledge of indigenous people and forest-dependent people in the IPF/IFF process.

[380] CONVENTION ON BIOLOGICAL DIVERSITY, List of Parties, http://www.cbd.int/convention/parties/list/default.shtml (last visited Oct. 30, 2013).

[381] Protection and expansion of forests are important elements in UNCCD, since forests have significant ecological functions that mitigate effects of drought and prevent desertification. Strategies to deal with desertification are likely to mitigate forest loss as well, and vice versa.

[382] UNCCD, Secretariat of the United Nations Convention to Combat Desertification, Update on Ratification of the UNCCD (29 May 2012) http://www.unccd.int/Lists/SiteDocumentLibrary/convention/ratification-eng.pdf

[383] The objective of the Ramsar Convention is the conservation and wise use of wetlands through national action and international cooperation. Some of the sites designated as wetlands of international importance contain forest ecosystems, such as mangroves, although forests as such are not identified under the convention.

[384] The Ramsar Convention on Wetlands, Contracting Parties to the Ramsar Convention on Wetlands, http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123^23808_4000_0__ (last visited Oct. 30, 2013).

[385] The WHC aims to establish a system of collective protection of cultural and natural heritage of outstanding universal value. Forests can be considered as natural heritage, defined as "natural sites or precisely delineated areas of outstanding universal value from the point of view of science, conservation or natural beauty" (Art. 2).

[386] UNESCO, World Heritage Convention, States Parties. Ratification Status, http://whc.unesco.org/en/statesparties/ (last visited Oct. 30, 2013).

[387] CITES aims to protect certain endangered species of wild fauna and flora from overexploitation through international trade, via a system of import/expert permits.

[388] Convention on International Trade in Endangered Species of Wild Fauna and Flora, List of Contracting Parties, http://www.cites.org/eng/disc/parties/alphabet.php (last visited Oct. 30, 2013).

[389] The main relevance of the ozone regime for forests is the link between depletion of the ozone layer and the possible adverse effects this might have on forests (Article 1.2). For commercial forests, tree breeding and genetic engineering may be used to improve tolerance of ultraviolet-B (UV-B) radiation, but for unmanaged or natural forests these methods are not an option. While many forest tree species appear to be UV-B tolerant, there is some evidence that detrimental UV-B effects can slowly accumulate in trees from

International Tropical Timber Agreement[391]	26 January 1994	January 01, 1997	66	Brazil, Colombia, Ecuador, Guyana, Peru[392]
World Trade Organization[393]	April 15, 1994	January 01, 1995	159	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela[394]

3.2. Challenges in building an international convention on forests

3.2.1. Sovereignty issues

The primary barrier to solve environmental problems with global governance, forestry issues in particular, is the principle of state sovereignty. Although forest negotiations develop, they always face the same barrier, since at national and subnational level, governments do not want to undertake the surrender of sovereignty that would ensue from signing a binding commitment to manage forests under a global governance treaty[395]. The Stockholm and Rio Declarations both assert that each state has the

year to year (UNEP, 1998). While it can be argued that implementation of the ozone regime would be beneficial to forests, the ozone regime does not explicitly consider forests.

[390] UNITED NATIONS ENVIRONMENT PROGRAMME, Ozone Secretariat, Status of Ratification, http://ozone.unep.org/new_site/en/treaty_ratification_status.php (last visited Oct. 30, 2013).

[391] Promotes international trade in tropical timber, the sustainable management of tropical forests, and the development of forest industries through international consultation and cooperation, policy work and project activities. Country membership in the International Tropical Timber Organization (ITTO), which administers ITTA, is restricted to states that are either producers or consumers of tropical timber. The agreement first came into force in 1985, but a renegotiated agreement entered into force in 1997. During the renegotiations, the positions of producer and consumer states were sometimes opposed: producers favored extending the scope to cover timber from all sources, in order to bring all forests under the same stringent guidelines as agreed for tropical forests, while consumer countries held the view that broadening the convention to a global scope was beyond its mandate.

[392] INTERNATIONAL TROPICAL TIMBER ORGANIZATION, ITTO members under ITTA, http://www.itto.int/itto_members/ (last visited Oct. 30, 2013).

[393] WTO forms the administrative and institutional framework of the revised 1994 General Agreement on Tariffs and Trade (GATT) and related instruments. The GATT/WTO regime is intended to support and ensure the proper functioning of free trade, while taking into account the protection of the environment. The most important provision in this regard is GATT Article XX, which includes exceptions to all trade rules for certain purposes such as the protection of animal or plant life and the conservation of exhaustible natural resources, subject to the condition that they will not be "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination ... or a disguised restriction on international trade".

[394] WORLD TRADE ORGANIZATION, Members and Observers, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited Oct. 30, 2013).

[395] Annie Petsonk, *Legal obligations and institutions of developing countries: Rethinking approaches to forest governance in* THE WORLD BANK LEGAL REVIEW 294 (2012).

sovereign right to exploit their own resources[396]. The right is nonetheless limited by the obligation to ensure that environmental policies do not damage the environment of other states or areas beyond national jurisdiction or control. These declarations, which represent milestones in the evolution of international environmental law, provide a basic common outlook on how to address the challenge of preserving and enhancing the human environment[397]. As such, they established guidelines for the development of the field, and became rules of international customary law.

A country recognized as sovereign by the international community is equal as any other regardless of its wealth or size[398], having the liberty to decide for policies within its territory as long as in accordance with its constitutional arrangements[399]. The concept of a sovereign state was created in a post-war time, when it was the most important to respect other countries jurisdiction within its borders, without intervention from other states. Sovereignty over natural resources developed during the period of decolonization in order to protect newly independent states from over-exploitation by the developed countries[400]. Since environmental problems do not respect borders, the concept of state sovereignty became an ecopolitical contradiction[401].

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[396] 1972 Stockholm Declaration, *supra* note 65, Principle 21; 1992 Rio Declaration, *supra* note 196, Principle 2.
[397] GÜNTHER HANDL, DECLARATION OF THE UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT (STOCKHOLM DECLARATION), 1972 AND THE RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, 1992 (2012), available at http://legal.un.org/avl/pdf/ha/dunche/dunche_e.pdf.
[398] U.N. Charter art. 2.1.
[399] International Commission on Intervention and State Sovereignty. 2001., *Responsibility to Protect, The: Report of the International Commission on Intervention and State Sovereignty* [online]. International Development Research Centre. Available from: http://www.myilibrary.com/Browse/open.asp?ID=71812&loc= 20 July 2008
[400] Ann Hooker, *The International Law of Forests*, 34 NAT. RESOURCES J. 823, 5 (1994).
[401] Lorraine Elliott, *Global Environmental Governance in* GLOBAL GOVERNANCE: CRITICAL PERSPECTIVES, 57; 60 (R. Wilkinson and S. Hughes, ed., 2002).

Although some critics argue that the sovereignty of a state is a barrier to the protection of the environment, it is unlikely that states will accept the global involvement in the national affairs of a country, and that others interfere with how they manage their local resources. The Convention Relative to the Preservation of Fauna and Flora in their Natural State from 1933 is a rare example of such permission[402]. Also known as the London Convention of 1933, it was one of the first general conservation agreements, and has therefore been called the *Magna Carta* of wildlife conservation.

By determining limitations to the exploitation of nature, countries established some involvement in the management of another country's natural resources[403]. In this sense, parties agreed to submit to externally imposed law governing the use of certain resources even though those were located within the boundaries of a sovereign state. The convention, however, is an exception, since it was approved within a context of colonialism and later superseded by the African Convention on Conservation of Nature and Natural Resources[404].

The UNCED raised the interest of the global community for the environment, and acknowledged a right to demand certain behavior from other countries to ensure a safe environment for global citizens[405]. Nevertheless, environmental issues are rarely a pure one. They are often intertwined with economic, political and developmental discussions.

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[402] UNEP/GC/Inf./11 (Nov. 8 1933), at 4. The convention is open for accession to any government, and went into force on January 14, 1936.
[403] Roseanna Eshbach, *A Global Approach to the Protection of the Environment: Balancing State Sovereignty and Global Interests*, 4 TEMP. INT'L & COMP. L.J. 271, 6 (1990).
[404] African Convention on the Conservation of Nature and Natural Resources, CAB/LEG/24.1 (Sep. 15, 1968), available at http://www.african-court.org/pt/images/documents/Sources%20of%20Law/Conservation%20of%20Nature/nature%20eng.pdf.
[405] Roseanna Eshbach, *supra* note 403, at 7.

Forests serve a variety of ecological roles. They provide habitat for plants and species, environmental services such as water flow and purification, regulation of global climate, soil retention and productivity, local air quality, and carbon sequestration, and serve as reservoirs of genetic diversity by providing wildlife and fish habitat[406]. Forests also house a variety of chemicals including pharmaceuticals. Most importantly, they provide timber production and land that can be used for agriculture, and resources such as food, fuel, and building materials.

As such, preservation of forests is often linked to the production of timber and other commodities[407]. Due to the economical value of such commodities for local governments, forestry differs significantly from other areas in environmental protection, such as oceans or the atmosphere, which have a more global gist. In this sense, no solution has yet been found to overcome this issue and achieve an international regulation.

3.2.2. Property related issues

Forestry is "embedded within long-standing national legal and regulatory systems"[408]. Forest management systems have derived from state authorities, and its viability often depends on a form of social contract between producers and consumers since trees were originally protected due to their value as wood, rather than biodiversity. Each country has its own national law and practices regarding forest protection. While forestland is privately owned in some countries, most areas are held by the state as a public good, although systematically leased to private timber producers. A few states also

[406] Ann Hooker, *supra* note 400, at 1.
[407] Ronnie D. Lipschutz, *supra* note 347, at 2.
[408] *Id*.

have the additional problem of overseeing the state-owned land, which might render those areas practically free to public use and abuse[409]. In addition, there are indigenous rights regarding the area they traditionally occupy to consider. Although many states do not officially recognize their property rights, many are addressing the issue, and concerns were usually presented during negotiations that a national government-based negotiation could undermine efforts to establish nationally recognized rights of indigenous peoples[410]. Regardless of the regime chosen, forests are viewed by states as a matter of sovereign property and a national resource.

3.2.3. Forestry practices and international trade

A public international forestry law would mandate harmonization of forestry practices, which amounts a form of "cultural imperialism"[411]. Forests import involves international trade.

Indeed, a compromise is often hard to reach since each society has different values and priorities, as well as different definitions of the concepts of "environment" and "conservation"[412]. In this sense, instead of a single harmonious and global solution, a combination would be ideal.

In the absence of harmonization, states might find it difficult to impose municipal standards on forestry imports to encourage more sustainable practices in the country of

[409] *Id*., at 2.
[410] Annie Petsonk, *supra* note 395.
[411] Ronnie D. Lipschutz, *supra* note 347, at 4.
[412] Roseanna Eshbach, *supra* note 403, at 7.

origin, since they might be found in violation of WTO rules that forbid process standards as non-tariff barriers to trade[413].

3.2.4. Development

Lastly, developing countries have often argued that since they started developing later, they had the right to additional time and lesser restrictions in catching up with developed countries. Although the discussion might have been proven useful in the past, this argument cannot be used indefinitely, and certainly cannot be used as an excuse to unlimited exploitation of natural resources.

The Stockholm Declaration addressed the problem of how to equitably distribute the costs of protecting the environment, acknowledging the particular needs of developing countries and the costs that might arise from incorporating environmental safeguards into their development planning[414].

3.2.5. Other paths to regulate forests

While negotiators and proponents of global forest governance continue to propose regulation of environmental bads, such as climate change and deforestation, they failed to comprehend the core ingredient missing from any regime, a strategy that would make a forest be worth more alive than dead[415]. Based on that principle, there are other means to regulate forest practices at the global level. For example, reliance on market mechanisms other than trade has been used to motivate sustainable forestry[416]. Therefore, regulation

[413] Ronnie D. Lipschutz, *supra* note 347, at 4.
[414] 1972 Stockholm Declaration, *supra* note 65, Principle 12.
[415] Annie Petsonk, *supra* note 395.
[416] Ronnie D. Lipschutz, *supra* note 347, at 3.

through markets in tradable emission permits has often been seen as a more achievable solution, leaving states to regulate it nationally[417].

Due to these difficulties, a legally binding international convention on forests has not yet been achieved. In spite of this, many discussions within the international community have led to principles and guidelines for forestry that are worth noting.

[417] *Id*.

Chapter 4: Amazon Countries: Analysis of their share of the Amazon and how the government has dealt with forest law and protection of lands

The Amazon countries share about 13,7 km^2 of the forest and basin, an area with endemic species, high biodiversity and ecosystems that serve several different services. On the other hand, those countries have different backgrounds, political history and development, cultural and historical differences, as well as different legal system and protection approaches. The diverse legal systems, combined with the property regime and distribution of land among the population, as well as the development models chosen, directly affect the protection of its portion of the Amazon rainforest. Cultural, political, social and development processes also have to be taken into consideration, since they directly influence the way each country implements conservation initiatives developed.

However the differences, proper protection of the Amazon ecosystem depends on the adoption of a common strategy, which combines public protection and implementation of private conservation measures. The degradation of Amazon's forest coverage has to be understood in connection with the legal strategies used for the management of protected areas. Since public initiatives have often proven insufficient to properly safeguard the region, it is important to increase participation of the private sector as well, through mechanisms that are still in early development in most Amazon countries. In order to do so, it is necessary to provide the private sector with sustainable tools, legal instruments and economic incentives to use the land wisely, without degrading the forests, and making it economically viable for them to choose the path of protection.

Most Amazon countries face some of the same challenges, since there is generally a developed regulation of forests and protected areas, but deforestation has still not decreased, largely due to poor enforcement of forest law, uncertainty regarding land use and change of the use of land, property rights and use of forests, lack of information

regarding the forest resources, and an increase in demand of forest products[418]. Since the issues are similar, and these countries share an ecosystem that is best preserved through common efforts, it is essential to provide a common answer to the problems observed. In addition, most countries are still considered developing countries, with an economy that highly relies on the exploitation of natural resources. First, however, the peculiarities of each country shall be analyzed, to understand which are the issues and answers provided until now. This chapter addresses this question.

4.1. BOLIVIA

4.1.1. Introduction to Bolivia

The Plurinational State of Bolivia[419], or, plainly, Bolivia, is a landlocked country located in the center-west of South America. Within the Amazon countries, it only borders Brazil and Peru. It also borders Argentina, Paraguay and Chile. It is the 28th largest country in the world in size (1,098,580 km^2), and the 4th largest within the Amazon countries, and 83rd largest in the world in terms of population[420].

4.1.1.1. National History

Present day Bolivia has been occupied by indigenous communities for over 3,000 years[421]. In the Pre-Columbian era, the Andean region of Bolivia was part of the Inca Empire, the largest state in Pre-Columbian America. European conquerors took control of the region in the 16th century, and Bolivia became a colonial territory of Spain. During

[418] WORLD BANK, *La observancia de la legislación forestal y la gobernanza de los bosques en los países tropicales* 8 (2008), available at http://www.fao.org/docrep/012/al044s/al044s00.pdf.
[419] The 2009 Constitution changed the country's name from Republic of Bolivia to the Plurinational State of Bolivia in recognition of its multi-ethnic nature and the position of indigenous people under the new constitutional order. 2009 Constitution of the Plurinational State of Bolivia, 2009 Constitución Política del Estado Plurinacional de Bolivia, published by the Gaceta Oficial de Bolivia, Feb. 7, 2009, after approved by a 61.43% majority in the Jan. 25, 2009 referendum [2009 Bolivian Const.], available at http://www.presidencia.gob.bo/documentos/publicaciones/constitucion.pdf (last visited Feb. 4, 2014).
[420] CIA, THE WORLD FACTBOOK, *Bolivia* (updated Feb. 11, 2014), https://www.cia.gov/library/publications/the-world-factbook/geos/bl.html.
[421] Aymara (2000 years), Tiwanaku (since 1500 BC).

colonization, Bolivia was known as Upper Peru, under the administration of the Viceroyalty of Peru and later bounded to the Viceroyalty of Río de La Plata[422].

Bolivia attempted its first call for freedom in 1809, but endured a 16-year war to establish the Republic[423]. On August 6, 1825, Antonio José de Sucre proclaimed independence from Spain and named the newfound country after Simón Bolívar, the leader in the Spanish American wars of independence. However, due to several disputes with neighboring countries, Bolivia lost over half of its territory over the following years. The last territories lost were the state of Acre, which was signed over to Brazil in 1903[424], and the Gran Chaco region to Paraguay in 1935[425]. Although the country has no access to the sea[426], it recognizes a non-renounceable right over the territory to the Pacific Ocean and its maritime space[427], an area lost to Chile after the War of the Pacific[428].

Like most South American countries, Bolivia suffered a long period of political instability and military coups over the 20th century. However, since 1982 it is a presidential representative democratic republic, and although two presidents have stepped down due to popular protests[429], power has peacefully been ceded since. It has a unitary presidential system. Evo Morales, the first indigenous Bolivian to be elected president, was elected in 2006 and reelected in 2009[430]. The current Constitution defines Bolivia as a social Unitarian state, founded on plurality and political, economic, legal, cultural and linguistic pluralism[431].

[422] The Viceroyalty of Peru was a Spanish colonial administrative district and included most of Spain's South American colonies.
[423] The Chuquisaca and La Paz Revolution, both short-lived, led to the Spanish American wars of Independence.
[424] Treaty of Petrópolis (Nov. 11, 1903).
[425] Signed to end the Chaco War.
[426] CIA, THE WORLD FACTBOOK, *Bolivia*, *supra* note 420.
[427] 2009 Bolivian Const., art. 268.
[428] Treaty of Peace and Friendship of 1904 between Chile and Bolivia.
[429] Gonzalo Sánchez de Lozada in 2003 and Carlos Mesa in 2005.
[430] Juan Forero, *Bolivia Indians Hail the Swearing In of One of Their Own as President*, NYTIMES (Jan. 23, 2006), http://www.nytimes.com/2006/01/23/international/americas/23bolivia.html.
[431] 2009 Bolivian Const., art. 1.

4.1.1.2. Organization of territory

Bolivia follows a model of decentralized autonomous territorial entities, each incorporated within the government model. Administration of the Bolivian territory is established in four levels: departments, provinces, municipalities and Native Indigenous Campesino Territories (TIOC)[432]. There are nine departments, further subdivided into 112 provinces, and into 339 municipalities and TIOCs[433]. Each level of administration is autonomous, meaning that they have full authority over their territory[434].

Since the indigenous communities are the original people from Bolivia, and have an ancestral link to their territory from the pre-colonial era, the Constitution declared their autonomy over such lands, entitled to their own government, culture, and institutions[435]. The recognition of their historical rights led to a profound change in the structure of the state[436]. The TIOCs were equaled to Municipalities as part of Pres. Morales' campaign for the recognition of indigenous rights. The communities were thus reaffirmed as a group of people, and, as such, are entitled to collective rights[437].

4.1.1.3. Economy

Bolivia has a population of 10 million people[438], divided among several ethnic groups and cultures[439]. Bolivia is one of the lowest ranking countries within Latin America in several areas of health and development, including poverty, education, fertility, malnutrition, mortality, and life expectancy. Almost half of the population is below the poverty line, and although a developing country, it is one of the poorest and least developed countries in Latin America [440]. Bolivia has a GDP of $54.6 billion,

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[432] 2009 Bolivian Const., art. 269: Territorio Indígena Originaria Campesino (TIOC).
[433] CIA, THE WORLD FACTBOOK, *Bolivia*, *supra* note 420.
[434] 2009 Bolivian Const., art. 272.
[435] 2009 Bolivian Const., art. 2.
[436] Carlos Romero Bonifaz, *Los Ejes de la Constitución Política del Estado Plurinacional de Bolivia in* A CLOSER LOOK: BOLIVIA'S NEW CONSTITUTION, 22 (2010), available at http://www.idea.int/publications/bolivias_new_constitution/upload/miradas_pre2.pdf.
[437] *Id*.
[438] CIA, THE WORLD FACTBOOK, *Bolivia*, *supra* note 420.
[439] Mostly Quechua (45.6%) and Aymara (42.4%), but there are 37 recognized indigenous groups (0.3% average per group).
[440] CIA, THE WORLD FACTBOOK, *Bolivia*, *supra* note 420.

ranking 93rd in the world[441]. However, after the global recession slowed down, Bolivia recorded one of the highest growth rates in South America[442], leading to a credit rating upgrade in 2010[443].

Bolivia has not a diversified economy and has followed a pattern of reliance in a single-commodity (silver, tin, coca). As such, it is very vulnerable to changes in the international commodity prices[444]. The country's economy is largely based on agriculture (coca, soybeans), forestry, fishing, mining (tin, natural gas and zinc), manufacturing (textiles, clothing), and refined petroleum. It is very wealthy in strategic minerals, owning especially large reserves of tin and the largest concentration of lithium in the world[445]. Agriculture and forestry still account for 14 percent of the economy and employs 44 percent of the workers[446].

4.1.1.4. Historical context of the legal system and sources of law

Bolivia belongs to the "Roman-Germanic" civil law system of law, with influences of Roman, Spanish, French, religious and indigenous law[447]. Indigenous law has increasingly become more influent, due to the recognition of autonomous indigenous groups, part of the government.

The Constitution is Bolivia's supreme norm and prevails over all other norms[448]. The hierarchy of norms follows the following order: constitution, international treaties, national laws, statutes, and departmental, municipal and indigenous law; decrees, regulations and other provisions from executive bodies[449]. Indigenous customs and norms have therefore the same hierarchical strength as municipal or departmental norms. However, each of those norms is subject to the territory and autonomy to which it is

[441] *Id*.
[442] *Id*.
[443] REUTERS, *Moddy's upgrades Bolivia credit rating to B1* (Dec. 2, 2010, 4:35PM), available at http://www.reuters.com/article/2010/12/02/bolivia-moodys-upgrade-idUSWNA593620101202.
[444] THE WORLD BANK, *Bolivia*, http://www.worldbank.org/en/country/bolivia/overview (last visited Feb. 21, 2014).
[445] Andres Schipani, *Bolivia: the Saudi Arabia of lithium?*, FINANCIAL TIMES (Jan. 7, 2013, 7:27PM), http://blogs.ft.com/beyond-brics/2013/01/07/bolivia-the-saudi-arabia-of-lithium/.
[446] THE WORLD BANK, *Bolivia*, *supra* note 444.
[447] CIA, THE WORLD FACTBOOK, *Bolivia*, *supra* note 420.
[448] 2009 Bolivian Const., art. 410, II.
[449] *Id*.

applicable. In this sense, indigenous norms are only applied within the territory and population in its reach[450].

4.1.2. State Structure and Organization

The Constitution provides a separation of powers between four branches of government: executive, legislative, judicial and electoral powers[451].

4.1.2.1. The Executive Branch

The Executive Branch at the plurinational level is composed by the President, the Vice-President, and the Ministries of State[452]. The President and Vice-President are jointly elected through universal vote for a five-year term[453]. The Ministries of State are appointed and coordinated directly by the President[454].

As noted, the government has four decentralized levels of organization: the plurinational level, the departmental level, the regional level, and the indigenous and municipal level, each with its corresponding authorities within each branch[455].

The departmental government has an executive-legislative division of powers and their own statutes of autonomy[456]. It is composed by the Departmental Assembly[457], with legislative, deliberative and administrative powers, and by an executive branch, led by the Governor[458]. The Governor is the highest executive official, and is chosen by popular election rather than presidential nomination, as it was before the reform[459]. These legislative officials are directly elected by vote or indigenous elections.

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[450] MORADAS, *Nuevo Texto Constitucional in*, NUEVA CONSTITUCIÓN, NUEVO GOBIERNO, NUEVO ESTADO (Carlos Cordero Carraffa, ed.) 87-88, available at http://www.idea.int/publications/bolivias_new_constitution/index.cfm.
[451] 2009 Bolivian Const., art. 12, I. The 2009 Constitution elevated the electoral authorities to status of fourth constitutional power
[452] 2009 Bolivian Cons., art. 165.I.
[453] 2009 Bolivian Cons., art. 166.I, 168.
[454] 2009 Bolivian Cons., art. 172, 22 and 4.
[455] 2009 Bolivian Cons., art. 11.
[456] 2009 Bolivian Cons., arts. 277-279.
[457] In the original: *Asamblea Departamental.*
[458] 2009 Bolivian Cons., art. 277, 281.
[459] 2009 Bolivian Cons., art. 279, 285.

Likewise, the municipal government is composed by the Municipal Council[460], with deliberative, administrative and legislative duties, and an executive body presided by the *Alcalde*[461]. The regional government is formed by several provinces or municipalities of geographical continuity within a department. It is constituted by the *Asamblea Regional*, with deliberative, administrative, normative, and oversight duties at the regional level.

The TIOC substituted the native community land[462] and became part of the multi-level system of autonomies[463]. They constitute autonomous self-governed territories over ancient land with specific language, culture, norms and judicial institutions[464]. A municipality can be converted into a TIOC per request[465].

4.1.2.1.1. The Ministry of the Environment

The Ministry of Environment and Water[466] replaced the Ministry of Sustainable Development and Environment in 2009[467]. Within its structure, the Vice-Ministry of Environment, Biodiversity, Climate Change, Management and Development of Forests[468] formulates and implements policies, norms and programs regarding the sustainable use of biodiversity, environmental protection and conservation, wildlife and protected areas[469].

Two structures within the Vice-Ministry deal with forest issues: the General Direction of Biodiversity and Protected Areas[470], with a unit for Wildlife and Protected Areas[471], and the Direction of Management and Forest Development[472], with a unit for

[460] In the original: *Consejo Municipal.*
[461] 2009 Bolivian Cons., art. 283.
[462] In the original: *Tierras Comunitárias de Origem* (TCOs).
[463] 2009 Bolivian Cons., art. 289.
[464] 2009 Bolivian Cons., art. 289, 290, 296.
[465] 2009 Bolivian Cons., art. 293-295.
[466] *See* MINISTERIO DE MEDIO AMBIENTE Y AGUA, http://www.mmaya.gob.bo (last visited Jan. 30, 2014).
[467] Bolivia, Supreme Decree No. 29894 (Feb. 7, 2009), art. 13, q; 94; modified by Supreme Decree No. 0429 (Feb. 10, 2010).
[468] In the original: *Viceministerio de Medio Ambiente, Biodiversidad y Cambios Climáticos.*
[469] Bolivia, Supreme Decree No. 29894 (Feb. 7, 2009), art. 13, q, 94; modified by Supreme Decree No. 0429 (Feb. 10, 2010).
[470] In the original: *Dirección General de Biodiversidade y Áreas Protegidas.*
[471] In the original: *Unidad Vida Silvestre y Áreas Protegidas.*
[472] In the original: *Dirección de Gestión y Desarrollo Forestal.*

management and conservation of forests[473], and a unit for development of forests products[474]. The unit for wildlife and protected areas carries on the work of the National Service of Protected Areas (SERNAP)[475] and applies the rules regarding wildlife and protected areas. The unit for the management of forest conservation, on the other hand, is in charge of the development of sustainable use of forest resources, which creates a market to be regulated by the unit of forest resources[476].

Other decentralized bodies participate in the administration of the environment as a whole, and forests in particular. The National Secretary of Environment (SENMA)[477] provides for the national environmental management[478]. It determines the national territorial planning; and oversees and regulates the management of protected areas[479]. As such, it is the responsible body for overseeing SERNAP[480]. The Regulating System of Renewable Natural Resources (SIRENARE)[481] was created to regulate, control and oversee the sustainable use of natural resources[482]. The Forestry Superintendence[483] is an independent body, part of SIRENARE[484], dedicated to the regulation and control of forests[485]. It supervises the enforcement of the forest regime, gives concessions and authorizations for forest use, among other attributions[486]. The National Fund for Forest Development (FONABOSQUE)[487] is a financial decentralized body for providing for

[473] In the original: *Unidad Manejo y Conservación de Bosques.*
[474] In the original: *Unidad Desarrollo Productivo Forestal.* For more information on the hierarchy and attributions within the Ministry of Environment, *see* Ministério de Medio Ambiente y Água, Resolución Ministerial No. 368 (Dec. 19, 2011).
[475] In the original: *Servicio Nacional de Áreas Protegidas (SERNAP).*
[476] For more information *see* MINISTERIO DE MEDIO AMBIENTE Y AGUA, *supra* note 466.
[477] In the original: *Secretaria Nacional del Medio Ambiente* (SENMA).
[478] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 7.
[479] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 62.
[480] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 63.
[481] In the original: *Sistema de Regulación de Recursos Naturales Renovables* (SIRENARE). Regulated by Supreme Decree No. 26389 (Nov. 8, 2001).
[482] LUZ ADRIANA HENAO, *supra* note **Error! Bookmark not defined.**, at 8. Created by Bolivia, Law No. 1700 (Jul 12, 1996), art. 21 and Supreme Decree 24759, Fev. 2, 2011.
[483] In the original: *Superintendencia Florestal*.
[484] Bolivia, Law No. 1700 (Jul 12, 1996), art. 19; 21, III.
[485] Bolivia, Law No. 1700 (Jul 12, 1996), art. 19.
[486] Bolivia, Law No. 1700 (Jul 12, 1996), art. 22.
[487] In the original: *Fondo Nacional de Desarrollo Forestal* (FONABOSQUE).

sustainable forest projects[488]. SERNAP is an independent, decentralized body that coordinates and manages protected areas of national interest[489].

4.1.2.1.2. Decentralized System of Environmental Management

The Departmental Bodies of Environment (CODEMAs) are the regulating bodies at the departmental levels[490], setting forth policies that shall be enforced by the Departmental Secretaries[491]. Municipalities formulate and execute plans and programs regarding forest development within their jurisdiction[492], with supporting bodies to fulfill these duties[493].

4.1.2.1.3. PNCs of the Amazon Cooperation Treaty

The Bolivian PNC was created in 1981[494], and adapted in 2004 to comply with the creation of the ACTO[495]. The Commission is presided by the Minister of Foreign Affairs, and, alternatively, by the Viceminister of Economic Relations and Foreign Trade[496]. It is composed by the Viceministries from the Ministries of Foreign Relations; Presidency; National Defense; Sustainable Development; Economic Development; Service and Public Works; Education; Health and Sports; Campesino and Agriculture Affairs; Indigenous Affairs and Original People[497]. The members of the Commission are chosen by the holder of each of the Ministeries, and can have technical support of directors and other staff members[498]. Representatives of other administrative bodies, academic community, non-governmental organizations or private sector companies or

[488] Bolivia, Law No. 1700 (Jul 12, 1996), art. 19, 23.
[489] Bolivia, Decreto Supremo No. 25158 (Sep. 4, 1998), art. 3.
[490] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 8.
[491] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 9.
[492] Bolivia, Law No. 1700 (Jul 12, 1996), art. 24.
[493] LUZ ADRIANA HENAO, *supra* note **Error! Bookmark not defined.**, at 5.
[494] Bolivia, Supreme Decree No. 17996 (Feb. 5, 1981).
[495] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004).
[496] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 5.
[497] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 3.
[498] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 6.

members of the civil society can be invited to attend meetings or to integrate thematic groups[499].

The main goal of the Commission is to coordinate and articulate the policies, programs and projects for the sustainable development of the Bolivian Amazon[500]. It is incumbent upon the Commission to ensure the national application of the decisions adopted within the ACTO's framework, articulate policies within the several governmental bodies, establish mechanisms to interrelate the Amazon Basin and the regional integration process of South America, globally analyze the Bolivian Amazon Basin and the relation with other basins, as well as other attributions necessary to fulfill its institutional mission[501].

4.1.2.2. The Legislative Branch

The legislative power is composed by the Plurinational Legislative Assembly[502], which is divided in two chambers, the Senate[503] and the Chamber of Deputies[504]. The Assembly replaced the previous National Congress, with the Vice President as titular head. The legislative power has the obligation to establish laws, interpret, and modify them[505]. They also fulfill some executive functions, for example electing the member of the Electoral Council and pre-selecting candidates for the Constitutional Court[506].

The Chamber of Senators has 36 members, four per department[507]. The Chamber of Deputies has 130 members, 70 from single-member districts[508], 60 by proportional representation, and seven by special deputies of minority indigenous people of the seven

[499] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 13.
[500] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 2, I.
[501] Bolivia, Supreme Decree No. 27904 (Dec. 13, 2004), art. 4.
[502] In the original: *Asamblea Legislativa Plurinacional.*
[503] In the original: *Cámara de Senadores*
[504] In the original: *Cámara de Diputados*
[505] 2009 Bolivian Cons., art. 158.
[506] 2009 Bolivian Cons., art. 158, I.
[507] 2009 Bolivian Cons., art. 148, I.
[508] In the original: *circunscripciones.*

departments[509]. The Constitution established representatives from indigenous groups in the Assembly[510].

4.1.2.3. The Judicial Branch

The Judicial Branch is composed of the Supreme Court of Justice[511], the Plurinational Constitutional Court[512], the departmental courts, the courts of sentences and the judges[513], as well as the Agro-Environmental courts and the Judiciary Council[514]. Members of the national courts were first elected by popular vote in 2011 from a list of pre-selected candidates by the Assembly.

4.1.2.3.1. Supreme Court of Justice (TSJ)

The Supreme Court of Justice is the highest instance of ordinary jurisdiction[515]. A simple majority according to a pre-selection by the Assembly elects its members through popular vote[516]. The Supreme Court shall decide on conflicts between departmental courts, and appeals, among other attributions[517].

4.1.2.3.2. Plurinational Constitutional Court

The Constitutional Court has the primary goal to assure compliance with the rights set forth in the constitution[518]. It is the supreme interpreter of the Constitution and shall analyze it according to the original will of the constituents, as well as documents that have supported it and the literal language of the text[519]. It has original jurisdiction regarding the constitutionality of laws, decrees and other norms, conflict of jurisdictions among different bodies and jurisdictions, consultations regarding the constitutionality of bills and regarding the ratification of a treaty, among others[520]. Its decisions are binding

[509] 2009 Bolivian Cons., art. 146, I.
[510] MORADAS, *supra* note 450, at 83.
[511] 2009 Bolivian Const., art. 118. In the original: *Tribunal Supremo de Justicia.*
[512] In the original: *Tribunal Constitucional Plurinacional.*
[513] In the original: *Tribunales de sentencia y los jueces.*
[514] 2009 Bolivian Const., art. 179.
[515] 2009 Bolivian Const., art. 181.
[516] 2009 Bolivian Const., art. 182.
[517] 2009 Bolivian Const., art. 184.
[518] 2009 Bolivian Const., art. 196.
[519] 2009 Bolivian Const., art. 196, II.
[520] 2009 Bolivian Const., art. 202.

and there is no appeal[521]. The judges of the Constitutional Court are elected by the people, with representatives from both the original and the indigenous jurisdiction[522].

4.1.2.3.3. Indigenous Justice

The 2009 Constitution created a new indigenous judicial system at the same level of ordinary justice[523]. The indigenous justice follows the customs, values and traditions of the indigenous communities, as well their procedures, but shall respect constitutional rights[524]. Members of the indigenous communities, as well as all relationships and acts within the indigenous territories shall be subject to the indigenous jurisdiction [525]. The indigenous jurisdiction may request the government's help to enforce its decisions when needed[526].

4.1.2.3.4. Agrarian and Environmental Tribunal

The Agrarian and Environmental Tribunal[527] is the highest specialized court in agro-environmental jurisdiction[528]. It is governed by the principles of social function of property, integrity, immediacy, sustainability and inter-cultural aspects[529]. The court shall analyze appeals in agricultural, forestry, environmental, water rights, and rights of use of renewable natural resources, hydraulic and biodiversity resources; demands on acts against the fauna, flora, water and environment, and demands on practices that endanger the conservation of animal species and the ecosystem[530]. It has original jurisdiction to hear administrative proceedings arising from contracts, negotiations, authorizations, granting, distribution and redistribution of rights of use of renewable natural resources, as well as other administrative acts and decisions. Its members are pre-selected by the members of the Supreme Court, and elected through public vote[531].

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[521] 2009 Bolivian Const., art. 203.
[522] 2009 Bolivian Const., art. 197, 198.
[523] 2009 Bolivian Const., art. 179.
[524] 2009 Bolivian Const., art. 190.
[525] 2009 Bolivian Const., art. 191.
[526] 2009 Bolivian Const., art. 192.
[527] In the original: *Tribunal Agroambiental.*
[528] 2009 Bolivian Const., art. 186.
[529] 2009 Bolivian Const., art. 186.
[530] 2009 Bolivian Const., art. 189, 1.
[531] 2009 Bolivian Const., art. 187, 188.

4.1.2.3.5. Judiciary Council

The Council of the Judiciary[532] is part of the structure of the Judicial Branch[533] and shall discipline the courts, and suggest policies for its management[534]. Their members, previously selected by the Assembly, are elected by public vote for a six-year term[535].

4.1.2.4. Independent bodies

In order to provide oversight the democratic political regime, the Constitution established public entities that provide oversight and defense of public rights.

4.1.2.4.1. Attorney for the Defense of the People

The public defense attorney[536] is an autonomous body, which shall ensure the protection of human rights from administrative activities from the public sector, or from private institutions providing public services[537], as well of the rights of indigenous groups and *campesinos* communities[538]. All services provided shall be free and accessible[539]. The Assembly designates the Public Defender for a six-year period[540].

4.1.2.4.2. Office of the State Prosecutor[541]

The Office of the Prosecutor[542] is an autonomous body for the defense of legality and general interests of the society[543]. The Assembly designates the public prosecutor for a six-year term[544].

[532] In the original: *Consejo de la Magistratura.*
[533] 2009 Bolivian Const., art. 179, IV.
[534] 2009 Bolivian Const., art. 193, I.
[535] 2009 Bolivian Const., art. 194, I.
[536] In the original: *Defensoría del Pueblo*.
[537] 2009 Bolivian Const., art. 218, I.
[538] 2009 Bolivian Const., art. 218, II.
[539] 2009 Bolivian Const., art. 218, III.
[540] 2009 Bolivian Const., art. 220.
[541] In the original: *Ministerio Público*.
[542] In the original: *Fiscal General.*
[543] 2009 Bolivian Const., art. 225.
[544] 2009 Bolivian Const., art. 227, 228.

4.1.2.4.3. The Office of the Attorney General

The office of the Attorney General[545] was created as the legal institution to defend public and patrimonial interests of State[546]. The Attorney General shall be designated by the President and judicially represents the State[547].

4.1.2.5. Electoral Branch

The Plurinational Electoral Branch is an independent subdivision of government that replaced the National Electoral Court in 2010. The branch is composed by the Supreme Electoral Court[548], the departmental electoral courts, the electoral judges, the juries at election tables, and the electoral notaries[549]. The Assembly chooses its members[550].

4.1.3. Bolivian Amazon rainforest

The Amazon Basin is situated in the Eastern Lowlands. Although Bolivia claims only 11.20 percent of the entire Amazon Basin, it represents 75 percent of its territory (824.000 km^2)[551] Roughly two-thirds of it is forested, half of it consisting of primary forest [552]. As such, Bolivia is the most Amazonian country.

The Amazon in Bolivia is part of the Madeira Valley, which is larger than any Amazonian country except Brazil. The Madeira River is the longest tributary in the Amazon Basin and accounts for fifteen percent of the Amazon River's total discharge in the Atlantic[553]. About fifty percent of it is in Bolivia[554]. The Madeira Valley is the most geographically complex tributary within the Amazon Basin, arising in the southern

[545] In the original: *Procuraduría General del Estado.*
[546] 2009 Bolivian Const., art. 229.
[547] 2009 Bolivian Const., art. 230.
[548] In the original: *Tribunal Supremo Electoral.*
[549] 2009 Bolivian Const., art. 205.
[550] 2009 Bolivian Const., art. 158, I, 4.
[551] MICHAEL GOULDING ET. AL., *supra* note 1, at 16. *See* also AMAZONIA, La Amazonia Boliviana http://www.amazonia.bo/amazonia.php?codigo_enviado=uZSP15bn5cgh+CODClzd7kCYswHMHbu0VnJkmd7yKnU= (last visited Feb. 19, 2014).
[552] MONGABAY, *Bolivia*, http://rainforests.mongabay.com/20bolivia.htm (last visited Feb. 16, 2014).
[553] MICHAEL GOUDLING ET. AL., *supra* note 1, at 147.
[554] Forty percent is in Brazil and ten percent in Peru.

Anders, in the eastern Bolivian lowlands and in the Brazilian Shield[555]. The largest cities in Bolivia are located within the Madeira Basin: La Paz, Santa Cruz de la Siera and Cochabamba.

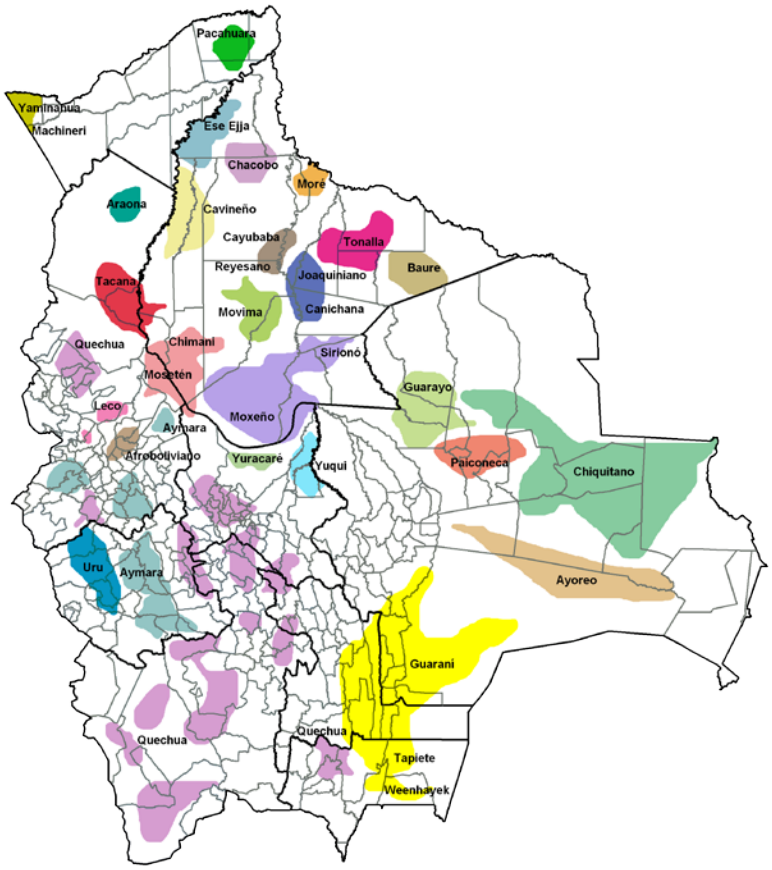
Figure 4: The Bolivian Amazon[556]

Bolivia was declared one of the mega-diverse countries and ranked the twelfth most bio-diverse country on Earth[557]. The high level of biodiversity derives from Bolivia's variable altitudes, ranging from 90 to 6,542 meters (295-21,463 feet). For example, Bolivia has 70 percent of the world's known species of birds, being the sixth most diverse country in terms of bird species[558].

[555] MICHAEL GOULDING ET. AL., *supra* note 1, at 147.
[556] AMAZONIA, *supra* note 551.
[557] MONGABAY, *supra* note 552.
[558] Bolivia has 2,194 known species of amphibians, birds, mammals, and reptiles, 3,000 types of butterfly, and more than 17,000 species of plants. Bolivia features over 200,000 species of seeds, including over 1,200 species of fern, and at least 800 species of fungus. In addition, there are more than 3,000 species of medicinal plants. MONGABAY, *supra* note 552.

There are also about thirty indigenous groups in the Bolivian Amazon[559]. Over sixty percent of Bolivia's population is composed by indigenous people (about 3.9 million people)[560]. Although they are slowly diminishing due to the disappearance of some groups such as the Pacahuara, they still represent the majority of Bolivia's population.

Figure 5: Indigenous Groups in Bolivia



More than 11 percent of Bolivia is officially protected. Bolivia used to have one of the lowest deforestation rates, with an annual rate of 0.2 percent from 1986-1990. These rates were mostly due to the government's inattention to the lowland parts of the country, the extreme poverty, and the weak export market of this land-locked country. However, during the 1990s, Bolivia's deforestation rate more than doubled to 270,400

[559] For more information on the indigenous groups in Bolivia *see* AMAZONIA, *Pueblos Indigenas de Bolivia*, http://www.amazonia.bo/indigena_index.php (last visited Feb. 19, 2014).
[560] THE WORLD BANK, *Bolivia*, *supra* note 444.

hectares per year. The government created incentives for logging in the area, in addition to clearing of lands for soybean and coca cultivation[561]. Currently, about 1,400 square miles are cut every year, which is the highest deforestation rate among the Amazon countries, and one of the highest per capita rates in the world[562].

Current threats to the forests include oil and gas development, commercial agricultural expansion, subsistence agriculture and fuel wood collection, land clearing for cattle pasture, gold mining and forest fires[563].

4.1.4. Bolivian Forest Law

Since most of Bolivia's environmental law has developed after the 1992 Rio Conference [564] , sustainable development, rather than conservation, is largely acknowledged as the primary principle on which environmental policies are based on[565].

4.1.4.1. The legal status of forests

The Constitution determines natural resources to belong to the public government and as strategic to the sustainable development of the country [566]. This provision reinstated both the Law on the Environment[567] and the Forest Law[568]. Forests and forest soil are strategic resources to the development of the Bolivian people[569]. Forests, as well as wildlife, are declared of public utility[570] and general interest of the nation[571]. The reforestation of forests and soil recovery is therefore considered a public necessity[572]. Protected areas are a common good and part of the natural and cultural heritage of the

[561] MONGABAY, *supra* note 552.
[562] Juan Forero, *Guess Who's Chopping Down The Amazon Now*?, NPR, Sep. 06, 2012, 10:31AM, http://www.npr.org/2012/09/06/160171565/guess-whos-chopping-down-the-amazon-now.
[563] MONGABAY, *supra* note 552.
[564] *See supra* note 89.
[565] Bolivia, Law No. 1700 (Jul 12, 1996), art. 1, 2.
[566] 2009 Bolivian Const., art 346.
[567] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 3; 46.
[568] Bolivia, Law No. 1700 (Jul 12, 1996), art. 4.
[569] 2009 Bolivian Const., arts. 386.
[570] Bolivia, Decree Law No. 12301 (Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca) (Mar. 14, 1975), art. 6.
[571] Bolivia, Law No. 1700 (Jul 12, 1996), art. 4. Bolivia, Law No. 1333 (Apr. 27, 1992).
[572] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 51.

country[573]. As such, these areas shall accomplish sustainable development, according to the primary goals of environmental, cultural, social and economic functions and shall be preserved for present and future generations[574]. Likewise, native species, especially endemic[575], are considered natural patrimony of the State[576]. As such, genetic resources, as well as the knowledge regarding its use, shall be protected[577].

It is important to note that forests, as well as other natural resources, are regarded as goods or assets of the state, thus giving the government some leverage to decide on the policies chosen by a specific administration without the proper regard for conservation. They are regarded as strategic resources of the State, an, as such, can be used to induce economic development. Environment, cultural, social and economic goals are equally considered in setting forth policies. Neither the Constitution nor the national laws establish conservation as a basic principle or government goal. In this sense, there is no general obligation to protect forests, forest resources, or other natural resources per se. The law establishes, however, a general obligation to promote reforestation and soil recovery, as well to protect the genetic resources regarding native species.

The Amazon rainforest, however, is declared a space of special protection strategic for the integral development of the country due to its high environmental sensibility, biodiversity, water resources and eco-regions[578]. Although there is little practical difference between the Amazon rainforest and other forests, considering that 75 percent of the territory is composed of rainforest, it is interesting to note how forests, as such, are generally protected, but the Amazon forest specifically is.

Forests are classified according to its primary objective, considering aspects of conservation, protection, productivity, management plans and conservation resources[579]. Depending on the appropriate use of the forest, they are placed within tiers of classes of

[573] 2009 Bolivian Const., arts. 385. Bolivia, Decree Law No. 12301 (Mar. 14, 1975), art. 5.
[574] 2009 Bolivian Const., arts. 385.
[575] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 52.
[576] 2009 Bolivian Const., art. 381, I.
[577] 2009 Bolivian Const., art 381, II.
[578] 2009 Bolivian Const., arts. 390.
[579] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 46; Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 25.

lands, each with a specific legal protection[580], and regardless of the property regime imposed[581]. In this sense, forests can be either protection lands, lands of permanent forest production, for change of use, lands with forest cover subject to several uses, rehabilitation lands and immobilization lands[582]. When forests are declared national parks, reserves, wildlife refugees and sanctuaries there is a legal restriction imposed on the private property[583].

4.1.4.2. General Principles

The basis for the national environmental policy is, among others, the conservation of biological diversity to maintain the country's different ecosystems[584], the sustainable use of natural resources for long-term use[585], and the assurance that national and international policies respect the country's sovereignty and natural interests[586]. There is a general purpose of sustainable use and protection of forests for the present and future generations, by harmonizing the social, economic and ecological goals of the country[587] according to the social function of the property[588]. In establishing the class of forest and solving conflicts regarding its potential uses, the principle of *in dubio pro bosque* (doubt favors the forest) shall be observed[589].

In determining the principles to follow, Bolivian law actually grounds forest law into a more protection-based framework. The guiding principle of *in dubio pro bosque* serves a general protection, which lacked in the characterization and classification of forests in the Constitution and other environmental laws. As such, there is an extra argument for preserving the ecosystem once there is a conflict of interests, potentially putting the environment as a higher standard when compared to social, development, economic or other interests.

[580] Bolivia, Law No. 1700 (Jul 12, 1996), art. 12.
[581] Bolivia, Law No. 1700 (Jul 12, 1996), art. 12.
[582] Bolivia, Law No. 1700 (Jul 12, 1996), art. 12.
[583] Bolivia, Decree Law No. 12301 (Mar. 14, 1975), art. 7.
[584] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 5, 3.
[585] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 5, 5.
[586] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 5, 10.
[587] Bolivia, Law No. 1700 (Jul 12, 1996), art. 2.
[588] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 5.
[589] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 25.

4.1.4.3. Obligations of the State

The State shall promote conservation and sustainable use of forest resources[590] and forests, conservation and recovery of flora, fauna, and recovery of degraded areas[591]. It is the State's duty to administer natural resources according to the collective interest, and without jeopardizing its sovereignty over natural resources[592]. In addition to protecting the forests, the State shall also protect the genetic resources and the traditional knowledge regarding it[593]. In order to do so, the State shall create a registry for intellectual property[594].

It is also incumbent upon the State to promote international treaties and actions to preserve, conserve, and control flora and fauna, as well as protected areas and ecosystems shared with other countries[595]. In order to do so, the law establishes mechanisms for coordination and inter-sector, interregional and inter-institutional cooperation in environmental protection[596]. This provision provides the groundwork for cooperation measures for the protection and sustainable development of the Amazon rainforest as an ecosystem, which requires a common policy among those who share it.

One of the main obligations of the government is to promote and ensure that natural resources are responsibly used and planned[597]. Industrialization shall be induced, through the development and strengthening of the productive base and different levels, as well as conservation of the environment, for the well-being of present and future generations. The exploitation of strategic natural resources shall be managed and controlled by the State[598]. However, the state can enter into contracts of association with

[590] 2009 Bolivian Const., arts. 386.
[591] 2009 Bolivian Const., arts. 387.
[592] 2009 Bolivian Const., art. 346.
[593] 2009 Bolivian Const., art. 381.
[594] 2009 Bolivian Const., art. 381, I.
[595] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 29.
[596] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 12, e.
[597] 2009 Bolivian Const., art. 9.
[598] 2009 Bolivian Const., art 351, I.

companies, either Bolivian or foreign, for their use[599], subject to payment of taxes and compensation for the exploitation of the resources[600].

The State thus serves a multiple purpose of inducing development and protection of resources, having the general principles to guide their actions and policies.

4.1.4.4. Public Participation

Bolivia confers collective and diffuse rights to the environment[601]. As such, all persons have the right to pursue a healthy, balanced and protect environment. Individuals and groups from present and future generations, as well as other living beings are entitled to properly and permanently develop[602]. As a consequence, the people, in addition to the State, have the duty to conserve, protect and sustainably use natural resources and biodiversity[603]. Any person or group may propose legal actions to defend the right to the environment[604], to participate in the environmental management, and be informed of decisions that affect it[605]. The State shall prioritize the development of the Amazon through an integral, participative, shared and equitable administration of the rainforest[606], meaning it is required to involve all stakeholders in its policy decisions.

Bolivia recently determined that Mother Earth is a collective subject of public interest, to ensure the exercise and protection of its rights[607]. Mother Earth is defined as the dynamic living system formed by the indivisible community of all interrelated, interdependent, and complementary life systems and living beings, which share a common destiny[608]. Within this context, Mother Earth is entitled to the right to life, diversity of life (without being genetically altered or artificially modified), water, air,

[599] 2009 Bolivian Const., art 351, II.
[600] 2009 Bolivian Const., art 351, IV. Bolivia, Law No. 1700 (Jul 12, 1996). To adapt to the 2009 Constitution and include provisions regarding agro-environmental justice, principles of *buen vivir*, and indigenous principles, a new forest law is being developed.
[601] 2009 Bolivian Const., art. 33.
[602] *Id*.
[603] 2009 Bolivian Const., art. 342.
[604] 2009 Bolivian Const., art. 34.
[605] 2009 Bolivian Const., art. 343. For the right to be informed of the forest regime, *see* Bolivia, Law No. 1700 (Jul 12, 1996), art. 8; Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 23.
[606] 2009 Bolivian Const., arts. 390.
[607] Bolivia, Law No. 300 (Oct. 15, 2012) (Ley Marco de la la Madre Tierra y Desarollo Integral para el Vivir Bien), art. 9, item 1.
[608] Bolivia, Law No. 300 (Oct. 15, 2012), art. 5, item 1.

balance, restoration, and to live free of contamination. By establishing this judicial character, Bolivia ensured that all people could enforce the rights of nature, contesting actions that have a potentially negative effect.

4.1.4.5. Protection Lands

Protection lands are those areas that due to their vulnerability to degradation and ecosystem services provided to its hydrological basin, or through social interest or private initiative, cannot be used for neither agriculture nor forest exploitation[609]. Activities permitted within protection lands are limited to hydropower, recreational, scientific, educational, or other indirect and non-consumable uses[610] and shall be subject to management plans[611]. These areas, regardless of their forest coverage, shall be declared by the State as protection forests[612]. Protected areas are classified as: protected forest in public lands, ecological servitudes in private properties, ecological reserves in forest concessions, and private reserves of natural heritage[613]. The Forestry Superintendence, with the aid from Municipalities, shall control these areas[614].

4.1.4.6. Buffer zones

Buffer zones for areas that serve specific ecosystem services, such as river sheds and protective slopes shall be preserved[615]. These areas are considered protected areas[616]. In this sense, reforestation is mandatory within previously deforested areas[617]. Buffer zones are ecological servitudes and represent legal limits to the rights of use in private properties, due to maintenance of conservation and sustainability of renewable natural resources[618]. Within concession areas, buffer zones are called ecological reserves[619]. In

[609] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, I; Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996) (Reglamento a Ley Forestal), art. 32.
[610] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, I.
[611] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 31.
[612] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, I.
[613] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 30.
[614] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 30.
[615] Bolivia, Law No. 1700 (Jul 12, 1996), art. 16, III. *See* Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 35, for a list of ecological servitudes.
[616] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 33.
[617] Bolivia, Law No. 1700 (Jul 12, 1996), art. 16, IV.
[618] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 35.
[619] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 40.

addition to the legally established buffer zones, Municipalities can propose a mandatory protection of twenty percent of public permanent forest production lands established for concessions of ASL as ecological servitudes[620].

This mechanism therefore limits property rights of landowners, which are required not only to avoid deforestation, but also to promote recovery if such areas are presented within their properties.

4.1.4.7. The permanent forest production lands (TPFP)

The permanent forest production lands are so declared according to their forest production capacity, and can therefore be converted to agriculture[621]. All lands that have not specifically been classified as forest lands appropriate for other uses shall be presumed either protection lands or permanent forest production lands[622]. These areas shall be subject to management plans, and certain limitations apply to the conversion process[623].

4.1.4.8. Forest covered lands apt for diverse uses

Forest covered lands apt for diverse uses are either cattle or agricultural lands with forest cover[624], authorized through a conversion process. Prior to being authorized to convert the land, a plan is required by the authorizing agency, determining, among other aspects, the ecological servitudes and the areas for permanent forest production[625]. Reforestation of buffer zones shall be mandatory, and preferably conducted with native species[626].

4.1.4.9. The rehabilitation lands

The rehabilitation lands have lost their original forest purpose, either through deforestation, erosion or other degrading factors, but can be recovered through

[620] Bolivia, Law No. 1700 (Jul 12, 1996), art. 25, a.
[621] Bolivia, Law No. 1700 (Jul 12, 1996), art. 16, I.
[622] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 47.
[623] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 50.
[624] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 49.
[625] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 51.
[626] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 52.

appropriate measures[627]. The recovery of such areas is a national priority and a public utility service[628]. For this reason, rehabilitation within private properties, shall receive public benefits[629]. If these areas are abandoned, its property shall be transferred to the State, who shall then promote its recovery[630].

4.1.4.10. Classes of forest uses

The right to use forests within public lands is conferred by the State[631]. There are three classes of forest use: concessions, authorizations and permits[632]. Every forest use shall be subject to a management plan[633].

Concessions[634] are given through administrative resolution for the use of forest resources for a period of forty years. It is registered publicly and can be transferred to third parties. Forest patent[635] are paid for the right to use forest resources[636]. Ecological reserves can be created within forest concession areas[637]. It is preferable that at least fifty percent of the ecological reserve areas within a concession are connected through biological corridors, with no more than four separate areas[638]. There can be no direct use of forest resources within those areas[639]. Buffer zones, called ecological servitudes within concession areas[640], are exempted from the payment of forest patent in up to thirty

[627] Bolivia, Law No. 1700 (Jul 12, 1996), art. 17, I. Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 53.
[628] Bolivia, Law No. 1700 (Jul 12, 1996), art. 17, I.
[629] A 100% discount of the forest patent, possibility to acquire the rights of property, 10% discount of the amount spent in recovery measures in the companies' taxes (*Impuesto a las Utilidades de las Empresas*), technical assistance and inputs for recovery. *See* Bolivia, Law No. 1700 (Jul 12, 1996), art. 17, I; and Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 54.
[630] Bolivia, Law No. 1700 (Jul 12, 1996), art. 17, I.
[631] Bolivia, Law No. 1700 (Jul 12, 1996), art. 26.
[632] Bolivia, Law No. 1700 (Jul 12, 1996), art. 28.
[633] Bolivia, Law No. 1700 (Jul 12, 1996), art. 27.
[634] Bolivia, Law No. 1700 (Jul 12, 1996), art. 29; regulated by Supreme Decree No. 24773 (Regimen de Concesiones de Tierras Fiscales para Fines de Conservacion y Proteccion de la Biodiversidad, Investigacion y Ecoturismo) (Jul. 31, 1997).
[635] In the original: *patentes forestales.*
[636] Bolivia, Law No. 1700 (Jul 12, 1996), art. 29.
[637] Bolivia, Law No. 1700 (Jul 12, 1996), art. 29.
[638] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 39.
[639] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 39.
[640] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 39.

percent of the area [641]. However, if the area is not properly protected, the concession can be revoked.

In order to ensure broad and equitable access to forest use, the social land groups (ASL)[642] were created to allow local groups to request forest concessions[643]. ASLs are groups of traditional, indigenous or *campesino* communities, or other groups of users of forest resources with legal personality[644]. With this mechanism, these groups within the jurisdiction of a Municipality are qualified to be beneficiaries of forest concessions, thus being able to sustainably explore the area[645].

Authorizations are given for forest use within private properties, subject to the same rules as forest concessions, in addition to the authorization of the property owner[646]. Authorizations are also given exclusively to indigenous people in communitarian lands properly recognized by the State [647]. Traditional use [648] for subsistence and domestic use[649] by rural or indigenous communities do not require prior authorization by the State to explore forests [650]. Lastly, permits for clearing may be given by the Forestry Superintendence on lands suitable for multiple uses for infrastructure works, such as highways, communication and energy lines[651].

Due to its public utility status[652], any forest rights given to private parties can be revoked if the rules on protection and sustainability are not strictly followed [653]. Properties can also be subject to limitations according to zoning, protection and sustainability requirements[654].

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[641] Bolivia, Law No. 1700 (Jul 12, 1996), art. 29.
[642] In the original: *agrupaciones sociales del lugar*.
[643] Bolivia, Law No. 1700 (Jul 12, 1996), art. 31.
[644] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 1, II; regulated by Ministerial Resolution No. 133 (Directriz sobre concesiones para agrupaciones sociales del lugar) (Jun. 9, 1997).
[645] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996).
[646] Bolivia, Law No. 1700 (Jul 12, 1996), art. 32, I.
[647] Bolivia, Law No. 1700 (Jul 12, 1996), art. 32, II.
[648] *See* Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 1, I for definition of traditional use.
[649] *See* Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 1, I for definition of domestic use.
[650] Bolivia, Law No. 1700 (Jul 12, 1996), art. 32, III.
[651] Bolivia, Law No. 1700 (Jul 12, 1996), art. 35
[652] Bolivia, Law No. 1700 (Jul 12, 1996), art. 4.
[653] Bolivia, Law No. 1700 (Jul 12, 1996), art. 5.
[654] Bolivia, Law No. 1700 (Jul 12, 1996), art. 5, II.

4.1.5. Protected areas

4.1.5.1. Public Protected Areas

Protected areas are classified as natural areas without human intervention so declared by the State[655]. They are geographically defined special territories subject to a distinct management and legal status in order to achieve the primary goal of conservation[656]. As such, they constitute patrimony of the State, of public and social interest[657]. The protected areas are classified as of national or departmental relevance, according to their natural values and geographical location[658].

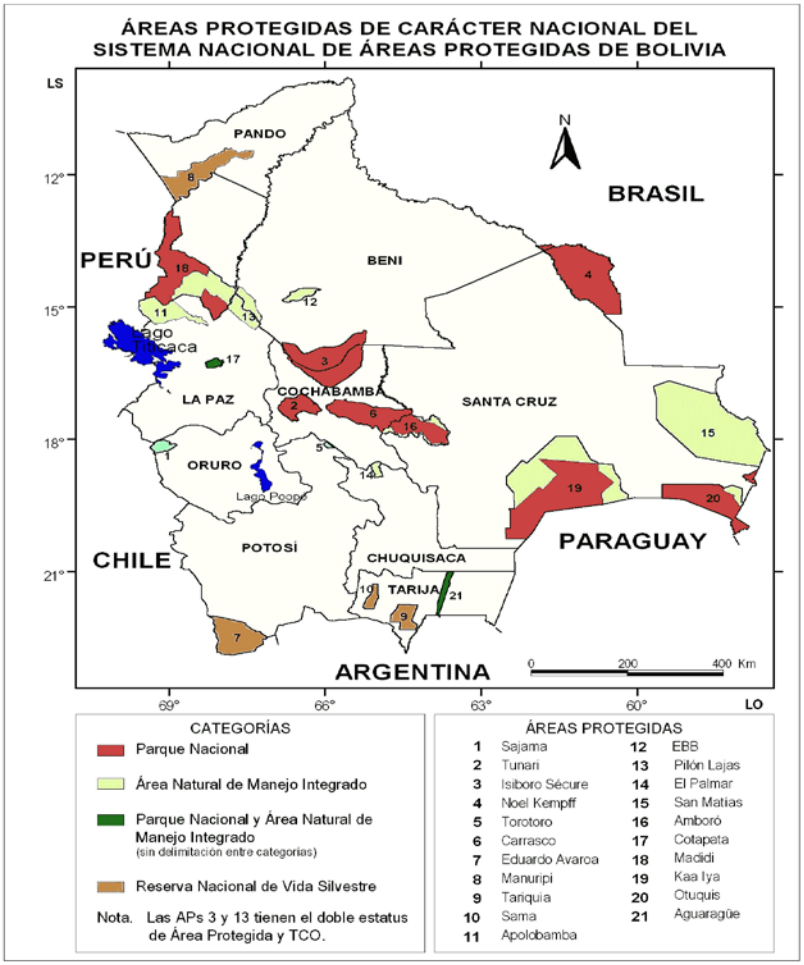
The National System of Protected Areas (SNAP)[659] manages protected areas with their correlation to traditional communities and indigenous groups[660]. The SNAP encompasses areas of different management categories connected through their ecologic relevant aspects[661]. Management plans are required as a strategic land use resource to establish the management, uses, and activities permitted within protected areas. Only in special circumstances will the use of renewable and non-renewable natural resources or the development of infrastructure be allowed within protected areas, subject to a declaration of national interest through a Supreme Decree by the President[662].

Bolivia has 123 protected areas: 22 national, 23 departmental, and 78 municipal[663]. The management areas are classified as parks, sanctuaries, natural monuments, wildlife reserves, natural areas of integrated management, and immutable natural reserves[664]. Each protected area shall have a management plan to establish the

[655] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 60.
[656] Bolivia, Supreme Decree No. 24781 (July 31, 1997) (Reglamento General de Áreas Protegidas), art. 2.
[657] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 60.
[658] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 16.
[659] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 63. Regulated by Supreme Decree No. 25158 (Sep. 4, 1998).
[660] Bolivia, Law No. 1333 (Apr. 27, 1992), art. 64.
[661] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 2.
[662] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 33.
[663] Bolivia, SERNAP, *El Sistema Nacional de Áreas Protegidas*, http://www.sernap.gob.bo/index.php?option=com_content&view=article&id=251&Itemid=336 (last visited Feb. 4, 2014).
[664] Bolivia, Law No. 1333 (Apr. 27, 1992), arts. 62, 63; Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 19.

policies and limits of the area, as well as activities allowed[665]. Zoning shall also be established to determine land uses according to the special characteristics of the area and value of natural resources[666].

Figure 6: Protected Areas in Bolivia[667]



4.1.5.1.1. National or Departmental Parks

The national or departmental parks are created for strict and permanent protection of representative pieces of the ecosystem and their resources. These areas shall be

[665] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 28.
[666] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 31. Zoning classifications are established as follows: strictly protection, moderate use, natural recovery, use of natural resources (intensive extractive use), intensive non-extractive use, extensive extractive or consumptive, historical cultural interest, amortization, special uses.
[667] AMAZONIA, *Areas Protegidas Nacionales*, http://www.amazonia.bo/area_resumen.php (last visited Feb. 19, 2014).

sufficient to provide continuity to ecological and evolutional resources of the ecosystem[668]. It is prohibited to extract or consume non-renewable resources or establish infrastructure within parks, except for purposes of scientific investigation, eco-tourism, environmental education and other activities necessary for subsistence of traditional communities[669]. Examples of parks within the Bolivian Amazon rainforest are: the Noel Kempff Mercado National Park, the Madidi National Park (which is partly classified as an Integrated Management Natural Area), the Turani National Park and the Kaa-Iya del Gran Chaco National Park (which is partly classified as an Integrated Management Natural Area).

4.1.5.1.1.1. Madidi National Park and Integrated Management Natural Area

One of the most bio-diverse and largest areas within the Bolivian Amazon is the Madidi region. The area was internationally recognized as the country's richest humid forest[670] and most important natural area[671]. In this sense, it was protected in 1995[672] as both a National Park and an Integrated Management Natural Area (Madidi NP-IMNA)[673], thus achieving a dual objective, both for conservation and sustainable development.

From lowland rainforest to the high arid Andes, it is one of the best protected areas in Bolivia[674]. The region encompasses a total area of 18,957 square kilometers[675]. It is adjacent to several protected areas both in Bolivia and in Peru[676], therefore forming an

[668] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 20.
[669] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 23.
[670] In 1990, the Madidi region was recognized by Conservation International's first Rapid Environmental Evaluation (Rapid Assessment Program - RAP) as the area with the country's richest humid forests (Parker and Bailey, 1991).
[671] In 1993, consultants contracted by the World Bank designated the Madidi region as one of the nine priority areas for conservation in Bolivia, recognizing it as the country's most important natural area.
[672] Bolivia, Supreme Decree No. 24123 (Sep. 21, 1995).
[673] SERVICIO NACIONAL DE ÁREAS PROTEGIDAS (SERNAP), *Parque Nacional y Área Natural de Manejo Integrado Madidi*, http://www.sernap.gob.bo/index.php?option=com_content&view=article&id=86&Itemid=281 (last visited Jan. 30, 2014).
[674] MICHAEL GOUDLING ET. AL., *supra* note 1, at 149.
[675] PARQUE NACIONAL Y ÁREA NATURAL DE MANEJO INTEGRADO MADIDI, *Características Generales del Área*, http://www.sernap.gob.bo/images/descargas/areas/parque%20nacional%20y%20rea%20natural%20de%20manejo%20integrado%20madidi.pdf (last visited Jan. 30, 2014).
[676] It is bordered by other protected areas in the south (Apolobamba IMNA and the Pilón Lajas Biosphere Reserve and Communal Lands), and in the east (Tambopata Natural Reserve and Bahuaja Sonene National Park, both in Peru). It is also surrounded by indigenous territories and indigenous land claims (TCO Tacana

extensive bio-national biological corridor[677] and one of the largest and most biologically diverse regions in the world. It is also part of the key components of the Vilcabamba-Amboró Conservation Corridor (VACC), considered the most biologically diverse hotspot on the planet. The VACC, which will be further analyzed, is a good example of current cooperation measures that although not legally or officially established, has helped promote preservation within a context of joint and common regional initiative.

The Madidi Park is administered by SERNAP and the management plan has not yet been developed[678], although almost two decades have passed since its creation. This provides an example of how protection measures are usually challenged with enforcement difficulties, usually due to lack of financial and human resources.

4.1.5.2. National or Departmental Sanctuary (RGAP)

Sanctuaries are created for the protection of endemic fauna and flora, threatened or endangered species, with a natural community or a unique ecosystem[679]. In the area within the sanctuaries it is prohibited to extract or consume non-renewable resources or establish infrastructure, except for scientific investigation, eco-tourism, environmental education and other activities necessary for subsistence of traditional communities[680]. A qualified permit is required for any activities within sanctuaries.

4.1.5.3. National or Departmental Natural Monument

The natural monument category preserves outstanding natural features with unique singularity due to their spectacular, landscape or scenic character, of geological, physiographic or paleontological formation[681]. This category includes the conservation of the biodiversity of the area within it. In the area within the monuments it is prohibited to extract or consume non-renewable resources or establish infrastructure works, except for scientific investigation, eco-tourism, environmental education and other activities

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I to the east; TCO Tacana II to the north and demands for the declaration of the Lecos Apolo and Lecos Larecaja TCOs in the south). This places Madidi NP-IMNA at the heart of the Vilcabamba-Amboró Conservation Corridor (VACC).

[677] PARQUE NACIONAL Y ÁREA NATURAL DE MANEJO INTEGRADO MADIDI, *supra* note 675.

[678] *Id*.

[679] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 21.

[680] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 23.

[681] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 22.

necessary for subsistence of traditional communities[682]. Any activities within it shall be properly authorized.

It is important to note that parks, sanctuaries and natural monuments receive the same level of protection, except for the requirement of a special authorization in sanctuaries, and are distinct due to the purpose of its establishment. These areas can be defined as protected areas with a conservation goal.

4.1.5.4. National or Departmental Wildlife Reserve

The wildlife reserves are created to sustainably protect and management wildlife[683]. In this area it is permitted to extract or consume according to zoning, and extraction is only permitted for management and use of wildlife[684]. An example is the Eduardo Avaroa Andean Fauna National Reserve.

4.1.5.5. Integrated Management Natural Area (IMNA)

The Integrated Management Natural Area (IMNA) category harmonizes the conservation of biological diversity with the sustainable development of the local population. It constitutes a mosaic of land uses, including representative samples of ecoregions, biogeographic provinces, natural communities or plant and animal species of special importance, traditional land use systems, multiple-use zones, and strict protection zones[685].

Both the wildlife reserve and the integrated management natural area represent the protected areas intended for sustainable use of resources.

4.1.5.6. Natural Reserve of Immobilization

Natural Reserve of Immobilization is the transitory legal regime for areas under preliminary evaluation for protection, which still require conclusive studies for definite

[682] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 23.
[683] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 24.
[684] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 24.
[685] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 25.

categorization and zoning[686]. They shall be declared public lands, and be temporarily classified as such, when there is still not enough information for its definite classification, or when other national interest so requires[687]. The transitory classification shall last for the maximum period of five years, during which using natural resources, establishing human settlements, or giving concessions of use or adjudications is prohibited [688]. If forest production activities were initiated before the land was so declared, the activity can continue, subject to compliance with the management plan and rules regarding the transition period[689], and if they do not interfere with the classification studies[690].

4.1.5.2. Private Conservation Mechanisms

Private protected areas can also be established when voluntarily managed and financed by private parties[691]. Although not a part of SNAP, these areas are regulated by specific norms. When protection lands are within private properties, private reserves of the natural heritage can be established through private initiative, subject to the same protections of public protection lands[692]. They are established through a voluntary unilateral act by the property owner, *campesinos* or indigenous communities, through public registry, with a clear delimitation of the extension and limits, as well as the period determined for protection[693]. Private reserves cannot be established for less than ten years or for areas larges than 5,000 acres[694].

As those areas are declared protected forests, they are subject to mandatory protective reforestation, and constitute perpetual ecological administrative servitudes[695] inscribed in the property registry[696]. Within private reserves the rules regarding wildlife

[686] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 26; Bolivia, Law No. 1700 (Jul 12, 1996), art. 18, I.
[687] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 55.
[688] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 26.
[689] Bolivia, Law No. 1700 (Jul 12, 1996), art. 18, II.
[690] Bolivia, Law No. 1700 (Jul 12, 1996), art. 18, II.
[691] Bolivia, Supreme Decree No. 24781 (July 31, 1997), art. 18.
[692] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, I. Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, IV.
[693] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, II.
[694] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, I.
[695] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, I.
[696] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, II.

and genetic resources shall be respected[697]. When protected areas are established within a framework of forest concessions, they constitute ecological reserves and shall be subject to the same limitations as servitudes[698]. Private reserves and other ecological servitudes are not subject to rural taxes[699].

4.1.6. Indigenous Communities[700]

Indigenous people are defined as the group that shares a cultural identity, language, historical tradition, institutions, territory and cosmo-vision prior to the colonial Spanish invasion[701]. Indigenous groups are entitled to the right to live in a healthy environment, with proper management of the ecosystem[702]. Their rights to freely exist, maintain its cultural identity, spiritual and religious beliefs, actions and costumes, to maintain their territory, protect their sacred spaces, to their traditional knowledge, medicine, and rituals, to exercise their jurisdiction, economy and politics, and to live within a safe environment, among others, are recognized[703]. In this sense, indigenous groups are autonomous[704] and are governed by rules, regulations and customs of the community[705].

Indigenous people have a recognized right to territory, autonomous management, use of renewable natural resources[706], and forest exploitation[707]. Indigenous territory is recognized as the TIOC, and includes production areas, areas of development and conservation of natural resources and spaces for social, spiritual and cultural

[697] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, II.
[698] Bolivia, Law No. 1700 (Jul 12, 1996), art. 13, II.
[699] Bolivia, Supreme Decree No. 24453 (Dec. 21, 1996), art. 41, V.
[700] *See* GONZALO ZAMBRANA ÁVILA AND CYNTHIA SILVA MATURANA, IUCN, LAS AREAS DE CONSERVACIÓN COMUNITÁRIAS EN EL MARCO DE LAS POLÍTICAS PÚBLICAS EN BOLIVIA (2008), available at http://www.iccaconsortium.org/wp-content/uploads/images/media/grd/iccas_bolivia_report_icca_grassroots_discussions.pdf. JUAN CARLOS RIASCOS DE LA PEÑA, CARACTERIZACIÓN DE LAS ÁREAS INDÍGENAS Y COMUNITARIAS PARA LA CONSERVACIÓN EN BOLIVIA, ECUADOR Y COLOMBIA (2008), available at http://cmsdata.iucn.org/downloads/andes_regional_icca_review.pdf.
[701] 2009 Bolivian Const., arts. 30, I.
[702] 2009 Bolivian Const., art. 30, §6.
[703] 2009 Bolivian Const., arts. 30, II.
[704] *See* Item 4.1.2. 2009 Bolivian Const., art. 30, item 18; 289-290-296; 410.
[705] Bolivia, Law No. 1715 (Oct. 18, 1996) (Ley del Servicio Nacional de Reforma Agraria).
[706] 2009 Bolivian Const., art 30; 403.
[707] 2009 Bolivian Const., art 386; 388.

reproduction[708]. The State recognizes the collective ownership of land[709], as well as its social economic function[710]. TIOCs cannot be alienated, seized, acquired by statute of limitations[711], or reversed[712]. Private lands that fail to comply with its economic and social function can be reversed, and expropriated due to public interest, to be endowed exclusively to indigenous peoples or *campesinos* communities with insufficient land[713].

In addition to being the sole holders of TIOC, indigenous communities have the exclusive property to the forest resources of their territory[714]. Although the State maintains ownership of forest resources, indigenous groups are granted access to commercial use of forests under sustainable management practices, monitored by the Forestry Superintendence. Indigenous communities have an exclusive right to forest harvesting within their TIOCs, with minimum payments of forest patents, and without requiring prior authorization when intended for traditional and domestic use, or subsistence[715].

When protected areas and indigenous territory share the same land, combined management shall be conducted with the joint efforts by the government and the authority of the traditional community[716]. The indigenous communities located within forest areas have an exclusive right to its use and management, subject to compliance with the rights of property, land use, sustainable use of natural resources and biodiversity[717].

Whenever the exploitation of resources affects communities, these shall be previously consulted, and their participation on the environmental management and ecosystem conservation shall be ensured[718]. If indigenous communities are affected, their

[708] 2009 Bolivian Const., arts. 403.
[709] 2009 Bolivian Const., arts. 393.
[710] 2009 Bolivian Const., arts. 397.
[711] Bolivia, Law No. 1715 (Oct. 18, 1996), art. 3, §3. 2009 Bolivian Const., art. 394.
[712] Bolivia, Law No. 3545 (Nov. 28, 2006), art. 30.
[713] Bolivia, Law No. 3545 (Nov. 28, 2006), art. 43.
[714] 2009 Bolivian Const., art 30, II, 6.
[715] Bolivia, Law No. 1700 (Jul 12, 1996), art. 32
[716] 2009 Bolivian Const., arts. 385, II.
[717] 2009 Bolivian Const., arts. 388.
[718] 2009 Bolivian Const., art 352.

norms and procedures shall be respected[719], and they shall participate in the benefits of the exploitation within their territory[720].

The State shall implement special policies benefiting the indigenous communities within the Amazon rainforest to generate the conditions for them to properly explore traditional extractive products[721]. To coordinate the indigenous groups within the Amazon, the State shall create a decentralized body to promote activities within the region[722].

4.1.7. Summary of the Law of Forests in Bolivia

Bolivia's legal system is still developing, and adapting to a recent Constitution that significantly altered the government structure. Although forest policies are set forth by the Ministry of Environment and Water, its structure is divided between a directorship instituted for protection purposes (General Direction of Biodiversity and Protected Areas) and another for forest development and exploitation (Direction of Management and Forest Development).

Specialized courts have been created for both agricultural and environment issues, which ensures a more specialized analysis by judges with environmental law knowledge, although agricultural and environmental values are equally considered. Equally, there is a separate indigenous justice system, which shall apply the indigenous group's own norms and values. The institution of independent bodies help ensure that the rights of people are respected, which include the right to a healthy environment. In addition, all people have the right to participate in the environmental management, and propose legal actions to protect the environment.

Forests are regarded as assets and strategic resources of the State, thus providing little protection for their status per se. The Amazon rainforest is, however, declared a specially protected space. As State's assets, forests can serve different purposes, and are classified among tiers of protection, ranging from protected areas to forest production

[719] 2009 Bolivian Const., art 352.
[720] 2009 Bolivian Const., art 30; 403.
[721] 2009 Bolivian Const., arts. 392.
[722] 2009 Bolivian Const., arts. 391, III.

lands. Environmental policies shall be guided by both conservation and sustainable development purposes. In deciding on forest uses, decisions shall favor the forests. Since natural resources are assets of the State, the government is responsible for administering it, promoting its efficient use.

Protected areas can be established in both public and private lands, and provide limitations on the use of property. For example, buffer zones are legally designated for their function as shields of areas that provide ecosystem services. The vegetation within this area shall be maintained. They are required in both public and private areas, including when the area was authorized for forest exploitation. Forests can be exploited when classified as either permanent forest production lands (TPFP) or forest covered lands apt for diverse uses, through concessions, authorizations, or permits. However, buffer zones shall still be protected within those lands. In addition, rehabilitation lands shall be recovered in order to restore its forest purpose.

Protected areas are declared by the State for environmental conservation through SNAP, either at the national, departmental or municipal level. Although Bolivia has a wide protected area, most do not have management plans that define its limits and allowed activities. They can either be established for the sole purpose of conservation, as parks, sanctuaries or natural monuments, or for sustainable development, as wildlife reserves and integrated management natural areas. In addition, Bolivia established a temporary protected area, the natural reserve of immobilization, for areas under analysis for definite protection. Within private properties, landowners can establish protected areas, which shall also be considered protected lands.

Indigenous communities are entitled to territory and exploitation of forest resources, even within protected areas. If these are located within the Amazon rainforest, conditions shall be established so they can properly explore traditional extractive forests.

Although the Bolivian law on forest is quite comprehensive, deforestation has achieved the worst rates within the Amazon countries, thus proving it has not been effective.

4.2. BRAZIL

4.2.1. Introduction to Brazil

The Federal Republic of Brazil, or simply Brazil, is the largest country both in South and Latin America, being slightly smaller than the United States[723]. It is the fifth largest country in size[724] and sixth in population[725]. Brazil has a 7,491 km (4,655 mi) coastline[726] along the Atlantic Ocean on the east. It borders most Amazon countries (Bolivia, Colombia, French Guyana, Guyana, Peru, Suriname and Venezuela), except for Ecuador[727]. It also borders Argentina, Paraguay and Uruguay in the south and southeast. It occupies 47 percent of South America[728].

4.2.1.1. National History

Complex prehistoric indigenous tribes[729] inhabited Brazil about 10,000 years ago, mostly in the Amazon region. At the time of European discovery, the territory of current day Brazil had as many as 2,000 tribes. The indigenous peoples were traditionally mostly semi-nomadic tribes who subsisted on hunting, fishing, gathering, and migrant agriculture. When the Portuguese arrived in 1500, the Natives were living mainly on the coast and along the banks of major rivers. Initially, the Europeans saw the natives as noble savages, and miscegenation of the population began right away.

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[723] CIA, THE WORLD FACTBOOK, *Brazil* (last updated Jan. 31, 2014), https://www.cia.gov/library/publications/the-world-factbook/geos/br.html.
[724] Total area: 8,514,877 km^2. *Id.*
[725] Total population: 201,009,622 (as of July 2013). *Id.*
[726] *Id.*
[727] *Id.*
[728] *Id.*
[729] Large groups Tupis, Guaranis, Gês, and Arawaks. Most important subdivisions are Tupiniquins and Tupinambás.

Brazil was discovered in 1500 by the Portuguese explorer Pedro Álvares Cabral, and became a Portuguese colony. Portuguese settlements effectively begun in 1534, when the King Dom João III of Portugal divided the country into fifteen decentralized and autonomous Captaincy Colonies[730]. This form of territorial administration ensured hat all territory would be explored and colonized, through the donation of land to private parties. However, the decentralized government was ineffective, and Portugal restructured the Governorate General of Brazil as a colony in 1549.

The Brazilian colony was severely economically explored by Portugal. During the 16th century, it provided for large exportations of sugarcane, substituted by gold mining in the 17th century. As such, Brazil was the wealthiest and largest colony of the time, and other European powers constantly tried to take over the land. In order to ensure colonial power, expedition groups known as Bandeirantes advanced to current Brazilian borders and thus otherwise remote areas such as the Amazon.

In 1808 the Portuguese empire transferred to Rio de Janeiro to escape Napoleonic and Spanish forces. In 1815, the United Kingdom of Portugal, Brazil and the Algarves was formed, a pluricontinental transatlantic monarchic state with its capital in Rio de Janeiro. During this period, the Portuguese developed the first financial institutions in Brazil, as well as other basic structures of the country.

Brazil got its independence proclaimed by the Portuguese Prince Pedro de Alcântara in 1822. The Empire of Brazil was thus created, although it remained a unitary state under a constitutional monarchy and a parliamentary system, with Prince Pedro

[730] In the original: *capitanias hereditárias*.

declared the first Emperor, Dom Pedro I. Following a period of wars for independence, Portugal officially recognized Brazil as an independent sovereign country in 1825.

In 1889, Brazil became a presidential republic, with the proclamation of the Republic by the military. Brazil has been a federalist democratic republic ever since. The early Republican period, however, was marked by several years of political instability. Two periods of military dictatorship arose in the 1930s[731], and later between 1964 to 1985, with a period of large repression of liberty and freedom. In 1985, the military regime peacefully ceded power to civilian rulers[732]. A period of economic instability followed, until the then Minister of Finance, who later became President, Fernando Henrique Cardoso instated the Plano Real, a successful economic plan that curbed hyperinflation and granted stability to Brazilian economy. As a result, Brazil became a leading economic power and one of the most promising countries in the world. Following two terms by President Lula, President Dilma Rousseff was elected in 2010, and became the first woman president in Brazil. As a result, the Labor Party has been in power for 12 years.

4.2.1.2. Organization of territory

Brazil is a federal republic[733], composed of a Federal District (with Brazil's capital, Brasília), 26 states, and 5,570 Municipalities[734]. Both states and municipalities have autonomous administrations[735]. The states and the federal district are grouped into

[731] Getúlio Vargas remained in power between 1930-1946. He was democratically elected in 1951, and remained in power until his suicide in 1954.
[732] CIA, *supra* note 723.
[733] 1988 Brazilian Const., art. 1.
[734] IBGE, *Banco de Dados Agregados, Unidades Territoriais do Nível Município*, available at http://www.sidra.ibge.gov.br/bda/territorio/tabunit.asp?t=1&n=6&z=t&o=4 (last visited Jan. 19, 2014).
[735] 1988 Brazilian Const., art. 18.

regions, although it is merely a geographical division, mostly used for statistical purposes[736]. Within this context, the Legal Amazon is defined, and encompasses nine states within the Amazon Basin.

4.2.1.3. Economy

Brazil's economy is the seventh largest by nominal GDP[737] and eight largest by purchasing power parity in the world[738]. As an emerging economic power, it is a member of the BRICS, and one of the world's fastest growing economies. Brazil is Latin America's as well as South America's leading economic power and regional leader[739]. In addition, it is the second largest economy in the Americas, behind the United States.

The country has a diversified economy with abundant natural resources. The country has a large agricultural sector (especially coffee, soybeans, wheat, rice, corn, sugarcane, cocoa, citrus, and beef), which composes 5.2 percent of its economy when combined with allied sectors, such as logging and fishing. Brazil is the third largest agricultural exporter in the world[740]. The forestry sector represents around 3-4 percent of the country's GDP, and employs around 9 percent of the economically active population (around 8,5 million people)[741].

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[736] 1988 Brazilian Const., art. 43.
[737] WORLD BANK, *Gross domestic product 2012*, available at http://databank.worldbank.org/data/download/GDP.pdf (last visited Jan. 19, 2014).
[738] CIA, *supra* note 723.
[739] *Id*.
[740] USDA, UNITED STATES DEPARTMENT OF AGRICULTURE, *Trade* (last updated May 30, 2012), available at http://www.ers.usda.gov/topics/international-markets-trade/countries-regions/brazil/trade.aspx#.U08Ab164nFI.
[741] Naisy Silva Soares, Eliane Pinheiro de Sousa and Marcio Lopes da Silva, Importancia do Setor Florestal para a Economia Brasileira (oral presentation made at SOBER, XLVI Congresso da Sociedade Brasileira de Economia, Administração e Sociologia Rural, 20-23 July 2008), available at http://ageconsearch.umn.edu/bitstream/108583/2/214.pdf.

26.3 percent of the GDP comes from the industry sector (textiles, shoes, chemicals, cement, lumber, iron ore, tin, steel, aircraft, motor vehicles and parts, and other machinery and equipment). Due to the economical stability and larger investments by foreign parties, the sector steadily grew over the last years. Currently, Brazil has the second largest industrial complex of the Americas. There is a strong technological sector, composed by building of submarines and airplanes, which Brazil is the third largest producer of. The remaining, 68.5 percent, derives from the services sector[742], largely comprised by the banking sector.

Brazil is the world's tenth largest energy consumer, with most of its energy coming from renewable sources, especially hydroelectricity and ethanol. As such, it is the leading developer of biofuels, mainly ethanol from sugarcane. The Itaipu Dam is the world's largest hydroelectric dam located between the borders of Paraguay and Brazil.

Brazil also has large mineral reserves, with iron and manganese as raw sources for industrial production. The country is one of the leading exporters of steel. Due to large investments in the oil and gas industry, Brazil became a leading player in the sector, with the second largest reserve of oil in South America. With recent discoveries, Brazil can potentially become one of the biggest oil producers in the world.

The Acceleration Growth Plan (PAC)[743] was launched by the government in 2007 to increase investment in infrastructure and provide tax incentives for economic growth. Massive investments in transport infrastructure have boosted Brazilian's economy since the country is hosting the 2014 World Cup and the 2016 Olympic Games.

[742] CIA, *supra* note 723.
[743] In the original: Programa de Aceleração do Crescimento, lauched in 2007, is a program by the Brazilian government to induce economic growth based on investments in infrastructure.

Although being a regional leader, Brazil still faces large inequalities in social indicators, with the South and Southeast regions with better rates as the poorer North and Northeast[744]. Poverty has declined significantly to 11 percent, and extreme poverty to 2.2 percent[745], primarily due to programs, which induce social inclusion and increases of the minimum wage.

4.2.1.4. Historical context of the legal system and sources of law

Brazil is a civil law country based on Roman-Germanic traditions. The current constitution was promulgated in October 5, 1988[746]. The Constitution is the basis of the legal system, and all legislation and court decisions must conform accordingly.

The Federal Constitution lists the hierarchy of sources of laws: (i) Constitution, (ii) amendments to the Constitution; (iii) complementary laws, which supplement the Constitution by detailing specific matters expressly authorized by the Constitution, without interfering with the constitutional text; (iv) ordinary laws, which deal with all subjects, except those reserved to complementary laws; (v) delegated laws, (vi) provisional measures, which are issued by the President for a temporary period in urgent situations; (vii) legislative decrees; and (viii) resolutions[747].

Each state has its own constitution, which is limited by the principles established in the Federal Constitution[748]. The municipalities and the federal district have organic

[744] The Amazon rainforest is in the North region of Brazil.
[745] THE WORLD BANK, *Brazil*, http://www.worldbank.org/en/country/brazil/overview (last visited Feb. 21, 2014).
[746] 1988 Brazilian Const.
[747] 1988 Brazilian Const., art. 59.
[748] 1988 Brazilian Const., art. 25.

laws[749], which must comply with the provisions set forth in the federal and state constitution[750]. Likewise, state and municipal laws follows a similar pattern of hierarchy of law.

4.2.2. State Structure and Organization

The government is composed of an Executive Branch, Legislative Branch, and Judicial Branch[751].

4.2.2.1. The Executive Branch

The executive power is exercised by the President and the Vice President, with the aid of the Ministries[752]. The President is both chief of state and head of government, and has been President Dilma Rousseff since 2010[753]. The Ministries of State shall be chosen by the President[754]. Both the President and the Vice-President are elected in the same ballot[755].

At the state level, the Executive Branch is composed by the Governor and Vice-Governor, who shall be jointly elected for a 4-year mandate[756]. At the municipal level, the Executive Branch is composed by the Mayor and Vice-Mayor, who shall also be elected for a 4-year period[757].

[749] In the original: *Leis orgânicas.*
[750] 1988 Brazilian Const., art. 29
[751] 1988 Brazilian Const., art. 2.
[752] 1988 Brazilian Const., art. 76.
[753] BRASIL, PLANALTO, *Presidenta*, http://www2.planalto.gov.br/presidenta (last visited Jan. 22, 2014).
[754] 1988 Brazilian Const., art. 84.
[755] 1988 Brazilian Const., art. 77
[756] 1988 Brazilian Const., art. 28.
[757] 1988 Brazilian Const., art. 29.

4.2.2.1.1. The Ministry of the Environment and other institutions involved in forests

Within the Executive Branch, the Environmental Ministry (MMA) is responsible for all environmental matters, including forestry[758]. It was created in 1992, and, among its functions, promotes environmental polices and programs for the Amazon region[759].

Generally speaking, within the Secretary of Biodiversity and Forests[760] of the Ministry of Environment, there is a Department of Forests, as well as a Department for Biodiversity Conservation, a Department for Protected Areas, and a Department for Genetic Heritage[761]. There are also two collegiate bodies that deal with forests: Commission for Management of Public Forests, and the Commission of National Forests (CONAFLOR)[762]. CONAFLOR is a consulting body, which proposes principles and policies for forests[763]. Among other things, CONAFLOR implements the forest management program[764]. It is composed of members of several ministries, and representatives of the civil society, as well as industries related to forests, among others, in order to promote a diverse overview of the different issues, which inter-relate[765]. Those members are not paid, since participation in CONAFLOR is considered a service of relevant nature[766].

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[758] MINISTÉRIO DO MEIO AMBIENTE, *Apresentação*, http://www.mma.gov.br/o-ministerio/apresentacao (last visited Jan. 22, 2014).
[759] Brazil, Federal Law No. 10,683 (May 28, 2003), which organized the Presidency and its Ministries, and constituted the authority of the Environmental Ministry.
[760] *Id*., art. 18.
[761] *Id*., art. 2, II, b.
[762] *Id*., art. 2, III, f, g.
[763] Brazil, Federal Decree No. 3,420 (Apr. 20, 2000), art. 4-A.
[764] *Id*., art. 4-A, I.
[765] *Id*., art. 4-C.
[766] *Id*., art. 4-D.

The Brazilian Forest Services (SFB)[767] was created for the sole purpose of management of public forests for sustainable production through the creation of forests, designation of management for local communities, and forest concession[768]. It is responsible for concessions, such as timber harvesting and extractions in public forests. The designation of forests for the local communities is made through the creation of extractive reserves or sustainable development reserves, or through a concession of use through sustainable development projects, extractive projects, or others[769]. The SFB is also responsible for managing the forest fund (FNDF)[770], which fosters the development of forest-based sustainable activities and promotes innovation in the sector, and the National Register of Public Forests, which sets up a database of geo-referenced data for the identification of public forests. It is, in this sense, the commercial body, dealing exclusively with the forestry business itself.

The ICMBio[771] is responsible for the management of all federal conservation units[772]. Part of the SISNAMA, ICMBio is responsible for creating, implementing, managing, protecting, overseeing and monitoring the federal conservation units[773]. The National Colonization and Agrarian Reform Institute (INCRA)[774] and the Indian National Foundation (FUNAI)[775] also have responsibilities related to forest resources. FUNAI is the federal body that coordinates and executes indigenous policies in Brazil. As such, it

[767] *Id*., art. 2, IV. *See* also Brazil, Federal Law No. 11,284 (Mar. 2, 2006), which instituted the Brazilian Forest Service, among others, art. 54.
[768] *Id*., art. 4.
[769] *Id*., art. 6.
[770] In the original: *Fundo Nacional de Desenvolvimento de Florestas*.
[771] In the original: *Instituto Chico Mendes de Conservação da Biodiversidade* (ICMBio).
[772] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), art. 2, V, a, 3.
[773] *See* Federal Law No. 11,516 (Aug. 28, 2007).
[774] In the original: *Instituto Nacional de Colonização e Reforma Agrária* (INCRA).
[775] In the original: *Fundação Nacional do Índio* (FUNAI).

identifies, establishes, monitors and oversees indigenous lands[776]. INCRA, on the other hand, oversees the agrarian reform, maintains the registry of rural lands, and administers public federal lands[777].

4.2.2.1.2. Decentralized System of Environmental Management

The National System of the Environment (SISNAMA) encompasses federal, state and municipal bodies of environmental administration[778]. At the federal level, there is a superior body, a consultative and deliberative body (CONAMA), a central body (the Ministry of Environment – MMA), and an executive body (IBAMA).

At the federal level, the IBAMA[779] has the general mission to protect the environment, ensure the sustainability of natural resources, and promote environmental quality. Among other things, it implements and coordinates the National Forest Program. At the state and municipal level, environmental bodies or entities are responsible for programs and projects, as well as overseeing activities that can potentially harm the environment[780]. States therefore also have environmental institutions, responsible for issuing forest management permits and forest inspections, among other environmental management and policy functions. Likewise, Municipalities shall oversee and control environmental activities within their local jurisdiction.

[776] Brazil, Federal Law No. 5,371 (Dec. 5, 1967).
[777] Brazil, Federal Decree No. 1,110 (Jul. 9, 1970).
[778] Brazil, Federal Law No. 6,938 (Aug. 31, 1981).
[779] Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis, Federal Decree No. 6,101 (Apr. 26, 2007), art. 2, V, a, 2.
[780] *See* MMA, SISNAMA, http://www.mma.gov.br/port/conama/estr1.cfm.

4.2.2.1.3. Federal governmental bodies which specifically deal with the Amazon rainforest

Within the structure of the Ministry of Environment, two specific departments directly relate to policies on the Amazon rainforest. There is a specific department for direct and immediate assistance to the Environmental Minister to articulate actions for the Amazon[781], as well as a department for policies to combat deforestation[782]. The later articulates the Ministry's actions related to the Amazon, coordinates the Ministry's actions regarding the Sustainable Plan for the Amazon (PAS) as well as the Pilot Program for Protection of Brazil's Tropical Forests, among others[783]. The former shall promote sustainability, strategic programs, and integrated actions to curb illegal logging[784]. The Department of Environment and Economy, which articulates international commerce and the environment, develops sustainable development, eco-markets and sustainable businesses, as well as incentives for projects and investments in the area[785], and has an important indirect relation to the future of the policies regarding Amazon rainforests.

The Amazon Fund aims to attract donations for non-refundable investments in deforestation prevention, monitoring and combat, and to promote the conservation and sustainable use of forests in the Amazon Biome[786]. It is managed by the Brazilian Development Bank (BNDES) and the funds come from donations and net return from

[781] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), which established the organization of the Environmental Ministry, art. 2, I, b, 3. In the original: *Departamento de Articulação de Ações da Amazônia*.
[782] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), art. 2, I, b, 6. In the original: *Departamento de Políticas para o Combate ao Desmatamento.*
[783] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), art. 7.
[784] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), art. 10.
[785] Brazil, Federal Decree No. 6,101 (Apr. 26, 2007), art. 8.
[786] Brazil, Federal Decree No. 6,527 (Aug. 1, 2008).

cash investments. The Amazon Fund is used to support management of public forests and protected areas; environmental control, monitoring and inspection; sustainable forest management; economic activities created with sustainable use of forests; ecological and economic zoning, territorial arrangement and agricultural regulation; preservation and sustainable use of biodiversity; and recovery of deforested areas. In addition, it can support the development of systems to monitor and control deforestation in the Amazon Biome, in Brazil and other tropical countries[787].

4.2.2.1.4. PNC of the Amazon Cooperation Treaty

The Brazilian PNC was created in 2002[788]. The Commission is presided by the Minister of Foreign Affairs or another diplomat indicated by him[789]. It is composed by representatives from the Ministries of Foreign Relations; Environment; Planning, Budget and Management; Science & Technology; Justice; Health; Development, Industry and Foreign Trade; Education; Transport; Communications; Defense; and the Civil House of the Presidency. The members of the Commission and their substitutes are chosen by the Minister of Foreign Relations, indicated by the holder of each of the Ministries[790]. Representatives of other administrative bodies, academic community, non-governmental organizations or private sector companies can be invited to attend meetings or to integrate

[787] AMAZON FUND, *Purposes and Management*, http://www.amazonfund.gov.br/FundoAmazonia/fam/site_en/Esquerdo/Fundo/ (last visited Apr. 15, 2014).
[788] Brazil, Federal Decree (Not numbered, Nov. 8, 2002), published in Diário Oficial da União, section I, 10 (Nov. 11, 2002)
[789] *Id*., art. 3.
[790] *Id*., art. 3, §1.

thematic groups[791]. The Commission is structured within the Ministry of Development, Industry and Foreign Trade[792].

The main goals of the Commission are to coordinate the activities regarding the national application of the treaty, execute decisions adopted by its bodies, aid the Minister of Foreign Relations to undertake decisions regarding Brazilian's position in the meetings, offer subsidies for the Brazilian participation in the technical meetings and special commissions, and establish a dialogue with the institutions and national entities that can contribute to it[793].

4.2.2.2. The Legislative Branch

The Legislative Branch is composed by a bicameral National Congress[794], which consists of a Federal Senate[795] and a Chamber of Deputies[796]. The Federal Senate has 81 seats, with three members from each state and federal district elected for an 8-year term (1/3 and 2/3 of members are elected every four years, alternately)[797]. The Chamber of Deputies has a maximum of 513 seats, elected proportionally according to the population of each state for a 4-year term[798].

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[791] *Id*., art. 3, §2.
[792] *See* MDIC, Comissão Permanente do Tratado de Cooperação Amazônica, at http://www.mdic.gov.br/sitio/interna/interna.php?area=1&menu=797&refr=482 (last visited Apr. 4, 2014).
[793] *Id*., art. 2.
[794] In the original: *Congresso Nacional.* CONGRESSO NACIONAL, http://www.congressonacional.leg.br/portal/congresso/atribuicoes (last visited Jan. 22, 2014). 1988 Brazilian Const., art. 44.
[795] In the original: *Senado Federal.*
[796] In the original: *Câmara dos Deputados.*
[797] PORTAL O SENADO, *Conheça o Senado*, http://www.senado.gov.br/senado/ (last visited Jan. 22, 2014). 1988 Brazilian Const., art. 46.
[798] CÂMARA DOS DEPUTADOS, *Quantos são e de que forma é definido o número de Deputados*, http://www2.camara.leg.br/a-camara/conheca/quantos-sao-e-de-que-forma-e-definido-o-numero-de-deputados (last visited Jan. 22, 2014). 1988 Brazilian Const., art. 45; Brazil, Complementary Law No. 78 (Dec. 30, 1993).

4.2.2.3. The Judicial Branch

The Judicial Branch is composed of the Supreme Federal Court, the National Council of Justice, the Superior Court of Justice, the federal appeals courts, the regional federal courts, the state appeals courts and state courts[799]. There also specialized courts related to military, labor, and electoral issues[800].

4.2.2.3.1. Federal Supreme Court (STF)

The Federal Supreme Court[801] is the highest court for constitutional matters[802], with jurisdiction over the entire Brazilian territory[803]. It consists of 11 justices, who are appointed by the President and approved by the Federal Senate to serve until mandatory retirement at age 70[804].

4.2.2.3.2. Superior Court of Justice (STJ)

The Superior Court of Justice is the highest court for ordinary matters, and provides uniform interpretation of federal law[805]. It is composed by 33 ministers, nominated by the President[806]. It is the last appeal, expect for constitutional matters.

[799] 1988 Brazilian Const., art. 92.
[800] 1988 Brazilian Const., art. 92, IV-VI.
[801] SUPREMO TRIBUNAL FEDERAL, *Institucional*, http://www.stf.jus.br/portal/cms/verTexto.asp?servico=sobreStfConhecaStfInstitucional (last visited Jan. 22, 2014).
[802] 1988 Brazilian Const., art. 102.
[803] 1988 Brazilian Const., art. 92, §2.
[804] 1988 Brazilian Const., art. 101.
[805] 1988 Brazilian Const., art. 105.
[806] 1988 Brazilian Const., art. 104.

4.2.2.3.3. Federal Courts of Appeals and federal lower courts

The Federal Court of Appeals and the federal lower courts compose the federal justice system[807]. They have jurisdiction over cases in which the federal state, any federal agency or federal public companies are parties to the litigation, as well as when litigation arises from human rights issues ensured by the Constitution[808]. The federal courts, as well as federal conservation units mandatorily decide indigenous disputes.

4.2.2.3.4. State and Municipal Courts

Each state shall institute a judicial branch on its capital, with courts in local relevant municipalities[809]. Its jurisdiction shall be established in the state constitution[810].

4.2.2.3.5. Environmental Courts

The Brazilian government has been creating specialized environmental courts. In 2013, 46 new specialized environmental lower courts were approved, mostly in the Amazon region[811].

4.2.2.3.6. National Court of Justice

The National Court of Justice is composed by fifteen members, with representatives from the Federal Supreme Court, the Superior Court of Justice, the Superior Court of Labor, the Court of Appeals, the lower state courts, the Federal Court of Appeals, the federal lower courts, the Labor Court of Appeals, the lower labor courts,

[807] 1988 Brazilian Const., art. 107.
[808] 1988 Brazilian Const., art. 109.
[809] 1988 Brazilian Const., art. 110.
[810] 1988 Brazilian Const., art. 125, §1.
[811] Brazil, Federal Law No. 126/2009. Courts are being created in Manaus (Amazonas), Belém (Pará), Porto Velho (Roraima) and São Luis (Maranhão).

the Public Prosecutor's Office, both federal and state, lawyers and citizens[812]. They shall be responsible for the control of administrative and financial functions of the Judiciary Branch and ensure its autonomy, among other functions[813].

4.2.2.4. Independent bodies

4.2.2.4.1. Public Defender's Office

The public defender is an essential institution of the state that provides free legal counseling for those who cannot afford it[814]. In addition, there are cases in which legal services are provided regardless of the financial situation of the party, when representing disadvantaged groups, such as children, the elderly.

4.2.2.4.2. Office of the State Prosecutor[815]

The Public Prosecutor's Office is a body composed by independent prosecutors both at the federal and state level. It is independent from the branches of government in order to ensure its autonomy to uphold justice[816]. They are responsible for criminal prosecutions, promote administrative and judicial litigation for the protection of the public and social heritage, the environment, as well as other diffuse and collective rights, and defend the rights and interests of indigenous people, among others[817].

[812] 1988 Brazilian Const., art. 103-B.
[813] 1988 Brazilian Const., art. 103-B §4.
[814] 1988 Brazilian Const., art. 134.
[815] In the original: *Ministério Público*.
[816] 1988 Brazilian Const., art. 127.
[817] 1988 Brazilian Const., art. 129.

4.2.2.4.3. Attorney General[818]

The Attorney General represents the federal state both in a judicial and consultative matter[819]. It is also the body that represents Brazil before other countries and international jurisdictions. The Federal Attorney General is nominated by the President.

4.2.3. Brazilian Amazon Rainforest

Brazil accounts for largely two thirds of the Amazon Basin[820]. It has the largest area of tropical forest and primary forest worldwide, and ranks second largest in terms of forest cover[821]. The region contains for over half of the world's remaining tropical rainforest cover, and 72 percent of the tropical rainforest wilderness areas[822]. Brazil's total forest cover accounts for a 519 million hectares area, and it is estimated that 354 million hectares of that total is within the Amazon[823].

The Legal Amazon is a geographically defined area created by the Brazilian government for development purposes[824], and serves statistical and policy choice purposes. It comprises nine Brazilian states within the Amazon Basin[825], and the areas in which the Amazon rainforest is located, encompassing a total area of 5.217.423 km^2, 61 percent of the national territory. However, only 12,34 percent of Brazil's population lives

[818] In the original: *Advocacia-Geral da União*.
[819] 1988 Brazilian Const., art. 131.
[820] MICHAEL GOUDLING ET. AL., *supra* note 1, at 16.
[821] CONSTANCE L. MCDERMOTT ET. AL., *supra* note 336, at 222.
[822] CONSERVATION INTERNATIONAL, *Brazil: a megadiverse coutry*, available at http://www.conservation.org/global/celb/Documents/brazil_5ffactsheet.pdf (last visited Jan. 19, 2014).
[823] ITTO, *Status of Tropical Forest Management: Brazil* (2011), available at http://www.itto.int.
[824] Created by the Plan for Economic Value of the Amazon (SPVEA), Brazil, Federal Law No. 1806 (Jan. 06, 1953); Federal Law No. 5,173 (Oct. 27, 1966), art. 2.
[825] Acre, Amapá, Amazonas, Pará, Rondônia, Roraima e Tocantins and part of Mato Grosso and Maranhão. *See* Brazil, Federal Law No. 12,651 (May 25, 2012), art. 3, I.

there (24 million inhabitants[826]), including 300 thousand Indians from 170 different ethnicities.

Figure 7: Brazilian Legal Amazon highlighted within the Brazilian territory

Brazil is among the richest countries in terms of biodiversity (World Bank)[827], ranking within the world's megadiverse countries[828]. Two of the world's 25 threatened hotspots are within Brazilian's borders, namely the Atlantic Forest and the Cerrado, as well as three wilderness areas, Amazonia, Pantanal, and Caatinga[829].

[826] INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATISTICA (IBGE), *Estimativas populacionais dos municípios* (2009).
[827] CONSTANCE L. MCDERMOTT ET. AL., *supra* note 336, at 221.
[828] CONSERVATION INTERNATIONAL, *supra* note 822. *See* also Declaración de Cancún de Paises Megadiversos Afines, available at http://wayback.archive.org/web/20050528132549/http://cdi.gob.mx/internacional/declaracion_de_cancun_de_paises_megadiversos_afines.pdf (last visited Feb. 18, 2014).
[829] CONSERVATION INTERNATIONAL, *supra* note 822.

The Amazon is the largest biome in Brazil[830], representing almost 50 percent of the national territory[831]. It contains the largest volume of water in the world, as well as the largest continuous tropical forest[832]. Eighty percent of the land still remains native forest[833]. However, this percentage varies greatly among the Amazon states in Brazil, reaching 92.84 percent in the state of Amazonas, and 23.82 percent in Maranhão, for example. This discrepancy shows how deforestation varies greatly depending on the location of the state and the enforcement of policies. It comprises three different biomes: the totality of the Amazon rainforest biome within Brazil, 37 percent of the *cerrado* (savannah) woodlands of the highlands and 40 percent of the Pantanal biome[834].

Brazil has a high level of endemism and very diverse ecosystems[835]. It harbors nearly 12 percent of the world's wildlife. For example, it is estimated that Brazil has 55,000 plant species, of which 22 percent are endemic[836]. Over 500 species are threatened[837].

The main threats to Brazil's biodiversity are agricultural expansion, logging, charcoal production, hydroelectric dams, oil and gas operations, mining, cattle grazing,

[830] MMA, *Mapa de cobertura vegetal dos biomas brasileiros* 3 (2007) available in http://www.mma.gov.br/estruturas/sbf_chm_rbbio/_arquivos/mapas_cobertura_vegetal.pdf.
[831] MMA, *Áreas Prioritárias para a Conservação, Uso Sustentável e Repartição de Benefícios da Biodiversidade Brasileira: Atualização – Portaria MMA No. 09*, 29 (Jan. 23, 2007), available at http://www.mma.gov.br/estruturas/chm/_arquivos/biodiversidade31.pdf.
[832] *Id*.
[833] MMA, *supra* note 830, at 6.
[834] Instituto Socioambiental (ISA), Amazônia Brasileira (2009). Edição especial Programa Áreas Protegidas da Amazônia (ARPA), available at http://www.socioambiental.org/banco_imagens/pdfs/Amazonia2009_ISA_portuguesBaixa.pdf .
[835] Adalberto Veríssimo et.al., org., Protected Areas in the Brazilian Amazon: Challenges and Opportunities 14 (2011), available at http://www.socioambiental.org/banco_imagens/pdfs/10381.pdf.
[836] CONSERVATION INTERNATIONAL, *supra* note 822. The country also has 524 species of mammals, more than 3,000 freshwater fish species, 1,677 bird species, and 10-15 million estimated species of insects.
[837] *See* THE IUCN RED LIST OF THREATENED SPECIES, http://www.iucnredlist.org/search.

hunting and poaching of wildlife, development and urban growth[838]. The country is responsible for the largest loss of total area coverage among the Amazon countries, mostly due to illegal logging and cattle ranching[839]. As a consequence, Brazil is among the five largest emitters of greenhouse gas emissions in the world, and 70 percent of that volume comes from deforestation[840].

4.2.4. Brazilian Forest Law

4.2.4.1. The legal status of forests

Forests are considered a common asset of all inhabitants[841], and, as such, are subject to limitations within both public and private properties[842]. Likewise, protected areas are considered an environmental good, and a common asset[843]. Particularly, the Amazon Forest is a natural heritage of the federal state, and its use shall be regulated by law within conditions that ensure preservation of the environment and its natural resources[844]. Vacant lands, which are essential to environmental preservation, as well as energy and mineral resources, archeological sites, and traditional lands of indigenous groups, are assets of the federal state[845]. In this sense, the Amazon rainforest is both an asset of the national government and of the Brazilian population.

[838] CONSERVATION INTERNATIONAL, *supra* note 822.
[839] CONSTANCE L. MCDERMOTT ET. AL., *supra* note 336, at 223.
[840] MMA, *supra* note 830, at 29.
[841] 1988 Brazilian Const., art. 225.
[842] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 2.
[843] 1988 Brazilian Const., art. 225, §1, III.
[844] 1988 Brazilian Const., art. 225, §4.
[845] 1988 Brazilian Const., art. 20.

4.2.4.2. General Principles

The right to a healthy environment is fundamental to every human being[846]. As a value essential to ensuring a good quality of life, the environment is considered a public good. In this sense, nature, as a public good, shall prevail over private interests, the principle of *in dubio pro natura*. Accordingly, the economic order shall be guided by the principle of the defense of the environment, as well as the social function of property, among others [847] . The Brazilian Constitution also establishes the principle of cooperation [848] , since the environment does not respect borders. This principle is especially important considering the Amazon rainforest and its transboundary status.

4.2.4.3. Obligations of the State

The federal government, the states, the federal district, and the local governments share the common goal to protect assets of historic, artistic and/or cultural value, as well as monuments, noteworthy natural landscapes and/or archeological sites; protect the environment and fight pollution in any of its forms; preserve the forests, fauna and flora; register, monitor and oversee the granting of rights (i.e. concessions) to conduct research, exploration or extraction of water or mineral resources in their territories[849].

In order to properly fulfill said obligations, the federal state and the states also share legal authority to legislate on the environment, specially on forests, hunting, fishing, fauna, conservation of nature, protection of soil and natural resources, and

[846] 1988 Brazilian Const., art. 225.
[847] 1988 Brazilian Const., art. 170.
[848] 1988 Brazilian Const., art. 4, IX.
[849] 1988 Brazilian Const., art. 23.

pollution control[850]. By establishing concurrent jurisdiction, broad, overarching statutes shall be set forth by the federal government, while it falls upon the states and the federal district to create specific statutes of particular interest to the state itself[851]. If the federal government does not establish overarching statutes, the states and the federal district may legislate until a federal law acts[852].

Specifically to ensure the common right to a healthy environment, both the government and the Brazilian population have the duty to defend and preserve it for the present and future generations[853]. As such, it is incumbent upon the government to preserve and restore the essential ecological processes and provide for the ecological management of species and ecosystems; to preserve diversity and integrity of the genetic patrimony, protect territorial spaces and its components, limit suppression of vegetation, require prior assessment of potential damages to the environment, protect fauna and flora, among others[854]. Particularly, the federal government has a duty to establish protected territorial spaces[855].

4.2.4.4. Public Participation

The Constitution ensures the right of all to an ecologically balanced environment[856]. The environment shall be available for shared use by the people. It is essential to a healthy quality of life, which imposes on both the government and society as a whole the duty of protecting it and preserving it for both the present and future

[850] 1988 Brazilian Const., art. 24.
[851] 1988 Brazilian Const., art. 24 §§1, 2.
[852] 1988 Brazilian Const., art. 24 §§3, 4.
[853] 1988 Brazilian Const., art. 225.
[854] 1988 Brazilian Const., art. 225, §1.
[855] 1988 Brazilian Const., art. 225, §1, III.
[856] 1988 Brazilian Const., art. 225.

generations. As such, every citizen has the right to question public acts, which might harm the environment[857].

4.2.4.5. Legal Reserve

Legal reserve is defined as an area inside a rural land restricted due to its vital function to the sustainable use of natural resources, the conservation and rehabilitation of ecological processes, to biodiversity conservation and protection and shelter of native wildlife and native flora[858]. The legal reserve has existed since the 1930s[859], and its institution influenced the principle of social function of private property established in the Constitution, as well as the government's general duty to establish protected areas to ensure the right to the environment[860].

As such, rural landowners shall maintain a minimum percentage of their property as legal reserve according to the biome in which the land is located[861]. Currently, the law requires the protection of 20 to 80 percent in the Legal Amazon: (i) 80 percent in Amazon rainforest areas, (ii) 35 percent in "*cerrado*" regions (savannah), and (iii) 20 percent in general fields. In other areas of the country, a 20 percent legal reserve area is required[862]. The percentage of legal reserve in properties located in areas of forest

[857] 1988 Brazilian Const., art. 5, LXXIII.
[858] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 1, III.
[859] The Forest Code of 1934 prohibited landowners from cutting more than ¾ of the vegetation within its property. The Forest Code of 1965 regulated the legal reserve, establishing a minimum forest coverage of 50 percent.
[860] *See* ADI 4901, Federal Supreme Court, request of unconstitutionality of certain provisions of the 2012 Forest Code by the Ministério Público Federal (Federal Prosecutor), 8-10. available at http://redir.stf.jus.br/paginadorpub/paginador.jsp?docTP=TP&docID=3356327#0%20-%20Peticao%20inicial%20-%20Parte%2001. Arguing that the institute of legal reserve was implicitly incorporated in the 1988 Constitution, and therefore could not be reduced, due to a general duty of non-degradation.
[861] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12.
[862] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12, I; II.

formation, whether cerrado or general fields within the Legal Amazon shall be defined, considering the legally established percentages separately[863].

In rainforest areas where the Municipality has over 50 percent of the area occupied by conservation units and indigenous territories, the percentage of legal reserve can be reduced to 50 percent, for recomposition purposes[864][865]. In rainforest areas where the state has an approved ecologic-economic zoning (ZEE) and over 65 percent of the territory is occupied by conservation units and indigenous territories, the state can reduce the required legal reserve to 50 percent[866]. Likewise, the federal government can reduce the legal reserve in rainforest areas to 50 percent for regulation, through recomposition, regeneration or compensation of legal reserve, excluding priority areas for biodiversity compensation, water resources and ecological corridors; or increase in up to 50 percent the legally established legal reserve percentages, in order to comply with national goals of biodiversity protection and reduction of greenhouse gases[867].

Whenever the percentage of the legal reserve is reduced by the state, but the landowner still maintains the original amount, properly conserved and registered, an environmental servitude and environmental quota reserve can be established in the exceeding area[868].

[863] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12, §2.
[864] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12, §4.
[865] This provision has its constitutionality questioned in the Supreme Federal Court, due to the prohibition of environmental regression, and the different ecological purposes of conservation units, indigenous territories and legal reserves. There is no final decision on the constitutionality of the provision yet. ADI No. 4901, *supra* note 860, at 16.
[866] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12, §5.
[867] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 13.
[868] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 13, §1. This provision has its constitutionality questioned in the Supreme Federal Court, based on the argument that the exceeding areas will be used to

The legal reserve shall be established according to a series of criteria, including the basin in which they are located, the ecologic-economic zoning, ecological corridors formed with other legal reserves, buffer zones, or conservation units, areas of high biodiversity conservation importance or environmental fragility[869].

In areas authorized for hydroelectric energy, whether the power station, transmission lines or distribution, or areas for highways or train lines, no legal reserve shall be required[870].

Buffer zones can be included within the percentage of legal reserve required[871][872]. However, certain restrictions apply. For example, the buffer zones shall be properly conserved or in regeneration process[873]. Whenever the landowner has more than the minimum percentage of its legal reserve properly conserved and inscribed in the CAR, the excess may be used to constitute an environmental servitude, an environmental reserve quota[874], among other instruments established by law[875].

The state environmental agency shall approve its location, after submission to the Rural Environmental Registry (CAR)[876]. After the area has been registered, it shall not be transmitted, dismembered, or have its purpose altered, except when previously allowed

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compensate legal reserves of other properties, and therefore will not comply with the required percentage and purpose. ADI No. 4901, *supra* note 860, at 19.
[869] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 14.
[870] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 12, §7, §8.
[871] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 15.
[872] This provision has its constitutionality questioned in the Federal Supreme Court, based on the argument that buffer zones and legal reserve serve different ecological purposes. ADI No. 4901, *supra* note 860, at 20.
[873] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 15, II.
[874] *See* Brazil, Federal Law No. 12,651 (May 25, 2012), art. 44.
[875] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 15, §2.
[876] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 14, §1.

by law[877]. The area shall be covered with native vegetation, and economic uses shall only permitted under a sustainable management[878]. Sustainable exploitation of non-forest products for non-economic purposes is allowed within the legal reserve[879], and shall not require previous authorization of the environmental agency when properly declared, subject to a maximum amount of annual exploitation[880]. If intended for economic purposes, the environmental agency shall previously authorize the extraction, subject to certain conditions[881]. Only after the legal reserve has been legally implemented may any suppression of native vegetation be authorized by the state environmental agency[882].

This mandatory rule is the strongest private land protection requirement within the Amazon countries, although it lacks enforcement in the majority of Brazil. In order to provide enforcement of the new rules, more than 1,5 thousand environmental agents and military are acting against the illegal deforestation in these regions. Also, satellite images from Deforestation Detection in Real Time ("DETER") guide the environmental teams to where there is more concentration of alerts in order to intensify the inspection in these areas[883]. The Brazilian Central Bank established a rule conditioning rural credits to properly environmental regularization of rural properties[884].

[877] *Id*., art. 18.
[878] *Id*., art. 17.
[879] *Id*., art. 20.
[880] *Id*., art. 23.
[881] *Id*., art. 22.
[882] *Id*., art. 12, §3.
[883] Ana Cristina Campos, *Ibama intensifica fiscalização para combater desmatamento illegal na Amazônia*, AGÊNCIA BRASIL (Sep. 14, 2013), http://agenciabrasil.ebc.com.br/noticia/2013-09-14/ibama-intensifica-fiscalizacao-para-combater-desmatamento-ilegal-na-amazonia.
[884] Brazil, Central Bank, Resolution 3,545 (Feb. 29, 2008).

4.2.4.6. Buffer zones (APP)[885]

Buffer zones are protected areas, regardless of its actual native vegetation coverage, which perform the environmental function of preserving water resources, landscape, geographic stability, biodiversity, of facilitating the gene flow of fauna and flora, as well as protecting the land and ensuring the well-being of human populations[886]. In this sense, the forests and other natural vegetation located in specific predetermined areas are considered to be buffer zones of permanent preservation[887].

In addition, the government may establish supplemental buffer zones, whenever there is a social interest and destined to achieve specific goals, such as contain erosion of soil, provide habitat for threatened fauna or flora, and protect humid zones[888].

The landowner shall maintain the vegetation coverage in buffer zones[889]. Vegetation recovery shall be immediately required if it has been suppressed[890], even if the landowner was not responsible for the damage[891]. Removal of vegetation in buffer

[885] In the original: *Áreas de Preservação Permanente* (APP) or permanent preservation areas.
[886] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 3, II.
[887] *Id*., art. 4, I-XI: (i) the borders of rivers or any watercourse with a width of 10 to 600 meters need to preserve 30 to 500 meters of the river borders, (ii) areas surrounding the lakes and natural ponds, strip with a minimum width of 100 meters in rural areas and 30 meters in urban areas, (iii) areas surrounding artificial reservoirs, resulting from damming or impoundment of natural waterways, in the range defined in the environmental permit of the enterprise, (iv) the areas surrounding the perennial springs, whatever its topographical situation, in the minimum radius of 50 meters, (v) steep slopes at altitudes higher than 45°, (vi) sandbanks, as fixing dunes or stabilizing mangroves, (vii) mangroves, (viii) the borders of trays or plateaus until the brake line, in a strip not inferior than 100 meters in horizontal projections, (ix) on top of hills, mountains and mountain range, with a minimum height of 100 meters and an average slope greater than 25°, (x) the areas with altitudes above 1800 meters, whatever the vegetation, (xi) the paths, marginal strip, in horizontal projection, with a minimum width of 50 meters.
[888] *Id*., art. 6.
[889] *Id*., art. 7.
[890] *Id*., art. 7, §1.
[891] *Id*., art. 7, §2.

zones is only allowed in cases of public utility, social interest or low environmental impact[892].

4.2.4.7. Rural Environmental Register (CAR)[893]

Since previous laws have been fairly ineffective in implementing limitations to private property, the Rural Environmental Register (CAR) was created to facilitate compliance of rural landowners with the requirements. The CAR Rural is a mandatory public system and a tool to regulate rural properties, which will create a national database of 5,4 million rural landowners[894]. The system is being developed by the Ministry of Environment, and is integrated to already existing available data from the states. Through CAR, all environmental information regarding a property will be available, with specific requirements regarding native vegetation, buffer zones, areas of restricted use, consolidated areas, and legal reserves[895]. Although the government has a deadline to publish a decree regulating CAR, it has not been done yet.

When a property has environmental debts, with illegal deforestation, CAR will set up the initial time to comply with it, giving them 2 years starting when the Ministry of Environmental sets up the system. After registering and indicating where the recovery of the illegal deforestation will take place, the landowner can participate in the Environmental Regularization Program (PRA[896]), to be created within each state, with information on the best species and technologies for recovery of the area. The fines for not following the law will be suspended during the participation in the PRA. When the

[892] *Id*., art. 8; art. 3, VIII (concept of public utility), IX (concept of social interest), X (concept of low environmental impact).
[893] In the original: *Cadastro Ambiental Rural*.
[894] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 29.
[895] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 29, §1, III.
[896] In the original: *Programa de Regularização Ambiental*.

area is completely recovered, the fines will be cancelled. The government will follow the process through the CAR and satellite images.

4.2.4.8. Forest uses

Exploitation of native forests or succeeding formations, whether in public or private properties, can be authorized through the previous permitting process by the environmental agency, subject to the prior approval of the Sustainable Forest Management Plan (PMFS)[897]. The PMFS is not required when the suppression of forests or succeeding formations is intended for alternative soil use, when the exploitation occurs in areas outside buffer zones and legal reserves, or is conducted by traditional communities for non-commercial purposes[898]. Whenever raw forest material from the suppression of native forest is used, or when individuals or companies have an authorization for the suppression of native vegetation, reforestation is required[899]. However, when the raw material derives from a PMFS, planted forests or non-timber resources, reforestation is exempted[900].

4.2.5. Protected areas

Public forests are protected through the National System of Conversation Units (SNUC)[901]. Conservation units are defined as the territorial spaces and their environmental resources, including waters, with relevant natural characteristics, legally instituted by the government, with the purpose of conservation and defined boundaries,

[897] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 31.
[898] *Id*., art. 32.
[899] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 33, §1.
[900] *Id*., art. 33, §2.
[901] Brazil, Federal Law No. 9,985, (July 18, 2000), which instituted the National System of Conservation Units (SNUC).

through a special administrative regime, to which adequate guarantees of protection are applied [902].

They are created by governmental acts, after technical studies and public consultation, to identify its location, extent and limits[903]. Conservation units are created and classified according to the (i) natural relevance of the area; (ii) official character for the creation of the conservation unit; (iii) area delimitation; (iv) preservation purposes; and (v) special regime of protection and management.[904]

The environmental permitting of potentially environmental impacting activities requires the payment of an environmental offset by the entrepreneur[905]. The offset resources shall be invested in the implementation or maintenance of full protection units, or in sustainable use units whenever its buffer zone is affected. If the RPPN is chosen, the unit is only entitled to receive the environmental offsetting resources if affected by potentially polluting activities.

Conservation units are divided between two groups of categories for Conservation Units: (i) Full Protection and (ii) Sustainable Use. The latter has the joint purpose of nature conservation and sustainable use of natural resources. Extraction of timber and non-timber forest products is allowed in specific areas and under a sustainable management standard. Also, traditional populations may remain within these areas. The former has the main goal of environmental protection, allowing solely the indirect use of

[902] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 2, I.
[903] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 22.
[904] ÉDIS MILARÉ, DIREITO DO AMBIENTE: A GESTÃO AMBIENTAL EM FOCO – DOUTRINA, JURISPRUDÊNCIA, GLOSSÁRIO 698 (2009, 6th ed.).
[905] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 36.

natural resources. Within these groups there are twelve different categories of conservation units, each with a specific aim[906].

Conservation units of full protection are divided in: (i) Ecological Station, (ii) Biological Reserve, (iii) National Park, (iv) National Monument, and (v) Wildlife Refuges[907]. Their major objective is the total environment preservation. In this respect, the protection must be integral, freeing the area, as much as possible, from influences resulting from human occupation. In order to achieve this objective, it is not admissible direct use of their natural resources, only indirect uses, which do not imply consumption, collection, damage or destruction of the resources, such as scientific research and visits.

In turn, conservation units of sustainable use are: (i) Environmental Protection Area, (ii) Area of Relevant Ecological Interest, (iii) National Forest, (iv) Extractive Reserve, (v) Fauna Reserve, (vi) Sustainable Development Reserve, and (vii) Private Natural Reserves[908]. These units have a lower level of protection in comparison to full protection conservation units, as they aim to reconcile nature conservation with sustainable use of its natural resources. Thereby, they seek to harmonize the environmental exploitation with the guarantee of continuity of renewable environmental resources and ecological processes, in order to keep biodiversity and other environmental attributes, in a socially just and economically viable way[909].

In addition, conservation units can be classified according to their federation status, being federal, state, or municipal.

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[906] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 7.
[907] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 8.
[908] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 14.
[909] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 7, *caput*, II and §2; art. 2, item XI.

4.2.5.1. Public Protected Areas

Protected areas in the Brazilian Amazon cover 43.9 percent of the region, representing 2,197,485km^2 and 25.8 percent of the Brazilian territory[910]. Of this, 22.2 percent represent conservation units (1,110,652 km^2) and 21.7 percent indigenous lands (1,086,950 km^2). Also, 9,700 km^2 are recognized Quilombolas territories and 1,964 km^2 RPPN[911].

Figure 8: Protected Areas in the Brazilian Amazon Rainforest[912]

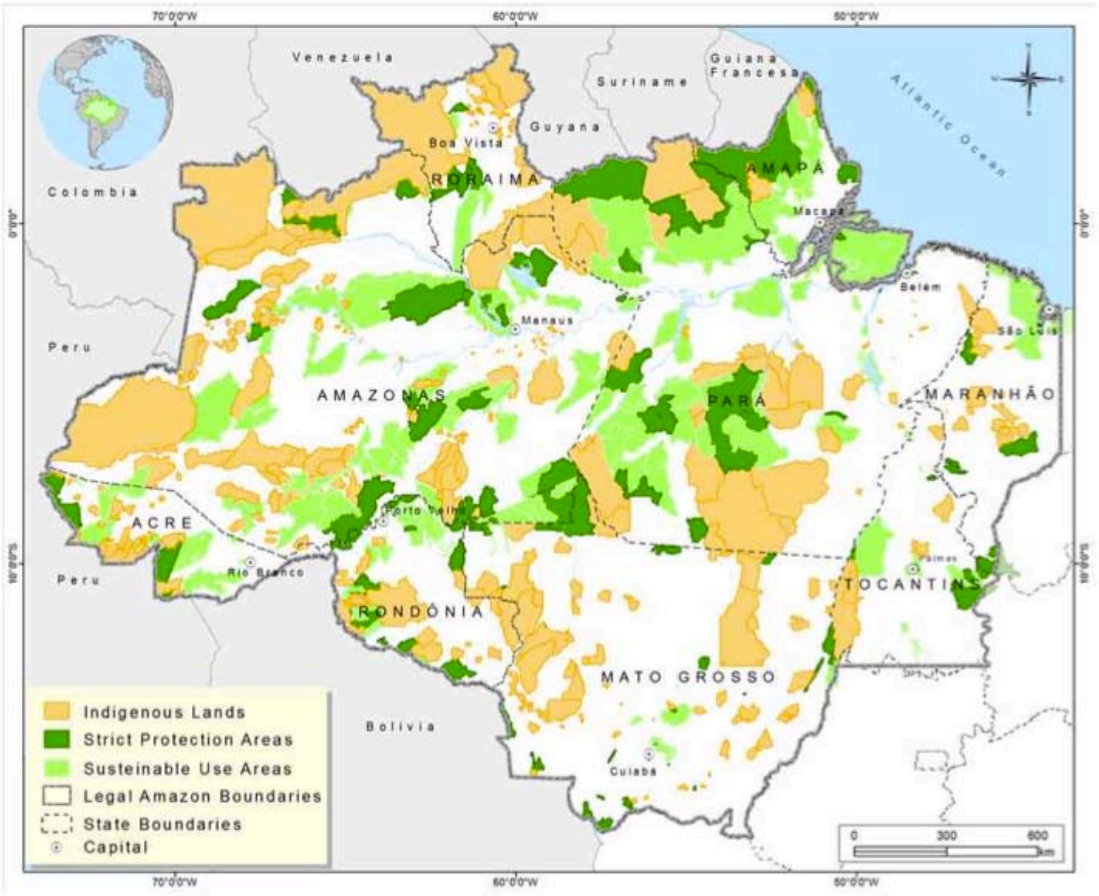

Table 3: Proportion of states of the Brazilian Legal Amazon occupied by Conservation Units and Indigenous Lands[913]

[910] *See* Adalberto Veríssimo et.al *supra* note 835, at 10.
[911] *Id*.
[912] *Id*., at 16.

State	Area of the state*	% Conservation Unit	% Indigenous Land	% Total	Total of Protected Areas (km²)**
Acre	152,581	34.2	15.9	50.0	76,360
Amapá	142,815	62.1	8.3	70.4	100,504
Amazonas	1,570,746	23.5	27.3	50.9	798,808
Maranhão	249,632	17.4	8.7	26.1	65,242
Mato Grosso	903,358	4.6	15.2	19.8	178,722
Pará	1,247,689	32.3	22.7	55.0	686,384
Rondônia	237,576	21.6	21.0	42.7	101,345
Roraima	224,299	11.9	46.3	58.2	130,588
Tocantins	277,621	12.3	9.2	21.4	59,533
Totals	**5,006,317**	**22.2**	**21.7**	**43.9**	**2,197,485**

* Area of the state according to IBGE website, in july of 2010. For teh Maranhão State, was considered just the area inside the Legal Amazon limit.
** Overlapping of Conservation Units and Indigenous Lands with maritime areas was discounted.

CONSERVATION UNITS

There are 307 Conservation Units within the Brazilian Amazon, 196 of Sustainable Use and 111 of Full Protection[914]. Of those 132 were administered by the federal government and 175 by the state governments. Although Brazil has several categories of protected areas, these are not immune to deforestation. Between 1998 and 2009, deforestation reached 12,204 km^2 within these areas, which represent 3.7 percent in sustainable use conservation units and 2.1 percent in full protection conservation units. In indigenous lands, deforestation reached 1.5 percent of their total areas[915].

[913] Adalberto Veríssimo et.al *supra* note 835, at 17.
[914] Adalberto Veríssimo et.al *supra* note 835, at 17.
[915] *Id*., at 10.

Table 4: Conservation Units in the Brazilian Amazon (excluding RPPNs)[916]

Category	Quantity	Official area * (km²)	Area 2 ** (km²)	% of the Area 2 in relation to the total Area of the Conservation Units	% of the Area 2 in relation to the total Area of the Amazon
Federal	**132**	**619,532**	**610,510**	**52.0**	**12.2**
Full Protection	**48**	**316,276**	**314,036**	**26.7**	**6.3**
ESEC	14	63,359	63,360	5.4	1.3
PARNA	24	215,808	213,567	18.2	4.3
REBIO	9	37,108	37,108	3.2	0.7
RESEC	1	1	1	0.0	0.0
Sustainable Use	**84**	**303,256**	**296,474**	**25.2**	**5.9**
APA	4	23,976	21,224	1.8	0.4
ARIE	3	209	209	0.0	0.0
FLONA	32	160,402	158,234	13.5	3.2
RDS	1	647	647	0.1	0.0
RESEX	44	118,022	116,160	9.9	2.3
State	**175**	**605,299**	**563,748**	**48.0**	**11.3**
Full Protection	**63**	**132,572**	**129,952**	**11.1**	**2.6**
ESEC	9	46,307	46,307	3.9	0.9
MONAT	2	324	324	0.0	0.0
PES	42	71,260	69,640	5.9	1.4
REBIO	5	12,578	12,578	1.1	0.3
RESEC	2	1,039	39	0.0	0.0
RVS	3	1,064	1,064	0.1	0.0
Sustainable Use	**112**	**472,727**	**433,796**	**36.9**	**8.7**
APA	39	195,472	160,593	13.7	3.2
ARIE	1	250	250	0.0	0.0
FLOTA	17	133,804	133,803	11.4	2.7
FLOREX	1	10,550	6,883	0.6	0.1
FLORSU	10	2,951	2,674	0.2	0.1
RDS	18	109,901	109,794	9.4	2.2
RESEX	26	19,799	19,799	1.7	0.4
Total in the Brazilian Amazon	**307**	**1,224,831**	**1,174,258**	**100.0**	**23.5**

* Area according to the legal instrument of creation, discounting the parts of the Conservation Units outside of the Brazilian Amazon.
** Area according to the legal instrument of creation, discounting the areas calculated by the SIG: The parts of the Conservation Units outside the Brazilian Amazon, the maritime areas of the Conservation Units, and the overlap among Conservation Units.

4.2.5.1.1. FULL PROTECTION CONSERVATION UNITS

Within the Amazon rainforest, 37.8 percent of the areas protected through conservation units, either federal or state, are classified as full protection[917].

[916] *Id*., at 21.
[917] Adalberto Veríssimo et.al *supra* note 835, at 10.

Ecological Station (ESEC)

Ecological Stations aims at safeguarding nature and carrying out scientific research activities[918]. They shall be considered public areas, and the private lands within in shall be expropriated[919]. They can only be visited for educational purposes and can only be altered for recovery, management of species for preservation of biological diversity, scientific research and collection of ecosystem components for scientific purposes[920].

Biological Reserve (ReBio)

Biological Reserves aims at strictly safeguarding the natural aspects within its borders, avoiding direct human interference or environmental changes, except through measures to recover altered ecosystems and management actions necessary to recover or maintain the natural balance, biological diversity, and natural ecological processes[921]. They shall be considered public areas, and the private lands within in shall be expropriated[922]. They can only be visited for educational purposes and scientific research shall be previously authorized by the proper environmental agency[923].

National / State Parks/ Natural Municipal Parks (Parna / PES)

National Park are established for preserving natural ecosystems of great beauty and ecological importance, giving the opportunity to carry out scientific research activities or developing environmental education, as well as promoting recreational

[918] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 9.
[919] *Id*., art. 9, §1.
[920] *Id*., art. 9, §§ 3; 4.
[921] *Id*., art. 10.
[922] *Id*., art. 10, §1.
[923] *Id*., art. 9, §§ 2; 3.

activities at direct contact with nature and ecotourism[924]. They shall be considered public areas, and the private lands within in shall be expropriated[925]. Visitation is subject to the restrictions of the management plan and scientific research requires previous authorization of the environmental agency[926].

National Monument (MONAT)

Natural Monuments are established to preserve rare and singular natural areas, or those of great scenic beauty[927]. MONATs can be established within private lands, as long as the goals of the conservation unit are compatible with the land and natural resources use by the landowners[928]. If not compatible, private lands within in shall be expropriated[929]. Visitation is subject to the restrictions of the management plan[930].

Wildlife Refuges (RVS)

Wildlife Refuges are established for the protection of natural environments ensuring the conditions for the survival and reproduction of species or communities belonging to the local flora and resident or migratory fauna[931]. RVSs can be established within private lands, as long as the goals of the conservation unit are compatible with the land and natural resources use by the landowners[932]. If not compatible, private lands within in shall be expropriated[933]. Visitation is subject to the restrictions of the

[924] *Id*., art. 11.
[925] *Id*., art. 11, §1.
[926] *Id*., art. 11, §2; 3.
[927] *Id*., art. 12.
[928] *Id*., art. 12, §1.
[929] *Id.*, art. 12, §2.
[930] *Id.*, art. 12, §3.
[931] *Id*., art. 13.
[932] *Id*., art. 13, §1.
[933] *Id*., art. 12, §2.

management plan and scientific research requires previous authorization of the environmental agency [934].

4.2.5.1.2. CONSERVATION UNITS OF SUSTAINABLE DEVELOPMENT

Within the Amazon rainforest, 62.2 percent of the areas protected through conservation units, either federal or state, are classified as sustainable development[935].

Environmental Protection Area (APA)

APAs are generally extensive areas, with a certain degree of human occupation, endowed with especially important aspects to the quality of life and well-being of human populations, with abiotic, biotic, aesthetic, or cultural attributes. They are established to protect biological diversity, regulate the occupation process and ensure sustainable use of natural resources[936]. APAs are composed of both public and private lands[937]. Restrictions can be applied to the property rights within APAs[938]. Scientific research and public visitation shall be regulated by the management body, or by the landowner, depending on whether it is established in public or private lands[939].

Area of Relevant Ecological Interest (ARIE)

Areas of Relevant Ecological Interest are generally small, with scarce or no population density and extraordinary natural features of great importance at a regional and local level. They shall be established in order to maintain the natural ecosystem of

[934] *Id*., art. 13, §3; 4.
[935] Adalberto Veríssimo et.al *supra* note 835, at 10.
[936] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 15.
[937] *Id*., art. 15, §1.
[938] *Id*., art. 15, §2.
[939] *Id.*, art. 15, §3; 4.

local or regional relevance, and regulate its admissible use, in order to make it compatible with environmental conservation[940]. ARIEs are composed of both public and private lands[941]. Restrictions can be applied to the property rights within ARIEs[942].

National / State Forest (Flona / Flota)

National forests are areas primarily covered with native vegetation established for multiple sustainable uses of forest resources and scientific research, with emphasis in methods of sustainable exploitation of native forests[943]. They shall be considered public areas, and the private lands within it shall be expropriated[944]. Traditional people located within Flona at the time of its creation may remain, subject to its management plan[945]. Visitation is subject to the restrictions of the management plan and scientific research requires previous authorization of the environmental agency[946].

Wildlife Reserve (RF)

The Wildlife Reserve is a natural area with native animal species, terrestrial or aquatic, resident or migratory, adequate for technical and scientific studies on the sustainable economic management of fauna resources[947]. They shall be considered public areas, and the private lands within it shall be expropriated[948]. Visitation is subject to the restrictions of the management plan[949]. Hunting, whether by amateurs or professionals, is

[940] *Id*., art. 16.
[941] *Id*., art. 16, §1.
[942] *Id*., art. 16, §2.
[943] *Id*., art. 17.
[944] *Id*., art. 17, §1.
[945] *Id*., art. 17, §2.
[946] *Id*., art. 17, §3; 4.
[947] *Id*., art. 19.
[948] *Id*., art. 19, §1.
[949] *Id*., art. 19, §2.

prohibited[950]. The commercial exploitation products and byproducts from research shall observe the norms regarding fauna[951].

4.2.5.2. Private Natural Heritage Reserves (RPPN)

RPPN is a category of conservation unit established in private rather than public lands[952]. The landowner creates the RPPN voluntarily and for perpetuity, while other conservation units may be reduced or abolished any time by governmental acts.

RPPN is defined as a private area, perpetually established, with the aim to conserve biological diversity[953]. The impediment to alter or extinguish the RPPN has to be included in the agreement term entered into with the environmental agency, which will verify the existence of public interest, and shall be annotated in the real estate record before the Real Estate Registry[954]. Hence, landowners can voluntarily request the designation of their land as an RPPN, but once granted, the designation is permanent and cannot be changed.

RPPNs are classified as full protection conservation units, therefore only scientific research, and visitation with touristic, recreation or education purposes is permitted[955]. Designation of an RPPN provides the landowner with a number of limited incentives.

[950] *Id*., art. 19, §3.
[951] *Id*., art. 18, §4.
[952] Currently, Federal Law No. 9,985, (July 18, 2000), and its regulation regulate RPPNs, together with Federal Decree No. 5,746 (Apr. 05, 2006).
[953] Brazil, Federal Law No. 9,985, (July 18, 2000), art 21.
[954] *Id*., art 21, §1.
[955] *Id*., art 21, §2.

Brazil has one of the best systems of voluntary permanent protection of private conservation units in Latin America. 1,101 federal RPPNs were created in the Brazilian territory until 2013, including in federal, state and municipal levels, which protect the overall of 703,740.75 hectares of lands[956]. However, there are only limited incentives for private lands conservation.

Exemption from payment of the Rural Land Tax (ITR)

Owners of RPPNs may obtain an ITR payment exemption from the Brazilian Ministry of Finance. In addition, the area covered by environmental easement can also be exempted from payment of the ITR.

Ecological ICMS

Some Brazilian states use a portion of their tax on goods and services' revenues (ICMS)[957] for ecological purposes, creating a unique tax incentive for landowners who wish to protect their lands. All states receive a portion of the ICMS revenues, and some states designate part of their income to municipalities that support RPPNs and other protected areas as a form of payment for environmental services. The use of "Ecological ICMS" revenue creates an economic incentive for municipalities to promote the creation of conservation areas within their jurisdiction. Within the Amazon states, Rondônia uses an Ecological ICMS[958] devoting 5 percent of the state's revenue to municipalities for support of private and public protected areas. Today, similar laws exist in other states,

[956] ICMBio, Criação de RPPNs rende homenagem a técnico do ICMBio (Nov. 08, 2013), http://www.icmbio.gov.br/portal/comunicacao/noticias/20-geral/4473-criacao-de-rppns-no-bioma-mata-atlantica-rende-homenagem-a-tecnico-do-icmbio.html.
[957] In the original: *Imposto sobre Circulação de Mercadorias e Serviços.*
[958] Brazil: Rondônia, State Complementary Law No. 147 (Jan. 15, 1996).

such as Acre[959], Amapá[960], Goiás[961], Mato Grosso[962], Mato Grosso do Sul[963], Pará[964], and Tocantins[965].

A noteworthy aspect of this instrument is that the state controls the tax revenues, and so has the power to control the flow of funds to the municipalities. The state can therefore decide what protected areas to support, and can also allocate funds depending on the effectiveness and quality of the conservation actions taken.

Other Incentives

The SNUC contemplates that the property owner can request for cooperation to environmental entities[966], but few organizations have the capacity or finances to assume this obligation. Another incentive is the priority given to such projects in order to receive funds from the National Environment Fund[967], but it is not often used for two reasons: first, this Fund only supports legally constituted entities, and not individuals, which excludes many private landowners; and second, the technical difficulty for private property owners to develop a successful proposal.

Ecosystem services

The new Forest Code established the payment and incentives for the environmental services as a retribution, either or not monetary, for the activities related to

[959] Brazil: Acre, State Law No. 1,530 (Jan. 22, 2004).
[960] Brazil: Amapá, State Law No. 322 (Dec. 23, 1996).
[961] Brazil: Goiás, State Complementary Law No. 90 (Dec. 22, 2011).
[962] Brazil: Mato Grosso, State Complementary Law No. 73 (Dec. 07, 2000).
[963] Brazil: Mato Grosso do Sul, State Decree No. 10,478 (Aug. 31, 2001).
[964] Brazil: Pará, State Law No. 7,638 (Jul. 12, 2012).
[965] Brazil: Tocantins, State Law No.1,323 (Apr. 04, 2002).
[966] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 5, IV.
[967] Brazil, Federal Decree No. 5,746 (Apr. 05, 2006), art. 27.

the conservation and improvement of the ecosystem that generate environmental services, such as: (i) the sequestration, conservation, maintenance that increase the stock of and decrease carbon flux; (ii) the preservation of the natural scenic beauty; (iii) the conservation of biodiversity; (iv) the conservation of water and water services; (v) climate regulation; (vi) the appreciation of the cultural and traditional ecosystem knowledge; and (vii) the conservation and soil improvement; (viii) maintenance of APP, legal reserve and Areas of Restricted Use[968].

In addition, other forms of incentives were established, such as the possibility to obtain compensation from the environmental conservation measures necessary to achieve the Forest Code goals by: (i) obtaining agricultural credit with lower interests rates, as well as larger limits and deadlines; (ii) hiring agricultural insurance in better conditions; (iii) deducting the APPs, legal reserves and Areas of Restrict Use from the calculation basis of the ITR, generating tax credits; (iv) allocating a portion of the funds raised by the charge for water use for the maintenance, rehabilitation or restoration of APPs, legal reserves and Areas of Restrict Use within the river basin where the revenue is generated; (v) obtaining financing in order to meet initiatives of voluntary protection of native vegetation, protection of endangered species of native flora, forestry and agroforestry sustainable management conducted in a rural property, or recovery of the degraded areas; and (vi) tax exemption for key inputs and equipment used for the processes of recovery and maintenance of APPs, legal reserves and Areas of Restricted Use[969].

[968] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 41, I.
[969] *Id*., art. 41, II.

Moreover, it is possible to receive incentives for commercialization, innovation and acceleration of recovery and conservation actions and sustainable use of forests and other forms of native vegetation, such as preferential participation in programs to support trading of agricultural products and allocation of funds for scientific and technological research and rural extension related to the improvement of environmental quality[970].

4.2.6. Traditional, Indigenous and Quilombolas Communities

Within the classes of conservation units there are specific protected areas designated for the sustainable use by traditional, indigenous, or quilombolas communities (African-Brazilian Lands)[971].

Extractive Reserve (Resex)

Extractive reserve is a conservation unit established within the category of sustainable use. Resex are used by traditional extractive communities that base its subsistence in extraction and, complementarily, in agriculture and livestock, and shall be created to protect the livelihood and culture of such population, and ensure the sustainable use of natural resources[972]. They shall be considered public areas, and the private lands within it shall be expropriated. The land ownership remains with the state, but its use shall be granted to the communities[973]. Visitation is subject to the restrictions of the management plan and the local interests, and scientific research requires previous authorization of the environmental agency[974]. Exploitation of mineral resources and

[970] Brazil, Federal Law No. 12,651 (May 25, 2012), art. 41, II.
[971] Brazil, Federal Decree No. 5,758 (Apr. 13, 2006).
[972] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 18.
[973] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 18, §1.
[974] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 18, §3; 4.

hunting, whether by amateurs or professionals, are prohibited[975]. The commercial exploitation of timber resources shall only be allowed in a sustainable basis, and in special situations, complementary to the remaining activities developed within the extractive reserve[976].

Their subsistence is based on the harvesting of naturally growing products such as latex, nuts, fruits and oils. There are 62 extractive reserves in Brazil, mostly in the Amazon, and comprise a total area of 12.96 million hectares – 12.3 million hectares of which are on federal lands and 667 000 hectares of which are on state lands.

Sustainable Development Reserve (RDS)

Sustainable Development Reserve is a conservation unit established within the category of sustainable use. RDS are natural areas, which include traditional people whose existence is based on sustainable exploitation of natural resources developed through many generations and adapted to the local ecological conditions. They play an essential role in the protection of nature and maintenance of biological diversity[977]. RDSs serve the multiple purposes of preservation of nature and improvement of the quality of life and exploitation of natural resource by traditional populations, and of conservation and improvement of knowledge and management techniques developed by them[978]. They shall be considered public areas, and the private lands within it shall be expropriated when necessary[979]. Visitation and scientific research are subject to the restrictions of the

[975] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 18, §6.
[976] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 18, §7.
[977] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20.
[978] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20, §1.
[979] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20, §2.

management plan and the local interests[980]. The sustainable exploitation of ecosystem components is allowed, as well as the replacement of forest coverage with cultivable species, subject to zoning, legal restrictions and the area's management plan[981]. Within an RDS, there shall be integral protection zones, sustainable use zones, buffer zones and ecological corridors shall be established[982].

Indigenous Lands

There are 414 Indigenous Lands within the Amazon, covering 1,086,950 km[2983]. The indigenous population within the region totals 450,000 Indians, who speak over 150 different languages. They belong to 173 known indigenous groups, and it is estimated that there are other 46 out of reach groups[984].

Indigenous lands are federal territories where indigenous communities have the right to permanent possession and the exclusive use of the soils, rivers, and lakes[985]. These are areas where indigenous people live on a permanent basis, those used for their productive activities, those essential to the preservation of environmental resources necessary for their well-being and for their physical and cultural reproduction, according to their habits, customs and traditions. Indigenous people have the permanent possession and exclusive use of the riches of the soil, rivers and lakes existing on their lands. Nevertheless, such lands constitute the property of the state and, as public goods of special use, besides being inalienable and unavailable (can not be disposed of or

[980] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20, §2.
[981] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20, §5.
[982] Brazil, Federal Law No. 9,985, (July 18, 2000), art. 20, §6.
[983] Adalberto Veríssimo et.al *supra* note 835, at 13.
[984] *Id*.
[985] 1988 Brazilian Const., art. 49, XVI.

alienated), they cannot be the subjects of use by anyone other than the indigenous people themselves. The National Foundation of the Indian (FUNAI [986]) is responsible to recognize those lands. Of the 106 million hectares of forest in the Amazon allocated to Indigenous communities, 1.75 million hectares have been 'bounded', 8.1 million hectares have been 'declared', 3.6 million hectares have been 'approved' and 92.2 million hectares have been 'regularized' (i.e. full rights have been secured).

Quilombolas

INCRA registers 104 recognized Quilombolas Territories within the Amazon, accounting for about 9,700 km^2, 0.2 percent of the region. They cover 183 communities with an estimated population of 11,500 families[987]. Many quilombola communities have, however, not yet been recognized.

4.2.7. Summary of the Law of Forests in Brazil

Brazil has one of the most developed environmental laws among the Amazon countries. General environmental policies are set forth by the Environmental Ministry. Within its structure, the Department of Forests establishes policies on forests, the SFB is responsible for the management of forests, while ICMBio manages federal protected areas. On its turn, CONAFLOR acts as the consultive body on forests. Due to the relevance of the Amazon rainforest, specific bodies have been created to articulate policies for the region. Environmental policies are guided by the principle of *in dubio pro nature*, and of environmental protection.

[986] In the original: *Fundação Nacional do Índio*.
[987] *Id*.

Specialized courts for environmental law have been created to ensure a specialized analysis by the Judicial Branch, especially within the Legal Amazon; and the Public Prosecutor acts to ensure that the Environmental Law, and the law on forests specifically, is enforced.

Forests are regarded as common goods of all inhabitants, and the Amazon rainforest receives special protection as Brazilian's natural heritage. As public goods, legal reserves and buffer zones limit the use of forests in both public and private properties. However, there has been a lot of non-compliance with these requirements, leading to impunity, especially in remote areas like the Amazon rainforest. To ensure that those limits are respected, Brazil has just created the Rural Environmental Register, which is still under development. With this registry, the government will have the proper tools to monitor compliance, thus having more information on current gaps in the law. As such, better tools to curb deforestation can be developed based on this additional information.

In addition, protected areas can be established in both public and private areas. Through SNUC, the system of protected areas, conservation units are created within one of two categories: sustainable development and full protection. Within these categories, conservation units vary according to the purpose of protection. Through this system, more than 20 percent of the Legal Amazon is currently protected. Protection of forestlands can also be reached through indigenous lands, on which exploitation is very limited, restricted to the population that lives within it.

Indigenous groups are also conferred lands according to their traditional connection to the property. Since the use and exploitation in those areas is limited to their subsistence, these are also protected. Although a very burdensome and bureaucratic process is required whenever indigenous groups are involved, this has proven an effective way to protect the Amazon rainforest.

4.3. ECUADOR

4.3.1. Introduction to Ecuador

Ecuador, or, officially, the Republic of Ecuador, is located in western South America, bordering the Pacific Ocean at the Equator, between Colombia and Peru. With 15 million people, it is the 68th most populated country in the world, and ranks 7th among the South American countries[988]. In size, it ranks 74th in the world (256,369 km^2), and Ecuador is one of the smallest countries within South America, ranking ninth place.[989]

4.3.1.1. National History

Ecuador belonged to the northern Inca Empire until the Spanish conquest in 1533. Quito was founded by Spain in 1534 on the site of the capital of Atahualpa's Inca kingdom. It became an official administrative district of Spain, *Real Audiencia de Quito*, and part of the Viceroyalty of Peru in 1563[990].

The city of Quito, now Ecuador's capital, gained independence in 1822. Along with New Granada (Cundinamarca), part of present day Colombia, and Venezuela, Quito fought the Battle of Pichincha and defeated the Royalist forces loyal to the Spanish

[988] THE WORLD BANK, *Ecuador*, http://data.worldbank.org/country/ecuador (last visited Feb. 24, 2013).
[989] UNdata, *Country Profile: Ecuador*, UNITED NATIONS, http://data.un.org/CountryProfile.aspx?crname=Ecuador (last visited Feb. 24, 2013).
[990] HELEN LORD CLAGETT, A GUIDE TO THE LAW AND LEGAL LITERATURE OF ECUADOR, 1 (1947), *available at* http://heinonline.org.rlib.pace.edu/HOL/Page?collection=cow&handle=hein.cow/gulllecu0001&div=1&country_code=EC.

government, securing independence of the provinces of the Real Audiencia de Quito[991]. However, Ecuador was still a part of a new federation called the Republic of Gran Colombia. In 1830, though, Quito withdrew[992]. Shortly afterwards, the provinces of Guayas and Azuay also seceded, and joined Quito, forming an independent state. In order to avoid any preference among the divisions, the country adopted the name Republic of Ecuador.

Since its independence, Ecuador has been through several political changes, leading to the adoption of twenty constitutions in nearly two centuries[993]. The country was under seven years of military rule – between 1972 and 79 –, much like most of the countries in South America[994]. Democracy was re-established in 1979, under a new constitution and democratic elections. The political structure is, since then, a constitutional republic[995]. Although a representative democratic republic, the last two decades were marked by a lot of political instability, with protests that led to the ouster of three of the last four democratically elected presidents.

The current Constitution was approved in 2008, leading to general elections under the new constitutional framework in 2009. The new constitution was part of Pres.

[991] The Battle of Pichincha, WIKIPEDIA (last visited Mar. 3, 2013), http://en.wikipedia.org/wiki/Battle_of_Pichincha.
[992] The independence was recognized on Feb. 16, 1830.
[993] *See* DENNIS M. HANRATTY, ed., *Ecuador: A Country Study*. (1989), *available at* http://countrystudies.us/ecuador/57.htm. *See also* Constitutional history of Ecuador, CONSTITUTION NET http://www.constitutionnet.org/country/constitutional-history-ecuador (last visited Apr. 19, 2013).
[994] Some examples: Argentina (1966-1973; 1976-1983), Bolivia (1964-1966), Brazil (1964-1985), Chile (1973-1990), Paraguay (1954-1989), and Peru (1968-1980).
[995] 2008 Constitution of the Republic of Ecuador, Constitución de la República del Ecuador, R. O. No. 449, Oct. 20, 2008, as emended in May 7, 2011, R. O. No. 490 [2008 Ecuadorian Const.], art. 1. The translated version of the 2008 Constitution is available at *Republic of Ecuador*, Political Database of the Americas, GEORGETOWN, http://pdba.georgetown.edu/Constitutions/Ecuador/english08.html (last visited May 5, 2013).

Correa's political campaign. President Rafael Correa[996] was then reelected, and remains in office after being recently elected for an additional term.

4.3.1.2. Organization of territory

Ecuador is ruled by decentralized autonomous governments that have political, administrative, and financial autonomy[997]. In order to decentralize the administrative functions of Quito, the country is divided in seven regions or zones[998]. The State is territorially organized into regions, cantons[999], and parishes (*parroquias*). Community unions may be formed in order to improve the management of their competencies[1000]. Communities, communes, precincts, neighborhoods and urban parishes are also recognized as basic units of participation in the decentralized autonomous government[1001].

Administratively, Ecuador has 24 provinces, each with its own capital. Parishes are further subdivisions and can be either urban or rural. Quito and Guayaquil are autonomous metropolitan districts[1002]. The province of Galápagos has a special system of government, organized according to the principle of conservation of the natural heritage and the good way of living[1003]. Equally, the territory of the Amazon provinces constitute a special territorial district, with an integrated land use planning including social, economic, environmental and cultural aspects, ensuring conservation and protection of

[996] CIA, THE WORLD FACTBOOK, *Ecuador* (updated Apr. 29, 2013), www.cia.gov/library/publications/the-world-factbook/geos/ec.html.
[997] 2008 Ecuadorian Const., art. 238.
[998] 2008 Ecuadorian Const., art. 242.
[999] Cantons are second-level subdivisions of Ecuador. There are currently 226 cantons, of which three are not in any provinces.
[1000] 2008 Ecuadorian Const., art. 243.
[1001] 2008 Ecuadorian Const., art. 247.
[1002] 2008 Ecuadorian Const., art. 247.
[1003] 2008 Ecuadorian Const., art. 258.

the ecosystem and the principle of *sumak kawsay* [1004]. Finally, indigenous and multicultural territorial district constitute a special scheme due to its particular environmental and demographic features[1005]. Autonomous regions are created by law[1006].

4.3.1.3. Economy

Ecuador is the eighth largest economy in Latin America[1007]. Its wealth is highly dependent on petroleum resources, which have accounted for about half of the country's export earnings and approximately two-fifths of public sector revenues in recent years[1008]. However, Ecuador still has high poverty and income inequality. The country has a Gross Domestic Product (GDP) of US$65.95 billion[1009], representing 0.11 percent of the world economy, and ranking 63rd in the world.

4.3.1.4. Historical context of the legal system and sources of law

Due to its roots from the Spanish colonization, Ecuador inherited the civil law system. Spanish Roman Law is therefore the foundation of the Ecuadorian's legal system. The Constitution is the supreme law of the land[1010]. Treaties and international norms ratified by Ecuador rank second. Organic laws, issued by an absolute majority of the National Assembly, are mandatory for specific subjects, such as government institutions established by the Constitution, constitutional rights and guarantees, decentralized autonomous governments, political parties and electoral systems[1011]. Other matters shall

[1004] 2008 Ecuadorian Const., art. 250.
[1005] 2008 Ecuadorian Const., art. 242.
[1006] 2008 Ecuadorian Const., art. 245.
[1007] From a total of 26 countries.
[1008] UNdata, *supra* note 989.
[1009] THE WORLD BANK, *supra* note 988.
[1010] 2008 Ecuadorian Const., art. 424.
[1011] 2008 Ecuadorian Const., art. 133.

be regulated by ordinary laws, which are approved by a simple majority, and cannot prevail over organic laws.

Next on the hierarchical order come the regional and district norms, decrees and regulations. For provincial and municipal governments, ordinances of decentralized autonomous governments regulate local issues such as environmental management, protection of water sources, and creation of protected areas. Through arrangements, resolutions, and ministerial accords the Ministry of Environment regulates environmental matters. Other acts or decisions made by the public power rank last[1012]. Case law, as well as standards and public policies shall induce the improvement of the legislation, especially with regards to constitutional rights, and have been increasingly important in regulating and interpreting the new constitutional provisions[1013]. Customary law, based on the roots of the Inca and other Indian tribes, also has influence on the development of the law[1014].

4.3.2. State Structure and Organization

The public sector is comprised by the Executive, Legislative, Judicial and Electoral branches of government, as well as by the Transparency and Social Control organ [1015] . The institutions exist within the decentralized autonomous system of government[1016].

[1012] 2008 Ecuadorian Const., art. 425.
[1013] 2008 Ecuadorian Const., art. 11 (8).
[1014] 2008 Ecuadorian Const., art 171.
[1015] 2008 Ecuadorian Const., art. 225 (1).
[1016] 2008 Ecuadorian Const., art. 225 (2; 4).

4.3.2.1. The Executive Branch

The Office of the President, the Vice-President, Ministers of State comprise the Executive Branch[1017]. The President, by exercising the executive function, is both the chief of state and head of government[1018]. He is elected for a four-year mandate and can be reelected once[1019]. Since 2007 the President has been Rafael Correa Delgado. Elections are held by a universal, equal, mandatory, direct, and secret way. The executive branch defines public policy, directs public administration, draws up on foreign affairs, and is the ultimate authority over the Armed Forces and the National Police, among other attributions[1020].

The Executive Branch is also composed by the Ministers of State[1021], who are appointed by the President to represent a specific area assigned[1022]. They are in charge of exercising leadership over public policies within that area[1023].

4.3.2.1.1. Ministry of Environment

The Ministry of Environment[1024] is entitled to regulate environmental management. As head of the environmental regulatory system, the ministry has three primary responsibilities: assume the role of national authority in environmental policy; coordinate, unify, execute and supervise policies, programs and projects; and unify the

[1017] 2008 Ecuadorian Const., art. 141.
[1018] 2008 Ecuadorian Const., art. 141.
[1019] 2008 Ecuadorian Const., art. 144.
[1020] 2008 Ecuadorian Const., art. 147.
[1021] 2008 Ecuadorian Const., art. 141.
[1022] 2008 Ecuadorian Const., art. 151.
[1023] 2008 Ecuadorian Const., art. 154.
[1024] MINISTÉRIO DEL MEDIO AMBIENTE, www.ambiente.gob.ec (last visited Feb. 5, 2013).

current laws[1025]. Within the Sub-Secretary of Natural Heritage in the Ministry of Environment, the Direction of National Forest and the Direction of National Biodiversity institute forest policy.

The management of forest policies and the administration of the forest heritage of Ecuador are incumbent upon the Ministry of Environment[1026]. A centralized structure was established, in which the Ministry shall establish and administer forest areas and wildlife areas, ensure conservation and rational use of forest resources, establish policies and plans regarding forests, administer renewable natural resources, and establish forest organisms within the state and promote a coordinated action with other governmental entities, among other attributions[1027].

4.3.2.1.2. Decentralized System of Environmental Management

Ecuador follows a system of decentralized autonomous governments, and, accordingly, of decentralized environmental management[1028]. The environmental management policies are thus transversally applied and mandatory in all level of state management[1029], each with its own environmental attributions[1030]. For example, provincial governments are responsible for the provincial environmental management[1031].

[1025] Ecuador, Executive Decree no. 195-A (Oct. 4, 1996), art. 2.
[1026] Ecuador, Law No. 74 (Ley Forestal y de Conservación de Áreas Naturales y de Vida Silvestre) (Aug. 24, 1981), art. 4.
[1027] Ecuador, Law No. 74 (Aug. 24, 1981), art. 5.
[1028] Ecuador, Law No. 37 (Ley de Gestión Ambiental) (Jul. 30, 1999).
[1029] 2008 Ecuadorian Const., art. 395 (2).
[1030] Ecuador, Law No. 0 (Código Orgánico de Organización Territorial, Autonomía y Descentralización) (Oct. 19, 2010), altered by Ley Orgánica Reformatoria al Código Orgánico de Organización Territorial, Autonomía y Descentralización (Jan. 21, 2014).
[1031] 2008 Ecuadorian Const., art. 263 (4).

There is a representative of the Executive Branch in each province to monitor policies and coordinate public activities[1032]. At the local level, each province has a provincial council, headed by a prefect. The municipal council is presided by the mayor. Provincial governors and councilors (mayors, aldermen, and parish boards) are directly elected for a four-year period. Councils at both levels have functional, financial, and administrative autonomy. These public entities have administrative power to control environmental activities within their competence; as well as authority to impose fines and to file accusations before civil or criminal courts in cases of infringements of the environmental law.

4.3.2.1.2. PNC of the Amazon Cooperation Treaty

Ecuador created the Ecuadorian Permanent Commission of Amazonian Cooperation (CEPCA[1033]) in 1982[1034]. A new regulation was established in 2011[1035], determining the composition of CEPCA: Ministry of Foreign Affairs, Trade and Integration, who presides the Committee, the Ministry of National Defense, the Ministry of National Planning, the Ministry of Environment, the Secretary of Planning and Development (SENPLADES), the Executive Secretary for Eco-Development, and the Institute for the Ecodevelopment of the Ecuadorian Amazon Region (ECORAE), which acts as Secretariat of the CEPCA.

[1032] 2008 Ecuadorian Const., art. 155.
[1033] In the original: *Comisión Ecuatoriana Permanente de Cooperación Amazónica* (CEPCA).
[1034] Ecuador, Executive Decree No. 539 (Jan. 12, 1982).
[1035] Ecuador, Executive Decree No. 730 (Apr. 11, 2011).

4.3.2.2. The Legislative Branch

The Legislative Branch is composed by the unicameral National Assembly[1036]. The National Assembly was created by the 2008 Constitution after the National Congress of Ecuador was dissolved in 2007. Currently, the main authority holds 124 seats. The National Assembly members are elected through a party-list proportional representation system to serve four-year terms[1037].

4.3.2.3. The Judicial Branch

The Judicial Branch is comprised by jurisdictional bodies, administrative bodies, support bodies and autonomous bodies[1038]. The Judicial Branch is based on the principle of jurisdictional unity, and the 2008 Constitution abolished the Military and Police Tribunals. However, the right of the indigenous and peasants communities to exercise their own judicial system is recognized, as well as other mechanisms of conflict resolution, such as peace judges, arbitration, and mediation.

4.3.2.3.1. National Court of Justice

The National Court of Justice ("*Corte Nacional de Justicia*") is a constitutional court with national jurisdiction[1039]. Its proceedings are guided by the public interest ensured by the Constitution in safeguarding justice, judicial security and equality before the law.

[1036] 2008 Ecuadorian Const., art. 118.
[1037] 2008 Ecuadorian Const., art. 118.
[1038] 2008 Ecuadorian Const., art. 177.
[1039] Ecuador, Law Without Number (Codigo Orgánico de la Función Judicial) (Mar. 9, 2009), art. 172.

The National Court is composed by 21 judges elected for a nine-year term by the Judiciary Council[1040]. It exercises judicial power in the country through organized specialized courts. It judges appeals and revisions, rule on cases against public servants who benefit from immunity, and presents bills related to the administration of justice[1041].

4.3.2.3.2. Judiciary Council

The Judiciary Council manages the governance, administration, surveillance and discipline of the Judicial Branch[1042]. The body is comprised by nine members, each with respective alternates, equally divided between men and women. The members serve a six-year term and cannot be reelected[1043]. The Judiciary Council can create special courts on the primary level to deal with claim regarding the rights of nature, right to water, food sovereignty, and other matters[1044].

4.3.2.3.3. Constitutional Court

The Constitutional Court, denominated the "*Corte Constitucional*[1045]" or "*Corte Suprema*" is the supreme body for controlling and interpreting the Constitution and international human rights treaties[1046], and has national jurisdiction[1047]. The court is

[1040] 2008 Ecuadorian Const., art. 181(3); 182; 183.
[1041] *See* CORTE NACIONAL DE JUSTICIA, www.cortenacional.gob.ec (last visited Mar. 4, 2013).
[1042] 2008 Ecuadorian Const., art. 178.
[1043] 2008 Ecuadorian Const., art. 179.
[1044] Ecuador, Law Without Number (Codigo Orgánico de la Función Judicial) (Mar. 9, 2009), art. 246.
[1045] CORTE NACIONAL DE JUSTICIA, www.cortenacional.gob.ec (last visited Mar. 4, 2013).
[1046] 2008 Ecuadorian Const., art. 436.
[1047] 2008 Ecuadorian Const., art. 429.

formed by nine members, each serving a nine-year period[1048] and functions as an autonomous and independent administration body of constitutional justice[1049].

Its mission is to safeguard the enforcement and supremacy of the Constitution, the fulfillment of constitutional rights and guarantees by the interpretation, control and administration of the constitutional justice[1050]. In order to guard the Constitution, the Court shall interpret its provisions and monitor compliance, declare unconstitutional norms and invalidate acts, and arbitrate conflicts of jurisdictions or attributions[1051]. The judgments issued by the Constitutional Court shall constitute binding case law[1052], are final and there is no recourse to appeals[1053].

4.3.2.3.4. Provincial courts of justice

Each province has provincial courts of justice comprised of the numbers of judges deemed necessary to attend to the cases[1054]. The Judiciary Council is entitled to name the judges and create provincial courts as needed, according to population needs. The judges shall be organized in specialized courts corresponding to those of the National Court of Justice[1055].

4.3.2.3.5. Indigenous Justice

The indigenous communities, peoples, and nations shall have the authority to perform jurisdictional duties according to their own traditions and system of law, within

[1048] 2008 Ecuadorian Const., art. 432.
[1049] CORTE NACIONAL DE JUSTICIA, *supra* note 1045.
[1050] *Id*.
[1051] 2008 Ecuadorian Const., art. 436.
[1052] 2008 Ecuadorian Const., art. 436(6).
[1053] 2008 Ecuadorian Const., art. 440.
[1054] 2008 Ecuadorian Const., art. 178 (2); 186.
[1055] Ecuador, Law Without Number (Codigo Orgánico de la Función Judicial) (Mar. 9, 2009), art. 206.

their own territory. It is required, however, that the Constitutional and human rights are respected while applying their own standards and procedures for settlement of internal disputes. The State shall therefore assure that the decisions of the indigenous jurisdiction are respected, subject to monitoring of its constitutionality. In this sense, the law shall establish mechanisms for coordination and cooperation between indigenous and regular jurisdiction[1056].

4.3.2.3.6. Justices of Peace

Justices of peace can settle matters of equity, having the exclusive jurisdiction over those individuals, communities, or districts that bring them conflicts and infringements. In order to do so, they shall use mechanisms of conciliation, dialogue, and friendly settlement, observing the rights enshrined by the Constitution. The justice of peace is not obliged to be a professional in law and is elected by their community[1057].

4.3.2.3.7. Alternative means of dispute settlement

Arbitration, mediation, and other alternative procedures are recognized as dispute settlement mechanisms in areas where compromises can be reached[1058].

4.3.2.4. Independent bodies

The Office of the Attorney for the Defense of the People, the Office of the Attorney General, and the Office of the State Prosecutor are bodies of the Judicial Branch with administrative, budgetary, and financial autonomy[1059].

[1056] 2008 Ecuadorian Const., art. 171.
[1057] 2008 Ecuadorian Const., art. 189.
[1058] 2008 Ecuadorian Const., art. 190.

4.3.2.4.1. Attorney for the Defense of the People

The Office of the Attorney for the Defense of the People is responsible for providing legal assistance for those that cannot afford a private lawyer, ensuring the right to a fair trial and equal access to justice[1060]. The body is represented by the Attorney for the Defense of the People[1061].

4.3.2.4.2. Attorney General

The Office of the Attorney General conducts pretrial inquiries and criminal proceedings, and charges alleged offenders and indictments in criminal trials[1062]. In order to perform his duties, the Attorney General shall organize a specialized system for inquiry, forensic medicine and medical examination, conduct civil and police investigation, direct the system for the protection and assistance of victims, witnesses, and participants in criminal proceedings[1063].

4.3.2.4.3. Office of the State Prosecutor

The Office of the State Prosecutor is an autonomous body with public, technical, and legal attributions[1064]. The State Prosecutor directs and represents the Office of the State Prosecutor. He is appointed by the Council for Public Participation and Social Control for a four-year term[1065]. The State Prosecutor shall represent the State in the Judiciary, defend the State and its institutions, provide legal counsel and binding

[1059] 2008 Ecuadorian Const., art. 178; 191; 195.
[1060] 2008 Ecuadorian Const., art. 191.
[1061] 2008 Ecuadorian Const., art. 191.
[1062] 2008 Ecuadorian Const., art. 195.
[1063] 2008 Ecuadorian Const., art. 195.
[1064] 2008 Ecuadorian Const., art. 235.
[1065] 2008 Ecuadorian Const., art. 236.

responses to legal inquiries from the public bodies and institutions regarding the interpretation and application of the law, and monitor documents and contracts signed by the public sector[1066].

4.3.2.5. Transparency and Social Control Branch

The Transparency and Social Control consists of the Council of Public Participation and Social Control[1067], the Office of the Human Rights Ombudsman[1068], the Office of the General Comptroller of State, and the Superintendencies[1069], being responsible for promoting transparency and control plans, and developing mechanisms to combat corruption. It is the regulatory mechanisms of accountability in the country and shall promote and foster monitoring of public entities and bodies, as well as natural persons and private legal entities that provide services for the general welfare[1070].

4.3.2.6. Electoral Branch

Composed by authorities entering every four years or when elections or referendums occur, the electoral system shall guarantee the exercise of political rights[1071]. The Electoral Branch is comprised by the National Electoral Council and the Electoral Dispute Settlement Court[1072]. Both are based in Quito and have national jurisdiction.

[1066] 2008 Ecuadorian Const., art. 237.
[1067] 2008 Ecuadorian Const., art. 207; 208; 210.
[1068] 2008 Ecuadorian Const., arts. 214-216.
[1069] 2008 Ecuadorian Const., art. 213.
[1070] 2008 Ecuadorian Const., art. 204.
[1071] 2008 Ecuadorian Const., art. 217.
[1072] 2008 Ecuadorian Const., art. 217.

4.3.3. Ecuadorian Amazon rainforest

Although being a relatively small state, Ecuador is the eighth most bio-diverse country on Earth, holding 46 different ecosystems[1073]. Ecuador is one of 17 megadiverse countries identified by Conservation International[1074], having the biggest biodiversity per square kilometer in the world. It is home to a great variety of species, a lot of them endemic[1075], like those native to the Galapagos Islands, and has two ecological hotspots, Tropical Andes[1076] and Tumbes-Chocó-Magdalena[1077].

Ecuador is a distinguished country for other reasons. It is "*un país amazónico*", or an Amazonian country. The Amazon River Basin was discovered in Quito and the Amazon rainforest itself once belonged entirely to it. Although a lot of its territory was lost, Ecuador still owns the most bio-diverse part of the Amazon, and is home to thousands of indigenous peoples[1078].

[1073] Ministerio del Ambiente, *Áreas Protegidas*, REPÚBLICA DEL ECUADOR, http://web.ambiente.gob.ec/?q=node/59 (last visited Mar. 14, 2013).

[1074] Conversation International identified 17 megadiverse countries in 1998, a group that harbor the majority of the Earth's species. Declaración de Cancún de Paises Megadiversos Afines, available at http://wayback.archive.org/web/20050528132549/http://cdi.gob.mx/internacional/declaracion_de_cancun_de_paises_megadiversos_afines.pdf (last visited Feb. 18, 2014).

[1075] Ecuador represents 0.2 percent of the world's surface, but contains 18 percent of the bird species, 18 percent of the orchids, 10 percent of the amphibians, and 8 percent of the mammals.

[1076] Tropical Andes is one of the richest and most diverse regions on Earth, with about 5% endemic vascular plant species and the largest variety of amphibians in the world, with 664 distinct species. The region is threatened by exploitation and only a quarter of its habitat remains. *See* Conservation International, *Tropical Andes*, http://www.conservation.org/where/priority_areas/hotspots/south_america/Tropical-Andes/Pages/default.aspx (last visited Apr. 29).

[1077] Tumbes-Chocó-Magdalena was formerly called Chocó-Darién-Western Ecuador Hotspot, but expanded to include several areas. In Ecuador, the hotspot encompasses the moist forests along the west coast and the dry forests of the East. The hotspot includes a wide variety of habitats, ranging from mangroves, beaches, rocky shorelines, and coastal wilderness to some of the world's wettest rain forests. South American's only remaining coastal dry forests occur in this hotspot. *See* Conservation International, *Tumbes-Chocó-Magdalena* http://www.conservation.org/where/priority_areas/hotspots/south_america/Tumbes-Choco-Magdalena/Pages/default.aspx (last visited Apr. 29, 2013).

[1078] Univ. of Texas at Austin, *Scientists identify Ecuador's Yasuni National Park as one of most biodiverse places on Earth*, SCIENCEDAILY (Jan. 19, 2010),

Roughly 40 percent of the area is covered by native forests, divided by different types of ecosystems, such as the human tropical forest, montane forest, high altitude Andean forest (Páramo), mangroves, Amazon tropical rainforest and dry forest[1079]. The country has 45 protected areas: 11 national parks, 9 ecological reserves, 4 biological reserves, one national geobotanical reserve, 4 reserves for the production of fauna, 10 national wildlife refuges, 2 marine reserves, and 4 national recreation reserves[1080]. There are also two UNESCO Natural Heritage sites[1081] as well as additional private reserves. The total coverage of protected areas is 19.117.576 hectares, roughly 20 percent of the land[1082]. The system of national parks, public and private ecological reserves is managed by the Ministry of Environment[1083].

Although each region faces different challenges, the main environmental hazard faced by Ecuador is deforestation. The country has one of the highest rates and the worst environmental record in South America, with an annual deforestation rate of almost 2 percent[1084]. Approximately 60.000 hectares are lost annually, accounting for 55 million

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http://www.sciencedaily.com/releases/2010/01/100119133510.htm ("[T]his study demonstrates that Yasuní is the most diverse area in South America, and possibly the world", quoting Dr. Peter English of The University of Texas at Austin).

[1079] UNdata, *supra* note 989.

[1080] Ministerio del Ambiente, *supra* note 1073.

[1081] Galapagos Islands was declared a Natural World Heritage Site in 1978 and the Sangay National Park in 1983. UNESCO, *Ecuador*, http://whc.unesco.org/en/statesparties/ec (last visited Mar. 4, 2013).

[1082] Ministerio del Ambiente, Subsecretaría de Planificación Ambiental, Direccion de Informacion, Investigacion Y Educacion Ambiental, *Patrimonio de Áreas Naturales del Estado* (PANE), http://web.ambiente.gob.ec/sites/default/files/users/jloartefls/CUADRO%20PANE.pdf (last visited Apr. 24, 2013).

[1083] The Ministry of Environment incorporated the functions of the Instituto Ecuatoriano Forestal Y de Áreas Naturales Y de Vida Silvestre (INEFAN). MINISTÉRIO DEL MEDIO AMBIENTE, www.ambiente.gob.ec (last visited Feb. 5, 2013).

[1084] From 1990 to 2000, the deforestation rate was 1.53%; from 2000-2005, 1.73%; from 2005 to 2010, 1.89%. MONGABAY, Ecuador http://rainforests.mongabay.com/deforestation/2000/Ecuador.htm (last visited Apr. 6, 2013).

tons of CO_2 equivalent each year[1085]. As a result, Ecuador had a total forest loss of 28.6 percent from 1990 until 2010[1086]. Deforestation is caused primarily by oil exploration, logging and road building.

The eastern part of Ecuador, from the Andes Mountains to Peru, where the Amazon rainforest lies, is called the *Oriente*. Encompassing over 13 million hectares of tropical rainforest, this area is home to eight indigenous groups[1087]. Although being populated by less than 5 percent of the country's nationals, it comprises under half of the country's total surface area[1088]. Due to its richness, hunting, deforestation, habitat destruction, mining and oil exploration are among the main environmental issues faced in the region. The majority of Ecuador's oil reserves are located in the Amazon basin, at Lago Agrio.

[1085] Ministry of Environment, Government of Ecuador, *Forests and Climate Change: Ecuador's Socio Bosque Program*, http://www.profor.info/sites/profor.info/files/docs/Socio%20bosque%20Durban.pdf (last visited Apr. 1, 2013).
[1086] Mongabay, *supra* note 1084.
[1087] Most notably, the Quechua, Siona, Secoya, Huaorani, and Cofán.
[1088] Judith Kimerling, *Rights, Responsibilities, and Realities: Environmental Protection Law in Ecuador's Amazon Oil Fields*, 2 SW. J.L. & TRADE AM, 293, (1995).

Figure 9: Regions of Ecuador (Ecuadorian Amazon rainforest highlighted in green)

However the challenges faced, the Ecuadorian Amazon still has some well preserved areas and untouched Indian tribes. The natives, along with the Cayapas of Coastal Ecuador, were the only groups to resist Inca and Spanish domination, maintaining their language and culture until present day.

4.3.4. Ecuadorian Forest Law

4.3.4.1. The legal status of forests

The Constitution acknowledges the State's sovereignty over the biodiversity, as well as its duty regarding its administration and management. The conservation of biodiversity, especially for agriculture, wildlife, and genetic heritage, is thus declared of

public interest [1089] . The National Policy and Strategy for Biodiversity considers biodiversity a strategic resource for the sustainable development of Ecuador, due to its classification as a mega-diverse country[1090].

Forest lands, natural forest coverage, and planted forests developed by the State, as well as flora and wildlife constitute the State's forest heritage[1091]. All lands in their natural state, its scientific value and influence on the environment, for the purposes of ecosystem and species of flora and fauna, to be kept in the wild, also belong to the State's heritage[1092]. It is incumbent upon the Ministry of Environment to protect the State's forest patrimony through maps and other disclosure methods[1093].

The State's heritage of natural areas encompasses areas that due to its protective, scientific, scenic, educational, touristic and recreational value, for its fauna and flora, or because they constitute an ecosystem, contributes to the balance of the environment[1094]. These shall be established and limited by the Ministry of Environment.

4.3.4.2. General Principles

Nature, as the subject of rights[1095], can have its existence fully respected, thus maintaining regeneration of its vital cycles, structure, functions, and evolutionary

[1089] 2008 Ecuadorian Const., art. 400.
[1090] MINISTRY OF ENVIRONMENT, *Política y Estrategia Nacional de Biodiversidad del Ecuador, 2001-2010* (2001), *available in* http://www.ceda.org.ec/descargas/biblioteca/Politica%20y%20Estrategia%20Nacional%20de%20Biodiversidad%20Ecuador.pdf.
[1091] Ecuador, Code No. 17 (Ley Forestal y de Conservación de Áreas Naturales y Vida Silvestre), (Oct. 9, 2004), art. 1.
[1092] Ecuador, Code No. 17 (Oct. 9, 2004), art. 1.
[1093] Ecuador, Code No. 17 (Oct. 9, 2004), art. 3.
[1094] Ecuador, Code No. 17 (Oct. 9, 2004), art. 66.
[1095] 2008 Ecuadorian Const., art. 10.

processes[1096]. The rights of nature[1097] were based on the indigenous concept of *Pacha Mama*, or Mother Earth, a goddess revered by the indigenous people of the Andes. By establishing the *Buen Vivir* philosophy in the Constitution, there was a switch in the government's perspective of the environment, from a development state to a sustainable development state[1098]. As such, the law on forests and conservation of natural areas and wildlife is mainly based on the principle of sustainable development, through the rational use of resources, entangled with conservation[1099]. In addition, if there is a risk of extinction of species, destruction of ecosystem or permanent alteration of natural cycles, the precautionary principle shall be applied[1100]. In this context, whenever there is doubt about the application of the environmental law, the interpretation shall be in favor of nature, according to the principle *in dubio pro natura*[1101].

4.3.4.3. Obligations of the State

Individual people and communities have the right to a healthy and ecologically balanced environment, which ensures their sustainability and well being. The preservation of the environment, conservation of ecosystems, prevention of environmental damage, recovery of degraded natural places, and integrity of the genetic patrimony, are considered of public interest of the State[1102]. The State shall therefore exercise its sovereignty over biodiversity, thus declaring conservation as a public interest[1103]. The government has a duty to regulate conservation, management, and

[1096] Ecuador, 2008 Const., art. 71.
[1097] Ecuador, 2008 Ecuadorian Const., art. 71.
[1098] Maria A. Albán, *id.*, at 23. 2008 Ecuadorian Const., art. 395 (1).
[1099] Ecuador, Law No. 74 (Aug. 24, 1981), Executive Decree No. 1.529 (Feb. 22, 1983).
[1100] 2008 Ecuadorian Const., art. 73; 396.
[1101] 2008 Ecuadorian Const., art. 395(4).
[1102] Ecuador, 2008 Const., art. 14; 66; 27.
[1103] Ecuador, 2008 Ecuadorian Const., art. 400.

sustainable use, recovery and limited ownership of fragile ecosystems[1104]. In addition, it is incumbent upon the State to establish policies to mitigate climate change through limiting greenhouse gas emissions and deforestation[1105].

Since flora and wildlife belong to the State, the Ministry of Environment shall promote its conservation, protection and management, including prevent contamination of soil and water, and the extinction of species, as well as complying with national and international treaties and obligations for its conservation[1106].

4.3.4.4. Public Participation

Public participation and prior consultation is acknowledged as a constitutional right and duty, mandatory whenever nature might be impacted[1107]. Public institutions shall therefore promote participation, especially from indigenous people in building policies for environmental protection and management of natural resources [1108]. Whenever projects which might harm the environment are considered, stakeholders need to be previously informed and consulted. To help enforce environmental obligations and ensure compliance, citizens have mechanisms to demand governmental action[1109].

4.3.4.5. Buffer zones

Buffer zones [1110] are defined as forests or vegetation coverage, regardless of whether natural or not, that meet at least one of a list of criteria of ecosystem services provided, such as conserving soil and wildlife, preserving watersheds; or their location, in

[1104] Ecuador, 2008 Ecuadorian Const., art. 406.
[1105] Ecuador, 2008 Ecuadorian Const., art. 414.
[1106] Ecuador, Code No. 17 (Oct. 9, 2004), art. 73.
[1107] Ecuador, 2008 Ecuadorian Const., art. 395(3); 398.
[1108] Ecuador, Ley de Gestión Ambiental, *supra* note 115.
[1109] Ecuador, Ley de Gestión Ambiental, *supra* note 115.
[1110] In the original: "*bosques y vegetación protectores*".

areas of low rainfall, or adjoining streams and other sources of water[1111]. They have the purpose of protecting water, soil, flora, and wildlife[1112]. These areas are established by the Ministry of the Environment and can be in both private and public lands[1113]. After protected, buffer zones can only serve protection purposes, and although they can be subject to a sustainable forest management [1114], only predetermined activities are allowed[1115]. In this sense, buffer zones require a previous declaration by the government to ensure protection, going through usually bureaucratic process that may hinder protection.

4.3.4.6. Forest Lands

Forest lands are areas that due to their natural conditions or location, or if unfit for farming, shall be used for growing timber, or for conservation of protective vegetation[1116]. Within those areas, as well as within forests in private lands, the right of property shall be ensured by the State. However, if natural forests are established within areas of exclusive forest aptitude, the landowner shall conserve and manage the land according to the restrictions established by law, thus limiting their right to property[1117]. Lands that are exclusive forests or with forest aptitude within private lands shall undergo mandatory reforestation[1118]. In case landowners do not comply with this obligation, the property can be expropriated[1119]. Landowners, especially if constituted by cooperation for

[1111] Ecuador, Code No. 17 (Oct. 9, 2004), art. 6.
[1112] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 11.
[1113] Ecuador, Code No. 17 (Oct. 9, 2004), art. 7.
[1114] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 12.
[1115] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 15.
[1116] Ecuador, Code No. 17 (Oct. 9, 2004), art. 9.
[1117] Ecuador, Code No. 17 (Oct. 9, 2004), art. 10.
[1118] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 19.
[1119] Ecuador, Code No. 17 (Oct. 9, 2004), art. 11.

agricultural purposes, shall receive technical and financial assistance for the management and establishment of new forests[1120].

Compulsory afforestation and reforestation of potentially forestry lands, both public and private, are declared of public interest. In this sense, its use for any other purposes is prohibited[1121]. Reforestation of buffer zones in watersheds is a priority[1122]. Credit may be given to communities to finance reforestation programs[1123]. Additional incentives for the conservation of natural areas were created, such as the exoneration of the tax on rural property for forest areas covered in natural or cultivated forest[1124].

4.3.4.7. Classes of forest uses

For purposes of management of forest uses, forests are classified as: a) national forests for permanent production b) private forests for permanent production c) protective forests and, d) experimental or special forest and areas[1125]. National forests for permanent production can be enjoined by the government itself, using agencies or companies through contracts between the Ministry of Environment and private parties, or by direct recruitment [1126] . Timber companies can therefore be awarded forests areas for exploitation, subject to mandatory reforestation[1127]. In addition, environmental services were recognized by the 2008 Constitution, allowing additional possibilities for economic

[1120] Ecuador, Code No. 17 (Oct. 9, 2004), art. 12.
[1121] Ecuador, Code No. 17 (Oct. 9, 2004), art. 13.
[1122] Ecuador, Code No. 17 (Oct. 9, 2004), art. 14, a.
[1123] Ecuador, Code No. 17 (Oct. 9, 2004), art. 17.
[1124] Ecuador, Law No. 74 (Aug. 24, 1981), art. 54.
[1125] Ecuador, Code No. 17 (Oct. 9, 2004), art. 21.
[1126] Ecuador, Code No. 17 (Oct. 9, 2004), art. 22.
[1127] Ecuador, Code No. 17 (Oct. 9, 2004), art. 23.

exploitation of environmental resources[1128]. It is important to note that due to the obligations of reforestation, forest uses shall be conducted sustainably.

4.3.5. Protected areas

National sovereignty over natural resources is limited by nature through the creation of inalienable exclusive conservation zones. Protected areas are divided into four subsystems: State areas, areas protected by decentralized governments, community areas, and privately protected areas[1129]. The National System of Protected Areas (SNAP[1130]) ensures conservation of biodiversity and ecological functions. The concept of property was thus limited, since protected areas can be either established in public or private areas[1131].

SNAP's goals and projects are currently regulated through its Strategic Policy and Plan 2007-2016[1132]. Within this system, the national heritage of natural areas (PANE[1133]) is a fundamental part of biodiversity protection as a compilation of wildlife areas that have a scientific, scenic, educational, touristic and recreational value, special fauna and flora[1134]. The Ministry of Environment is responsible for determining and limiting those

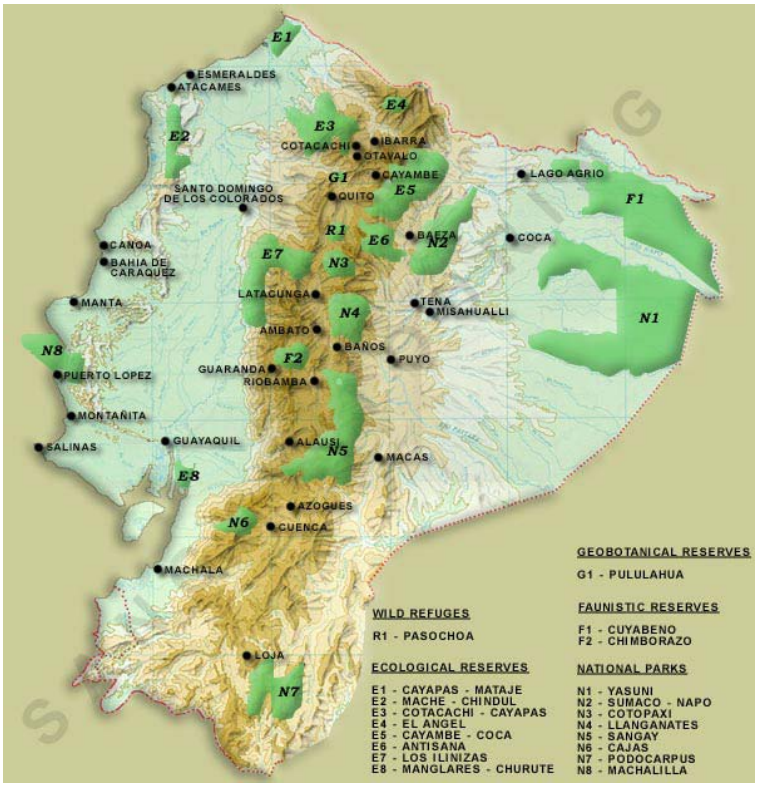
[1128] Ecuador, 2008 Const., art. 74.
[1129] Ecuador, 2008 Const., art. 405.
[1130] In the original: *Sistema Nacional de Áreas Protegidas.*
[1131] Maria Amparo Albán, *Introdución in* DESAFÍOS DEL DERECHO AMBIENTAL ECUATORIANO FRENTE A LA CONSTITUCIÓN VIGENTE (Agustín Grijalva et. al., ed.), 13; 14 (2010), *available in* http://www.ceda.org.ec/descargas/publicaciones/Desafios_Derecho_Ambiental_Ecuatoriano_frente_Constitucion.pdf.
[1132] MINISTERIO DEL AMBIENTE, *Políticas y Plan Estratégico del Sistema Nacional de Áreas Protegidas 2007 – 2016* (2006), *available in* http://web.ambiente.gob.ec/sites/default/files/users/jloartefls/Pol%C3%ADticas%20y%20Plan%20Estratégico%20del%20SNAPl.pdf (Project by GEF).
[1133] In the original: *Patrimonio Nacional de Áreas Naturales.*
[1134] Ecuador, Code No. 17 (Oct. 9, 2004), art. 66.

areas through ministerial accords [1135], according to prior alternative studies of management and funding[1136].

Except for reasons of national interests as declared by the National Assembly those areas are inalienable. In this sense, protected areas and intangible zones can only be exploited by extractive industries in exceptional cases, through a petition to the President, previously declared as a national interest by the National Assembly. This limitation does not include electric generation activities since electricity is not considered an extractive industry. Within protected areas, only specific activities are allowed, and when specifically authorized bu the Ministry of Environment according to the management category of the natural area: preservation, protection, investigation, recovery, education, culture, controlled recreation and tourism, controlled fishing and junting, and rational use of fauna and wildlife[1137].

[1135] Ecuador, Code No. 17 (Oct. 9, 2004), art. 66.
[1136] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 198.
[1137] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 199.

Figure 10: Protected Areas in Ecuador



4.3.5.1. Public Protected Areas

Public protected areas encompass two categories of protection: State areas and areas protected by the decentralized government. Public protected areas are part of Ecuador's heritage (PANE), and are divided in several classes[1138]. They shall remain untouched, and no property rights may arise within those areas[1139]. If private lands are within the limits imposed by the State for natural heritage areas, these shall be expropriated[1140]. The Ministry of Environment can control public visitation and activities inside protected areas, including scientific research[1141]. Regardless of its classification,

[1138] Ecuador, Code No. 17 (Oct. 9, 2004), art. 68.
[1139] Ecuador, Code No. 17 (Oct. 9, 2004), art. 68.
[1140] Ecuador, Code No. 17 (Oct. 9, 2004), art. 70.
[1141] Ecuador, Code No. 17 (Oct. 9, 2004), art. 72.

however, no limits of its management units can be altered, and no natural resources can be harmed[1142].

4.3.5.1.1. National Parks

A national park is a protected area with a minimum of 10,000 hectares encompassing one or multiple ecosystems, a diverse fauna and flora, relevant geological characteristics and important habitats for science, education, and recreation. These areas are created to maintain the forests' natural condition by preserving special characteristics. No exploitation or occupation is allowed within national parks.

4.3.5.1.2. Forest Reserves

Forest reserves are forested areas protected due to their geographical characteristics, composition, and natural use. The area is intended for integration to the development of the country and its immediate future.

4.3.5.1.3. Ecological Reserve

Ecological Reserve is a protected area of at least 10,000 hectares, with one or more ecosystems that include endangered species of flora and fauna, as well as unusual geological formations in natural or partially altered areas. Any exploitation or occupation is prohibited. Through the preservation of the habitat, endangered species are therefore protected.

4.3.5.1.4. Wildlife Refuge

Wildlife refuges are established to ensure the existence and protection of wildlife, either resident or migratory, for scientific, educational or recreative purposes.

[1142] Ecuador, Code No. 17 (Oct. 9, 2004), art. 75.

4.3.5.1.5. Biological Reserve

Biological reserves are protected areas of varied extension, either terrestrial or aquatic, created to preserve wildlife. Although wildlife refuge and biological reserves both protect wildlife, their goal is different.

4.3.5.1.6. National recreation areas

National recreation areas are established in natural ambient areas with over 1,000 hectares, including scenic beauty, tourist or recreational resources, accessible through populated areas[1143].

4.3.5.1.9. The Amazon Rainforest

Ecuador's Constitution established the special territorial district of the Amazon provinces, with integrated planning embodied in the law[1144]. Due to its special ecosystem and environmental qualities for the biodiversity equilibrium, a special law and territorial order shall regulate the Amazonian territory[1145]. Based on conservation and protection of the ecosystem, and the *sumak kawsay* principle, the environmental management of the region focuses on public participation and the respect for indigenous and collective rights. The special law of the Amazonian territory is currently being elaborated by the six Amazonian provinces[1146].

[1143] Ecuador, Code No. 17 (Oct. 9, 2004), art. 107.
[1144] 2008 Ecuadorian Const., art. 250.
[1145] Ecuador, Código Orgánico Organización Territorial, Autonomia, Descentralización, *supra* note 22, art 22.
[1146] *Se cumple primera etapa para Ley Especial Amazónica*, EL TELÉGRAFO (Apr. 24, 2013), http://www.telegrafo.com.ec/regionales/regional-centro/item/se-cumple-primera-etapa-para-ley-especial-amazonica.html.

4.3.5.2. Private Conservation Mechanisms

Ecuador has also recently established a subsystem of protected areas that are privately owned [1147]. These are subject to sustainable management that enables compliance with conservation objectives of the natural heritage. When declared by the Ministry of Environment, protected areas within private properties can receive government incentives, as long as their protection purpose is achieved through planted forests [1148]. However, as with the law of public protected areas, the general rule of protection lacks regulation, and laws are broad and unspecific. Since this system has also been established in the 2008 Constitution, laws still have to develop accordingly.

4.3.6. Indigenous Communities

The indigenous culture was recognized as part of the biological and cultural biodiversity of the State, thus justifying the incorporation of the *Buen Vivir*[1149] or *Sumak Kawsay*[1150], a consolidation of the national identity[1151]. The rights to the *buen vivir* include the rights to water and food, to an ecologically balanced environment, to communication and information, to culture and science, to education, housing, health, work, and social security[1152]. The regime includes the concept of equity and inclusion within those rights, with a highlight in ancestral knowledge[1153]. In this sense, indigenous groups are entitled to a broad array of rights.

[1147] 2008 Ecuadorian Const., art. 405.
[1148] Ecuador, Executive Decree No. 1.529 (Feb. 22, 1983), art. 169.
[1149] 2008 Ecuadorian Const., art. 74.
[1150] Ecuador, 2008 Const., art. 14.
[1151] Maria A. Albán, *supra* note 201, at 23.
[1152] 2008 Ecuadorian Const., arts. 12 – 34.
[1153] 2008 Ecuadorian Const., arts. 340 – 394.

National forest production areas within communitarian lands of indigenous people, black or afro-Ecuadorian people shall be enjoined exclusively by them, subject to an authorization by the Ministry of Environment[1154]. These groups have the exclusive right to the use of forests products, except timber and wildlife, under its management[1155].

4.3.7. Summary of the Law of Forests in Ecuador

Ecuador has the most protective principles to guide interpretation of Environmental Law. Although Ecuador has proclaimed the rights of nature, its law, especially the law on forests, is still incipient, and requires much development to be indeed enforceable. As such, the country is undergoing a reevaluation of Environmental Law in the face of the new Constitution.

Forests and its biodiversity are considered of public interest, and part of the State's heritage. As such, the government shall establish protected areas, limiting their use. In addition, compulsory reforestation is mandatory in both public and private lands. However, even the law on protected areas, which is based on a system (SNAP) that is already decades old, is still underregulated, with little guidance as to the categories of areas and limits on use. Althgouh classes of protected areas are generally established, there is no legal regulation regarding their peculiarities. Accordingly, Ecuador has established a protective system for private areas and community lands, which also still lacks regulation.

The Amazon rainforest is, nonetheless, a special territorial district, subject to specific rules and limitations. This regulation is also under development. The majority of

[1154] Ecuador, Code No. 17 (Oct. 9, 2004), art. 37.
[1155] Ecuador, Code No. 17 (Oct. 9, 2004), art. 39.

Ecuador's law on forests is thus still being developed, as to adapt to the provisions set forth in the 2008 Constitution. In summary, Ecuador has recently approved a new Constitution that sets forth the most protective principles and general obligations of Environmental Law, which, however, are still largely unenforceable due to the slow development of the Legislative Branch to regulate them. This is the moment to look at lessons learned from other countries, and to understand common goals for the Amazon region as a whole, and develop Environmental Law accordingly.

Chapter 5: Conclusion

We shall not be naïve: the Amazon is a very rich region, and there shall be no doubt that South American governments will continue to foster hydroelectric, petroleum, highways, and mining projects to generate wealth and alleviate poverty and improve living conditions in the Amazon region. The major goal is, after all, integration of the Amazon region within their national territories as to increase social and economic wealth. However, instead of conducting progress by inducing destruction, this goal can be strategically reached to induce sustainability. The cooperation between Amazon countries is a path that can bring joint efforts to generate wealth and reassure sovereignty over its rich resources while also inducing sustainability to a more efficient use of resources. Conservation has to be shaped within the economic and social framework of the region, and the paradigm of an untouchable Amazon is unrealistic[1156]. This thesis is an attempt to look forward and beyond political borders to create a framework that will be broadly used among the Amazon countries to reach those purposes.

Since the structure of ACTO, although deficient, already provides a cooperative forum of discussion, it can be used as a basis, and improved to reach this goal. As such, we discuss how the treaty can continue to develop in order to break the current pattern of inaction and become more than just an exchange of ideas. Accordingly, we analyze whether the treaty is adequate to deal with potential future – and some current – effects of climate change. In order to help the treaty adapt, and since national law is required to enforce the treaty locally, we ask whether the national law is adequate to achieve this

[1156] MICHAEL GOUDLING ET. AL., *supra* note 1, at 11.

purpose, and whether the principles of national law can be used to induce a more favorable interpretation to achieve sustainability. In this sense, the treaty development can be boosted and reverse the pattern of slow development that marked its first thirty years.

5.1. The ACTO: how it developed to the current structure and how it can improve to become more effective

From treaties that defined borders and ensured free navigation within the Amazon Basin, the Amazon countries finally created a cooperative scheme for the region in 1978. This scheme has been constantly reevaluated and revised, with a major structural development in 1998, through the Amendment Protocol do the Amazon Cooperation Treaty, and in 2009, with new internal regulations that provided for a more effective day to day. At each development, the Member Countries increasingly show a political will to strengthen the institution so that it becomes more effective in addressing Amazonian issues. As strong examples, the creation of the Permanent Secretariat and compulsory financial mechanisms have showed a political commitment by the member countries. In this sense, there is no doubt that the Amazon countries want to be cooperative, have joint policies and induce both wealth and sustainability in the region.

Within this context, the ACTO has developed to becoming a global voice in international negotiations, to joint forces to present their perspective. As such, it is a forum for parties to agree on common positions and has a "coordinating role" as facilitator in international negotiations[1157]. One of the main examples is its role in UNFF

[1157] RES/IX MRE-OTCA/05

negotiations. Their perspective presents not only the uniqueness of the environment they share, but also its value within their social and economic context. As such, the ACTO tries to break the paradigm of the untouchable Amazon, contributing to the creation of economic opportunities for the region through new methods of administering natural resources and environment with the participation of local and regional actors.

However, despite the efforts, the great majority of projects approved by the ACT's have not been executed. As a result, there has been little practical impact of the ACT due to excessive number of projects approved without technical and financial capacity, institutional weakness, and lack of financial resources[1158]. Due to the ACT's status as an umbrella agreement, specific obligations are constantly negotiated to broaden the treaty's scope and ensure that Amazon issues are addressed. But without a stronger core and additional flexibility, the ACTO will continue to remain only a forum of discussion. Through the analysis of the treaty's and institution's development, and the recognition of a shared[1159] and historical[1160] responsibility over the Amazon, and need for common policies, it is clear that this is not the Member Countries intent.

5.2. Sovereignty and Decision-Making at the ACT/ACTO

The ACT and ACTO developed as cooperation mechanisms among Amazon countries as a means to reinforce sovereignty and promote regional development. As such, efforts of regional integration were at first based on nationalism and affirming the sovereignty of each country. Creating ACTO reassured these principles, since the

[1158] BEATRIZ GARCIA, *supra* note 52, at 112, note 179.
[1159] MMFA 1989 3rd meeting
[1160] 1995 RES/V MRE-TCA/1

organization does not have any supranational power and still requires a specific authorization of all Member Countries for each decision taken[1161].

Maintaining full sovereignty was therefore the country's main concern, and the basic premise on which the treaty was formed. Based on the history of the formation of the organization, it can be inferred that countries would not have agreed to it without this protection. However, the excessive concern with sovereignty may have been the cause for the slow development of the institution as a whole.

It is interesting to notice the historical context in which the organization was created, largely incentivized by military governments worried about the defense of territory. Although the goals of the institution have developed over the years, it still relies on a unanimous decision by all members to undergo any policies. This mechanism is based on the principle of equality among members. Although the equality ensures the sovereignty over each country's territory and resources, it renders the organization and its policies unenforceable, and requires a much more cumbersome process to reach any conclusion.

As the maximum body at a normative and political level, which decides on all major policies within the ACT's framework, it is reasonable to require the MMFA to reach unanimous decisions on all matters. Likewise, the ACC, as a body with normative and executive capability that serves as a bridge between the MMFA and the PNCs, reasonably requires unanimous decisions to go forward.

[1161] Ernesto Roessing Neto, *supra* note 141, at 80-81.

However, the CCACC is a consultative and auxiliary body with no decision-making power. Nonetheless, it is still required that all members are present at sessions and all decisions are adopted unanimously. As a consultative and auxiliary body, all CCACC's actions follow the major decisions by the ACC. These, in turn, are major policies already agreed upon by all States. As such, the CCACC only makes minor decisions on how these major policies shall be executed. Since these decisions are minor, meetings are held once a month, allowing for a constant flow of information between Member Countries. By also requiring a unanimous decision by the CCACC, the ACTO is requiring Member Countries to agree on the same policies twice, through a counterproductive system that wastes resources. In this sense, we suggest that the unanimous voting system within the CCACC is changed to a majority voting system, to allow a more flexible and rapid execution of policies. Since the CCACC's actions are limited by major policy decisions by the ACC, Member Countries would still be required to indirectly sign off on the CCACC's actions. At the same time, establishing a majority voting system would allow a more quickly execution of the policies agreed on, thus ensuring a more effective ACTO.

Likewise, the Permanent Secretariat should be given a broader authority to ensure a more effective day-to-day operation. Although the PS is the legal personality of the ACTO, and can sign contracts and agreements with third parties, these are subject to a unanimous decision by all Member Countries. The Permanent Secretariat executes cooperation actions as directed by the MMFA and the ACC. In addition, these decisions shall be executed according to the recommendations of the CCACC. In this sense, every action by the Permanent Secretariat has to be previously authorized by all Member

Countries, either directly or indirectly through the MMFA and ACC, and subject to recommendations by the CCACC. Its authority is therefore only apparent, and all minor day-to-day decisions have to go through a complex system of approval to go forward. By establishing clear limits, the Secretary General could have a more ample decision range, therefore only subjecting major decisions to a unanimous voting.

Establishing a majority voting system on executive bodies without major decision-making power such as the Permanent Secretariat and the CCACC would ensure more efficiency and quickness to the ACTO without compromising the sovereignty of each country or the equality among them. It would thus also allow a more ample cooperation among Member Countries, thus reinforcing the basis of the ACT's framework.

5.3. Principles of national law as limitations of the absolute principle of sovereignty and dispute resolution mechanisms

Although the original main goal of the ACT's was to ensure each country's sovereignty over the Amazon region, the ACTO's current goal is to promote a strategic sustainable development of its resources and population. Sovereignty as a guiding principle meant both over the territory itself, and over its natural resources. The treaty thus ensured that each country could develop the region as it saw fit. Currently, however, principles of environmental protection and sustainable development have limited the countries' actions through a sovereign responsibility to protect the region.

The Amazon countries have developed a trend in national law to establish principles that put nature at a top rank when balancing opposing values. Brazil has

established the principle of *in dubio pro natura*. Bolivia, in its turn, has established the principle of *in dubio pro bosque*. Ecuador has not only established the principle of *in dubio pro natura*, but has also ensured that nature had rights of its own. Through a precautionary approach, these countries have ensured that whenever there are opposing values at stake – for example, the need to develop the country economically and socially, and the need to protect the Amazon rainforest -, the environment shall prevail.

Although national principles cannot be directly applied in the actions of the ACT, they can help provide guidance to its interpretation. After all, the framework of the organization has developed to be environmentally directed although its basis still remains the same since 1978. In this sense, the national law itself limits the ACT's basic rationale that no national projects can be undermined by the ACT's actions. As such, national law provides an interpretation guidance and leverage for the ACT's actions to be broadened, and also encompass specific limitations on development projects that might negatively impact the Amazon.

This possibility becomes even more important considering the lack of dispute resolution or enforcement mechanism within the ACT's framework. Whenever a country undergoes activities that have transboundary effects, the ACT has no internal solution to allow for a cooperative way to solve the issue. For example, Brazil's Jirau hydroelectric power plant had possible effects on the waters of Bolivia. Although no mechanism exists within the ACT's framework, it could be used as a forum for discussion in cases such as this, to invite the participation of affected countries. In addition, a dispute resolution mechanism based on negotiation could be created to address problems through a cooperative scheme. Indeed, International Law can be used in such circumstances. In

addition, national law provides mechanisms to question projects in local courts. However, given the transboundary effects of the Amazon Basin and rainforest, it is essential that such a system be created at the ACT's framework, to induce a dialogue and provide for a more sustainable Amazon.

5.4. Protection Areas – Binational Parks and Ecological Corridors

Bolivia, Brazil, and Ecuador have established legally protected areas in local, regional, and national levels. Both countries have different classes of protection depending on the primary purpose, generally divided between two broad categories: protection for conservation purposes and protection for sustainable development. The creation of protected areas usually follows the same pattern, through a process initiated by the Executive Branch.

Although several protected areas exist within their respective Amazonian territories, there are still little legal ways to connect those, especially regarding two countries. The countries that share the Amazon rainforest have specific borders limiting their respective territories, the forest itself, the rivers and the biodiversity does not. Indeed, state borders do not align with natural borders, and species and biomes are not restricted to the demarcated area. Within this context, transboundary protected areas are internationally created, with successful examples in several countries, providing a joint solution for joint ecosystems.

A Transboundary Protected Area (TBA) is an area of land and/or sea that straddles one or more boundaries between states, sub-national units such as provinces and regions, autonomous areas, and/or areas beyond the limits of national sovereignty or

jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed co-operatively through legal or other effective means"[1162]. The benefits of establishing TBPAs by two or more countries include creating opportunities for enhanced transboundary cooperation in their management, encouraging friendship and reducing tension in border regions, promoting international cooperation, enhancing environmental protection across ecosystems, facilitating more effective research, bringing economic benefits to local and national economies, enhancing ecotourism, ensuring better cross-border control of problems such as fire, pests, poaching, marine pollution and smuggling[1163].

One of the most successful examples of bordering national parks in South America is in Argentina. Argentina created national parks in Patagonia, on the border with Chile in the early 1900s due to both geopolitical and preservationist reasons. The region was remote and far from the capital, which made it difficult to properly protect the entire Argentinian territory. In addition, Argentina was under border disputes with Chile. The creation of the bordering national parks solved both problems, played a strategic role in defining Argentina's boundaries, and transformed the region from an inhospitable areas into tourist centers, located in areas with a reputable international border flow of tourists contribute significantly to the national economy[1164].

For political reasons, however, Brazil has rejected proposals to create bi-national parks and indigenous territories in borders. Borders are one of the most important aspects

[1162] TREVOR SANDWITH ET. AL., IUCN, TRANSBOUNDARY PROTECTED AREAS FOR PEACE AND CO-OPERATION 3 (2001).
[1163] TREVOR SANDWITH ET. AL., *supra* note 1162, at 7-8.
[1164] Sigrid Andersen, Parques Naturais em faixas de fronteira: preservação ambiental e defesa nacional (unpublished work, UFPR

of a State's sovereignty. The Amazon countries have therefore been especially protective of their borders, always ensuring that no international or regional commitment hinders them. In particular, the Brazilian military has considered the creation of legally protected areas in borders as dangerous. There have been several attempts to create bi-national parks with Brazil, for example, the project to create the National Park of Tumucumaque along the border with Suriname; the Iguaçu National Park on the border of Argentina – which exists, but constitutes of two separate parks, one on each country; and the Yanomami National Park, on the border of Venezuela[1165]. The military has concerns that the areas become an independent indigenous State, a supranational area under the protection of the United Nations, or are otherwise separated from the national territory[1166].

As such, none of these projects were further developed, and the environment in these specific areas has suffered. Indeed, the environmental protection of the area along borders, either rivers or forests, often faces complex and bureaucratic challenges of national security and international relations. Even if limited to the national territory, projects of environmental protection along borders have to be approved at the ministerial level. In its turn, environmental issues between two municipalities of different countries have to be solved by the capital and the countries' diplomats, who are often far from the issues, having thus little sense of the problems. Due to these challenges, attempts to protect the environment at the borders are usually unsuccessful[1167].

[1165] Sigrid Andersen, Dificuldades da Gestão Ambiental em Áreas de Fronteira: Investigando a Origem dos Conflitos, 10, available at http://www.anppas.org.br/encontro4/cd/ARQUIVOS/GT2-849-562-20080503210927.pdf (last visited Apr. 18, 2014).
[1166] *Id*., at 10.
[1167] *Id*., at 15-19.

These areas are usually not economically developed, due to their proximity with the borders, but suffer nonetheless environmental harms that can be easily be addressed. Due to their connection with the Amazon share of other countries, and the little value for economical exploitation, these areas have the potential to be uniquely protected for conservation purposes. There are several protected areas within the Amazon rainforest with the potential to become TBPA [1168]. In addition to protected areas, ecological corridors can be created to connect areas that already protected, thus limiting the endemic status of species, and thus increase their protection. Given the structure that already exists within the ACT and ACTO's framework, with negotiations at both the ministerial and diplomatic level, discussions about possible solutions to environmental protection at borders and possible creation of transboundary protection areas should be brought to its forums. At their level of discussion and information sharing, and the national law that already establishes protected areas in the Amazon countries, there are little obstacles to overcome in order to create the mechanisms for such protection.

5.5. National Law on Forests Compared

The need for a sustainable development model in managing forest resources has been reinforced by the countries analyzed in their overall environmental laws, thus achieving a new constitutional status in Ecuador (2008) and Bolivia (2009). While Ecuador and Bolivia are still reevaluating their national laws to adapt to this new status, Brazil has recently enacted a new forest law. In this sense, forest law is still developing, with Amazon countries still trying to find better solutions to address forest issues. In the context of the Amazon rainforest, countries are still trying – and so far unsuccessfully –

[1168] UNEP/WCMC, *Transboundary Protected Areas Inventory* (2007), available at www.tbpa.net/tpa_inventory.htlm.

to find ways in which to curb deforestation. In this sense, there is no time like the present to boost the dialogue between the ACT's Member Countries, as to achieve a common ground to have common policies.

Overall, the forest law within Amazon countries has the same base and general protection mechanisms. All countries consider natural forests state-public domain. This implies a permit by the state authority is required for the exploitation, operation or use of forests and forest resources. Also, they expressly determine the existence of a national forest heritage, which provides forests with an increased protection level. The forest regime is thus ascribed to public, private or community land declared by the national authority. Some differences, however, exist. While in Bolivia forests are regarded as economic and strategic assets, in Brazil and Ecuador there is a larger tendency to regard forests primarily as national heritage. This difference influences the treatment provided by the government, as well as the way that exploitation within forests is facilitated. There is, however, a special consideration of the Amazon rainforest in the government structure, with specific bodies to deal with the issues within the region, and by establishing a special status of protection for the forests within it. In this sense, the Amazon rainforest has the highest level of protection within the forest law of Bolivia, Brazil, and Ecuador.

The institutional framework of public forestry in Bolivia, Brazil, and Ecuador is essentially made up of departments of forest that are part of the structure of the Ministries of Environment, or affiliated autonomous bodies within these ministries [1169]. The countries studied share the same decentralization of environmental management through a delegation of power to local authorities (either municipalities, departments, states, or

[1169] LUZ ADRIANA HENAO, *supra* note **Error! Bookmark not defined.**, at 55.

provinces) and a strong centralized body, which provides for general norms. In addition, public management of forest resources is becoming increasingly local and public, with laws requiring previous public participation of affected communities, indigenous groups and local governments. In this sense, despite the global relevance of the Amazon, the issues are being discussed on an increasingly more local level.

Despite the progress made in forest policy, there is poor forest law enforcement by both the governments and the civil society, which undermines good forest governance. The support of all stakeholders in better forest governance (government, civil society, private sector, international organizations) is essential to advance more quickly and efficiently on forest law enforcement. Although the countries have a public prosecutor's office, which, among other things, enforces environmental law, and are increasingly creating specialized environmental courts to judge environmental matters, there are still many challenges in enforcement, and deforestation still has not curbed. In this sense, the ACT has a good opportunity to find ways in which to join forces to better monitor deforestation, and properly enforce their forest law.

5.5.1. Private properties: mandatory and voluntary limits

The right of landowners to fully make advantage of their property is not absolute. Brazil, Bolivia and Ecuador have limitations on the right of property in establishing mandatory buffer zones to protect services provided by the ecosystem. For example, landowners are obliged to maintain vegetation surrounding rivers or other watersheds, to ensure its sustainability, as well as on top of mountains, to avoid soil erosion. However, buffer zones in Ecuador are subject to a previous declaration bu the Ministry of Environment, while they are established by general classifications of law, immediately

creating obligations in both Brazil and Bolivia. In addition, in both Brazil and Bolivia it is possible for the government to create additional categories of buffer zones as necessary. When these are created, the obligation is usually applied retroactively, and the landowners is obliged to fulfill his dual duty, regardless of whether he was previously allowed to cut vegetation in that specific area. Landowners have therefore a dual duty: the duty to protect buffer zones and avoid deforestation in those areas, and the duty to provide reforestation.

Brazil creates additional limitations to landowners within the Amazon rainforest by establishing a mandatory 80 percent legal reserve area in which deforestation is almost never allowed. Certain limitation on private properties in Bolivia would require the environmental agency to classify the area as a protected forest area. Since environmental agencies are usually poorly funded, therefore lacking the adequate amount of personnel, leaving the protection of private lands within the Amazon rainforest subject to a previous classification by the government might jeopardize conservation purposes. The lack of a stricter rule might explain why Bolivia's deforestation rates are increasingly high.

Private property owners in Brazil, Bolivia and Ecuador have the possibility to establish private protected areas due to voluntary conservation objectives. In both cases, a few incentives, usually in the form of tax exemptions, are conferred by the government. However, since landowners usually have to incur in several costs for establishing and maintaining the protected area, the incentives usually do not compensate financially. The governments of those countries therefore are missing an opportunity to induce conservation in the Amazon region. Due to the special protection in the area, and its status as a national heritage, incentives could be created for landowners in the Amazon

rainforest to create private protected areas. Through examples of successful incentives created by some Municipalities in Brazil, the ACT could be used as a forum to learn upon current examples, as to create a toolkit for broad incentives, commonly used within Amazon countries.

Despite the environmental benefits of such limitations, it can be argued that landowners have costly duties regardless of economic benefits. Indeed, there is no incentive given by the government to induce compliance with those duties, as there is, for example, to institute voluntary protected areas within private properties. Although it is a mandatory obligation subject to sanction, enforcement is usually low, and landowners do not maintain vegetation in the area regardless of the threat of economic sanctions. A market for ecosystem services could therefore create the incentive, which the law currently lacks, inducing compliance with limitations within private property. The ACT's framework could be therefore used to create such a market, learning from lessons learned in other international markets for ecosystem services, such as REDD+ and CDMs.

5.5.2. Indigenous Communities

The countries analyzed ensure the rights of indigenous groups to property, as well as the sustainable use of forest resources. However, their approaches towards indigenous populations vary greatly. While Brazil has a more protective approach, to the point of requiring them to be represented by a governmental agency due to their presumed incapacity, Bolivia is evolving to a more participative and powerful status. This difference is highly grounded in the historical, demographic, and political purposes. While indigenous people in Brazil are still highly marginalized and secluded in within

less populated areas, with little integration within society, they are taking up political roles in Bolivia, representing a majority of people.

5.7. Is the treaty adequate to address climate change?

The last IPCC report assessed that climate change poses high risk of abrupt and irreversible regional-scale change in the composition, structure, and function of terrestrial and freshwater ecosystems in the Amazon forest, leading to substantial additional climate change. Increased severe drought, land-use change and forest fire would cause much of the Amazon forest to become a less adapted ecosystem, increasing the risk for biodiversity while decreasing net carbon uptake from the atmosphere. As a possible solution, the IPCC has presented large reductions in deforestation, as well as wider application of effective wildfire management[1170]. The expansion of sugarcane, soy, and oil palm for biomass-based renewable energy may affect land use, leading to deforestation in parts of the Amazon[1171]. In addition, changes in extreme flows in the Amazon River are predicted to occur[1172]. All of these projections are affirmed with medium certainty.

Although the ACT has led an increasingly more participative position in the global negotiations regarding climate change, little has been done internally to address the issue. As an example of climate change related projects, the GEF Amazon includes projects for climate adaptation related to sea level rise, especially within the context of the Marajó Island, amidst the Amazon River. However, little has been done to address the first step in climate change: mitigation. As the challenges assessed by IPCC show, most

[1170] IPCC WGII AR5 Technical Summary, 21 (Oct. 28, 2013).
[1171] *Id*., at 34.
[1172] *Id*., at 38.

of the projected impacts of climate change in the Amazon rainforest can indeed be addressed by inducing changes regionally by curbing deforestation.

As such, following the suggestions presented regarding uniformization of domestic law, the Amazon countries should use the ACT's framework as a forum for discussing common policies, establishing major decisions regarding how to jointly curb deforestation. Since discussions are conducted by the Ministries of Foreign Relations, they are led from the highest government level, which is easier to allow their adaptation to domestic law. Since the governments are currently undergoing a revision of their domestic forest law, the opportunity should be used by countries to learn from each other's lessons, and provide a common solution to common projects. After decisions are made at the MMFA, the countries PNC's shall provide the bridge with their respective Legislative Branch, and thus adapt the policies to their domestic law. By establishing similar policies, the countries have thus a greater change to curb deforestation, without the risk of having each undermining the others internal policies.

Within this context, and considering the suggestions as to how the ACT could strengthen its framework, it can be used as a powerful forum for reaching similar solutions by the Member Countries. By joining forces, the countries have a much greater chance of having effective and practical solutions, with real benefits to them all, and to the world as a whole. As such, they can achieve their regional goals of regional and internal development, social and economic growth, while also protecting the environment and inducing sustainable development. This approach can benefit not only the countries involved, and their communities, but also the world as a whole.

Annex 1: Treaty For Amazonian Cooperation

The Republics of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela,

CONSCIOUS of the importance to each one of the Parties of their respective Amazonian regions as an integral part of their respective territories,

INSPIRED by common aim of pooling the efforts being made, both within their respective territories as well as among themselves, to promote the harmonious development of the Amazonian region, to among the Contracting Parties so as to raise the standard of living of their peoples and so as to achieve total incorporation of their Amazonian territories into their respective national economies,

CONSCIOUS of the usefulness of sharing national experiences in matters pertaining to the promotion of regional development,

CONSIDERING that, so as to achieve overall development of their respective Amazonian territories, it is necessary to maintain a balance between economic growth and conservation of the environment,

CONCIOUS that both socio-economic development as well as conservation of the environment are responsibilities inherent in the sovereignty of each State, and that cooperation among the Contracting Parties shall facilitate fulfillment of these responsibilities, by continuing and expanding the joint efforts being made for ecological conservation of the Amazon region,

CONFIDENT that cooperation among the Latin American nations on specific matters which they have in common shall contribute to progress on the road towards the integration and solidarity of all Latin America,

CONVICED that this Treaty represents the beginning of a process of cooperation which shall benefit their respective countries and the Amazon region as a whole,

RESOLVE to sign the following Treaty:

ARTICLE I. The Contracting Parties agree to undertake joint actions and efforts to promote the harmonious development of their respective Amazonian territories in such a way that these joint actions produce equitable and mutually beneficial results and achieve also so preservation of environment, and the conservation and rational utilization of the natural resources of those territories.

PARAGRAPH: to this end, they would exchange information and prepare operational agreement and understandings as well as the pertinent legal instruments which permit the aims of the present Treaty to be attained.

ARTICLE II. This Treaty shall be in force in the territories of the Contracting Parties in the Amazonian Basin as well as in any territory of a Contracting Party which, by virtue of its geographical, ecological or economic characteristics is considered closely connected with that Basin.

ARTICLE III. In accordance with and without prejudice to the rights granted by unilateral acts, to the provisions of bilateral treaties among the Parties and to the principles and rules of International Law, the Contracting Parties mutually guarantee o a reciprocal basis that there shall be complete freedom of commercial navigation on the Amazon and other international Amazonian rivers, observing the fiscal and police regulations in force now or in the future within the territory of each. Such regulations should, insofar as possible, be uniform and favors said navigation and trade.

PARAGRAPH: This article shall not apply to cabotage.

ARTICLE IV. The Contracting Parties declare that the exclusive use and utilization of natural resources within their respective territories is a right inherent in the sovereignty of each state and that the exercise of this right shall not be subject to any restrictions other than those arising from International Law.

ARTICLE V. Taking account of the importance and multiplicity of the functions which the Amazonian rivers have in the process of economic and social development of the region, the Contracting Parties shall make efforts aimed at achieving rational utilization of the hydro resources.

ARTICLE VI. In order to enable the Amazonian rivers become an effective communication li8nk among the Contracting Parties and with the Atlantic Ocean, the riparian states interested in any specific problem affecting free and unimpeded navigation shall, as circumstances may warrant, undertake national, bilateral or multilateral measures aimed at improving and making the said rivers navigable.

PARAGRAPH: For this purpose, they shall carry out studies into the means for eliminating physical obstacles to the said navigation as well as the economic and financial implications so as to put into effect the most appropriate operational measures.

ARTICLEVII.
TakingintoaccounttheneedfortheexploitationofthefloraandfaunaoftheAmazonregiontobera tionally planned so as to maintain the ecological balance within the region and preserve the species, the Contracting Parties decide to:

- Promote scientific research and exchange information and technical personnel among the competent agencies within the respective countries so as to increase their knowledge of the flora and fauna of their Amazon territories and prevent and control diseases in said territories.
- Establish a regular system for the proper exchange of information on the conservationist measures adopted or to be adopted by each State in its Amazonian territories; these shall be the subject of an annual report to be presented by each

country.

ARTICLE VIII. The Contracting Parties decide to promote coordination of the present health services in their respective Amazonian territories and to take other appropriate measures to improve the sanitary conditions in the region and perfect methods for preventing and combating epidemics.

ARTICLE IX. The Contracting Parties agree to establish close cooperation in the fields of scientific and technological research, for the purpose of the creating more suitable conditions for the acceleration of the economic and social development of the region.

PARAGRAPH ONE: For purposes of this Treaty, the technical and scientific cooperation among the Contracting Parties may be as follows:

- **a.** Joint or coordinated implementation of research and development programmers;
- **b.** Creation and operation of research institutions or centers for improvement and experimental productions;
- **c.** Organization of seminars and conferences, exchange of information and documentation and organization of means for their dissemination.

PARAGRAPH TWO: The Contracting Parties may, whomsoever they deem it necessary and convenient, request the participation of international agencies in the execution of studies, programmers and projects resulting from the forms of technical and scientific cooperation defined in Paragraph One of this Article.

ARTICLE X. The Contracting Parties agree on the advisability of creating as suitable physical infrastructure among their respective countries, especially in relation to transportation and communications. They therefore undertake to study the most harmonious ways of establishing or improving road, river, air and telecommunication links bearing in mind the plans and programmers of each country aimed at attaining the priority goal of fully incorporating those respective Amazonian territories into their respective national economics.

ARTICLEXI.
InordertoincreasetherationalutilizationofthehumanandnaturalresourcesoftheirrespectiveA mazonian territories, the Contracting Parties agree to encourage joint studies and measures aimed at promoting the economic and social development of said territories and generating complementary methods for reinforcing the actions envisaged in the national plans of their respective territories.

ARTICLE XII. The Contracting Parties recognize the benefit to be derived by developing, under equitable and mutually beneficial conditions, retail trade of products for local consumption among the respective Amazonian border populations, by means of suitable bilateral or multilateral agreements.

ARTICLE XIV. The Contracting Parties shall cooperate in ensuring that measures adopted for the conservation of ethnological, and archeological wealth of the Amazon

region are effective.

ARTICLE XV. The Contracting Parties shall seek to maintain a permanent exchange of information and cooperation among themselves and with the agencies for Latin American cooperation in the areas pertaining to matters covered by this Treaty.

ARTICLE XVI. The decisions and commitments adopted by the Contracting Parties under this Treaty shall not be to the detriment of projects and undertakings executed within their respective territories, according to International Law fair practice between neighboring and friendly countries.

ARTICLE XVII. The Contracting Parties shall present initiatives for undertaking studies for elaboration of programmers of common interest for developing their Amazonian territories and general terms provide for the fulfillment of the actions contemplated in the present Treaty.

PARAGRAPH: The Contracting Parties agree to give special attention to the consideration of initiatives presented by the least developed countries which require joint action and efforts by the Contracting Parties.

ARTICLE XVIII. Nothing contained in this Treaty shall in any way limit the rights of the Contracting Parties to conclude bilateral or multilateral agreements on specific or generic matters, provided that these are not contrary to the achievement of the common aims for cooperation in the Amazonian region stated in this instrument.

ARTICLE XIX. Neither the signing of this Treaty nor its execution shall have any effect on any other international treaties in force between the Parties nor on any differences with regard to limits or territorial rights which may exist between the Parties nor shall the signing or implementation of this Treaty be interpreted or invoked to imply acceptance or renunciation, affirmation or modification, direct or indirect, express or tacit, of the position or interpretation that each Contracting Party may hold on these matters.

ARTICLE XX. Notwithstanding the fact that more adequate frequency for meetings can be established at a later date, the Ministers of Foreign Affairs of the Contracting Parties shall convene meetings when deemed opportune or advisable, in order to establish the basic guidelines for common policies, for assessing and evaluating the general development or the process of Amazonian cooperation and for taking decisions designed to carry out the aims set in this document.

PARAGRAPH ONE: Meetings of Foreign Affairs Ministers shall be convened at the request of any of the Contracting Parties, provided that the request has the support of no fewer than four Members States.

PARAGRAPH TWO: The first meeting of Foreign Affairs Ministers shall be held within a period of two years following the date of entry into force of this Treaty. The venue and date of the first meeting shall be established by agreement among the Ministries of Foreign Affairs of the Contracting Parties.

PARAGRAPH THREE: Designation of the host country for the meetings shall be by rotation and in alphabetical order.

ARTICLE XXI. The Amazonian Cooperation Council comprising of top level diplomatic representatives shall meet once a year. Its duties shall be as follows:

- To ensure that the aims and objectives of the Treaty are complied with.
- To be responsible for carrying out the decisions taken at meetings of Foreign Affairs Ministers.
- To recommend to the Parties the advisability and the appropriateness of convening meetings of Foreign Affairs Ministers and of drawing-up the corresponding Agenda.
- To take under consideration initiatives and plans present by the Parties as well as to adopt decisions for undertaking bilateral or multilateral studies and plans, the execution of which as the case may be, shall be the duty of the Permanent National Commissions.
- To evaluate the implementation of plans of bilateral or multilateral interest.
- To draw –up the Rules and Regulations for its proper functioning.

PARAGRAPH ONE: The council shall hold special meetings trough the initiative of any of the Contracting Parties with the support of the majority of the rest.

PARAGRAPH TWO: The venue of regular meetings shall be rotated in alphabetical order among the Contracting Parties.

ARTICLE XXII. The functions of the Secretariat shall be performed pro-tempore by the Contracting Party in whose territory the next regular meeting of the Amazonian Cooperation Council is scheduled to be held.

PARAGRAPH: The Pro-Tempore Secretariat shall send the pertinent documentation to the Parties.

ARTICLE XXIII. The Contracting Parties shall create Permanent National Commissions charged with enforcing in their respective territories the provisions set out in this Treaty, as well as carrying out the decisions taken at meetings of Foreign Affairs Ministers and by the Amazonian Cooperation Council, without jeopardizing other tasks assigned them by the State.

ARTICLE XXIV. Whenever necessary, the Contracting Parties may set up special Commissions to study specific problems or matters related to the aims of this Treaty

ARTICLE XXV. Decisions at meetings held in accordance with Articles XX and XXI shall always require the unanimous vote of the Member Countries of this Treaty. Decisions made at meetings held in accordance with Article XXIV shall always require the unanimous vote of the participating countries.

ARTICLE XXVI. The Contracting Parties agree that the present Treaty shall not be

susceptible to interpretative reservation or statements.

ARTICLE XXVII. This Treaty shall remain in force for an unlimited period of time, and shall not be open to adherence.

ARTICLE XXVIII. This Treaty shall be ratified by all the Contracting Parties and the instruments of ratification shall be deposited with the Government of the Federative Republic of Brazil.

PARAGRAPH ONE: This Treaty shall become effective thirty days after the last instrument of ratification has been deposited by the Contracting Parties.

PARAGRAPH TWO: The intention to denounce this Treaty shall be communicated by a Contracting Party to the remaining Contracting Parties at least ninety days prior to formal delivery of the instrument of denunciation to the Government of the Federative Republic of Brazil. This Treaty shall cease to have effect for the Contracting Party denouncing it one year after the denunciation has been formalized.

PARAGRAPH THREE: This Treaty shall be draw up in English, Dutch, Portuguese and Spanish, all having equal validity. **IN WITNESS WHEREOF** the undersigned Ministers of Foreign Affairs have signed the present Treaty.

EXECUTED in the city of Brasília, on July 3, 1978, to be deposited in the archives of the Ministry of Foreign Affairs of Brazil which shall provide the other signatory countries with true copies.

Annex 2: Protocol of Amendment of the Amazon Cooperation Treaty

The Republics of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela, Reasserting the principles and objectives of the Amazon Cooperation Treaty,

Taking into account the advisability of institutionally improving and strengthening the cooperation process developed under the auspices of the aforementioned instrument, do hereby agree to:

I) Create the Amazon Cooperation Treaty Organization (ACTO), with corporate body status, and empowered to enter into agreements with Contracting Parties, non-member States and other international organizations.

II) Modify Article XXII of the text of the Treaty as follows:

The Amazon Cooperation Treaty Organization will have a Permanent Secretariat based in Brasilia, which will be responsible for implementing the objectives established in the Treaty in conformity with the decisions taken at the meetings of Ministers of Foreign Affairs and the Amazon Cooperation Council.

Paragraph one: The powers and functions of the Permanent Secretariat and of its head will be established in the regulations, which will be approved by the Ministers of Foreign Affairs of the Contracting Parties.

Paragraph two: The Permanent Secretariat will prepare—in coordination with the Contracting Parties—its work plans and program of activities, as well as its budget-program, which will need to be approved by the Amazon Cooperation Council.

Paragraph three: The Permanent Secretariat will be headed by a Secretary General, who will be empowered to enter into agreements, on behalf of the Amazon Cooperation Treaty Organization, whenever the Contracting Parties unanimously authorize him/her to do so.

III) This amendment will be subject to compliance with the internal constitutional requirements of all Contracting Parties and will enter into force on the date of the receipt, by the Government of the Federative Republic of Brazil, of the last note by means of which the compliance with such requirements is advised.

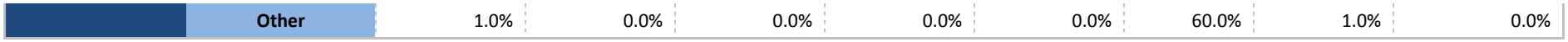
Undersigned in Caracas, this fourteenth day of the month of December of nineteen ninety-eight, in eight (8) original copies, in the languages of Spanish, English, Portuguese and Dutch, all equally authentic.

Annex 3: Comparative Table of Amazon Countries

	Country	Bolivia	Brazil	Colombia	Guyana	Ecuador	Peru	Suriname	Venezuela
General Information	GDP	$58.34 billion	$2.422 trillion	$526.5 billion	$6.593 billion	$157.6 billion	$344 billion	**$7.12 billion**	**$407.4 billion**
	GDP per capita	$5,500	$12,100	$11,100	$8,500	$10,600	$11,100	**$12,900**	**$13,600**
	Population	10,631,486	202,656,788	46,245,297	735,554	15,654,411	30,147,935	**573,311**	**28,868,486**
	Population below poverty line	49.60%	21.40%	32.70%	35%	27.30%	25.80%	**70%**	**31.60%**
	Population density								
	Protected Areas (%)	11.10%		8.60%	8.60%				
	Threatened Species		6.60%	17.60%	10.10%				
	Endemic Species		28.90%	29.40%	29.30%				
	Total Land Area (1000 km^2)	108,438 km^2	832,512 km^2	110,950 km^2	19,685 km^2	27,684 km^2	128,000 km^2	15,600 km2	88,205 km2
	Total Forested Area (1000 ha)	57,196 ha	519,522 ha	60,499 ha	15,205 ha	9,865 ha	67,992 ha	14,758 ha	46,275 ha
	Forest Cover (%)	53.0%	62.0%	55.0%	77.0%	36.0%	53.0%	95.0%	52.0%
	Primary Forest (1000 ha)	37,164 ha	476,573 ha	8,543 ha	6,790 ha	4,805 ha	60,178 ha	14,001 ha	-
	Primary Forest (% total forest)	65.0%	92.0%	14.0%	45.0%	49.0%	89.0%	95.0%	#VALUE!
Total Net Forest Cover (1000 ha)	1990	62,795	574,839	62,519	15,205	13,817	70,156	14,776	52,026

	2000	60,091	545,943	61,509	15,205	11,841	69,213	14,776	49,151
	2005	58,734	530,494	61,004	15,205	10,853	68,742	14,776	47,713
	2010	57,196	519,522	60,499	15,205	9,865	67,992	14,758	46,275
Annual Change Rate (1000ha)	**1990-2000**	(270)	(2,890)	(101)	0	(198)	(94)	0	(288)
	2000-2005	(271)	(3,090)	(101)	0	(198)	(94)	0	(288)
	2005-2010	(308)	(2,194)	(101)	0	(198)	(150)	(4)	(288)
Annual Change Rate (percentage)	**1990-2000**	(0.4%)	(0.5%)	(0.2%)	0.0%	(1.5%)	(0.1%)	0.0%	(0.6%)
	2000-2005	(0.5%)	(0.6%)	(0.2%)	0.0%	(1.7%)	(0.1%)	0.0%	(0.6%)
	2005-2010	(0.5%)	(0.4%)	(0.2%)	0.0%	(1.9%)	(0.2%)	(0.0%)	(0.6%)
Primary Forest Cover (1000ha)	**1990**	40,804 ha	530,041 ha	8,828 ha	-	-	62,910 ha	14,208 ha	-
	2000	39,046 ha	501,926 ha	8,685 ha	6,790 ha	4,682 ha	62,188 ha	14,137 ha	-
	2005	38,164 ha	488,254 ha	8,614 ha	6,790 ha	4,743 ha	61,065 ha	14,093 ha	-
	2010	37,164 ha	476,573 ha	8,543 ha	6,790 ha	4,805 ha	60,178 ha	14,001 ha	-
Primary Forest Cover Annual Change Rate (1000 ha)	**1990-2000**	(176)	(2,812)	(14)	-	-	(72)	(7)	-
	2000-2005	(176)	(2,734)	(14)	0	12	(225)	(9)	-
	2005-2010	(200)	(2,336)	(14)	0	12	(177)	(18)	-

Primary Forest Cover Annual Change Rate (percent)	1990-2000	(0.4%)	(0.5%)	(0.2%)	#VALUE!	#VALUE!	(0.1%)	(0.1%)	#VALUE!
	2000-2005	(0.5%)	(0.6%)	(0.2%)	0.0%	0.3%	(0.4%)	(0.1%)	#VALUE!
	2005-2010	(0.5%)	(0.5%)	(0.2%)	0.0%	0.3%	(0.3%)	(0.1%)	#VALUE!
Primary designated function	Conservation of Biodiversity	19.0%	9.0%	14.0%	1.0%	49.0%	27.0%	15.0%	34.0%
	Multiple Uses	81.0%	4.0%	0.0%	0.0%	21.0%	26.0%	4.0%	0.0%
	Production	0.0%	7.0%	13.0%	97.0%	2.0%	37.0%	27.0%	49.0%
	Protection of soil and water	0.0%	8.0%	1.0%	0.0%	24.0%	0.0%	0.0%	17.0%
	Social Services	0.0%	23.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	None or unknown	0.0%	49.0%	72.0%	0.0%	4.0%	10.0%	55.0%	0.0%
Ownership	Public	100.0%	81.0%	22.0%	80.0%	15.0%	62.0%	99.0%	100.0%
	Private	0.0%	19.0%	67.0%	20.0%	2.0%	18.0%	1.0%	0.0%
	Other	0.0%	0.0%	11.0%	0.0%	83.0%	20.0%	0.0%	0.0%
Holder of Management Rights of public forests	Public Administration	85.0%	63.0%	100.0%	100.0%	0.0%	40.0%	85.0%	96.0%
	Individuals	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%
	Communities	1.0%	37.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%
	Business Entities and Institutions	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	4.0%


Other
1.0%
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1.0%
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