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ANDEAN PARLIAMENT AMAZON REPORT

Andean Parliament Amazon Report

Developed by Andean Parliament High Level Working Group for the Amazon

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Foreword by the Co-Chairs

The Amazon Basin is a vital component of our global ecosystem. This region supports over 47 million inhabitants, including approximately 2.2 million Indigenous people, and is home to more than 13% of the world's known species, underscoring its unparalleled biodiversity. Additionally, the Amazon plays a crucial role in the water cycle, and acts as a key component in our planet's climate regulation through its vast carbon sequestration capabilities.

However, the last five to six decades have seen the Amazon subjected to unprecedented levels of deforestation and degradation. The drive for agricultural expansion, resource extraction, infrastructure development and illegal activites has accelerated habitat destruction at alarming rates. This relentless pressure threatens to push the Amazon beyond a critical tipping point, transforming it from a carbon sink to a carbon source, exacerbating global warming, and disrupting regional climate patterns.

Recognizing the urgency of the situation, the Andean Parliament, through its High Level Working Group for the Amazon, has taken a significant step forward with the publication of the Amazon Report. This landmark document not only highlights the Amazon's global, continental, and regional significance but also reviews the existing legal, environmental, and human rights frameworks across the Amazonian countries. It concludes with a global call to action, urging immediate, coordinated efforts to halt and reverse the trends of deforestation, degradation, and wildfires.

We, the Co-Chairs of the Science Panel for the Amazon, extend our deepest gratitude to the Andean Parliament and, in particular, to the Presidency of the Fifth Commission on Human Rights, Social Development, and Citizen Participation for their leadership in hosting this High Level Working Group. Furthermore, we extend our gratitude to the Amazon Science Panel who has been pivotal in this monumental effort. It is only through building a strong, inclusive coalition that encompasses governments, indigenous communities, civil society, and the scientific community that we can hope to protect this irreplaceable treasure for generations to come.

The urgency to act cannot be overstated. We must come together, with a shared vision and commitment, to safeguard this vital ecological sanctuary. The time for decisive action is now; the future of the Amazon, and indeed our global ecosystem, depends on it.

Carlo Angeles, Co-Chair, Andean Parliament High Level Working Group on the Amazon
Gustavo Nakamura, Co-Chair, Andean Parliament High Level Working Group on the Amazon

Foreword by the Science Panel for the Amazon

The Amazon Basin is the world's largest watershed and the world's most extensive expanse of tropical rainforest. This spectacular region harbors 47 million people, including approximately 2.2 million Indigenous inhabitants, shelters the greatest diversity of life on Earth, with more than 13% of all known plant and animal species, and mobilizes around 6,600 km3 of freshwater annually, discharging about 16 to 20% of global runoff into the oceans. Within the Amazon Basin, the highest biodiversity is found on the Andean slopes, where the explosion of species richness in the Amazon rubs shoulders with the fauna and flora in specialized niches along Andean altitudinal, climatic, ecological, and soil gradients.

This tremendous diversity evolved over tens of millions of years. However, in the last 50-60 years, humans have placed intense and destructive pressure on the Amazon Basin, clearing forests for cattle ranches and soy farms, building roads across wilderness areas, logging precious hardwoods, drilling for oil, and searching for gold in its rivers using mercury, a substance that is highly toxic to people and nature. Every second that passes brings us closer to a tipping point, a point of no return where the deforestation and degradation of these forests likely exceeds 20-25% and global warming is greater than 2-2.5 C. Rather than sequestering carbon, these forests will emit carbon into the atmosphere and drastically reduce cooling from evapotranspiration, with dire consequences for global climate, forest ecosystems and species, and human health and wellbeing. There will be severe impacts on water and food security, endangering the livelihoods of millions of people and placing the entire regional economy at risk. Numerous plants and animals will suffer extinction and the risk of disease will increase, both epidemics and even pandemics. Halting and reversing deforestation, degradation, and wildfires in the Amazon is extremely urgent, and we need proactive, collaborative, and forward-looking solutions.

In this vein, we are delighted to provide a foreword for the Andean Parliament Amazon Report, a landmark publication led by the Andean Parliament High Level Working Group for the Amazon. The report places the importance of the Amazon Basin into global, continental, and regional contexts, provides a review of existing legal environmental and human rights frameworks within eight Amazonian countries, and concludes with a call to action and a set of policy recommendations at multiple scales, including local, provincial, national and international. At its core, the report provides a roadmap for taking quick, coordinated, and collective policy action within the Amazon Basin.

There is a poetic element to an Amazon Report that springs forth from the Andean Parliament, as quite literally, the Andes are where the Amazon River is born. Imagine a raindrop that falls high in the Andean mountains, descends the Amazonian piedmont, forms part of the extensive web of tributaries that feed the Amazon River, and travels thousands of kilometers across the Amazon Basin until arriving at the Atlantic Ocean in Brazil. That raindrop crosses country borders, passes through Indigenous Territories, descends through fishery management areas, traverses forests that extend to the horizon, and likely also passes by some areas that are deforested, degraded, or used illegally for gold mining, large-scale coca plantations, or industrial marijuana crops, coca plantations, or marijuana crops. That same raindrop may return to the Andes as evapotranspiration from the forests of the Amazon, rising up in the early dawn to form part of the “flying rivers'' that sweep southward to central South America and also westward across the Amazonian plain and run into the Andean uplift, raining down on the piedmont, paramos and high-altitude lakes and glaciers. In turn, the Andes provide surface waters, sediments, and nutrients to the low-lying regions of the Amazon. The water cycle is one of the fundamental ways the Andes and the Amazon are connected, and maintaining the integrity of that cycle, and all of the Andean-Amazon connections, is of the highest importance.

In this Amazon Report, the Andean Parliament imagines a future where that raindrop passes through landscapes that are managed with a shared vision and harmonized set of laws, ensuring the long-term ecological sustainability, resilience, and well-being of the people, animals, plants, and waters across the entire Amazon Basin.

We salute the leadership of the Andean Parliament, recognizing the commitment and vision of the parliamentary members, and expressing special gratitude to Gustavo Nakamura and Carlo Angeles, the Co-Chairs of the High-Level Working Group on the Amazon. We invite all of the countries in the Basin, indeed all of the countries in the World, to place safeguarding the Amazon, and managing the Amazon with an eye towards its long-term sustainability and resilience, at the very top of their policy agendas.

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1. Executive Summary

The Amazon Basin, home to the world's largest tropical rainforest and watershed, is a magnificent source of biodiversity and a cornerstone for global climate regulation, hydrological cycles and biodiversity protection. This extensive region, covering about seven million square kilometers across eight countries (plus the French Guiana, an overseas territory of France) and home to 47 million people, including approximately 2.2 million Indigenous inhabitants, is facing unprecedented threats due to human activities. The rapid pace of deforestation and degradation have pushed a large portion of the Amazon forest dangerously close to a tipping point. Beyond this threshold, the forest could irreversibly shift to a savannah-like, degraded, open-canopy ecosystem, drastically altering its ecological balance, carbon sequestration capabilities, climate-regulating functions, and maintenance of large biodiversity, with negative impacts for the whole world.

This report reviews the existing legal, environmental, and human rights frameworks within the Amazonian countries, identifying gaps and opportunities for stronger conservation measures. Additionally, it stresses the importance of the Amazon's ecosystems, detailing their role in sustaining a vast array of life forms and supporting human livelihoods. It also highlights the critical challenges faced by the Amazon, including deforestation, habitat fragmentation, wildfires, and the impacts of climate change.

Key policy recommendations from the report advocate for a unified framework for the Amazon, emphasizing the protection of Indigenous and human rights, sustainable land use, biodiversity conservation, and the development of socio-bioeconomy approaches that value healthy standing forests and flowing rivers. The report calls on the Andean Parliament and its member states to champion these initiatives, urging international cooperation and financial mobilization to safeguard the Amazon for future generations.

2.Geodiversity and the Amazon Basin

The Amazon (defined as the Amazon River Basin) produces the largest river discharge on Earth and is home to the greatest concentration of biodiversity, providing ecological functions that contribute to human and ecosystem health globally. [1] [2] This large biodiversity results from differences in the types of rocks and minerals present, the development of landforms and surface contours, as well as the varied patterns of water availability on and below the surface (hydrology), and diverse soil conditions (edaphic factors). Additionally, another reason for this large biodiversity is the closed-canopy allows very little solar radiation to reach the forest floor (no more than 4%). That keeps the soil, trunks, litter very wet and not very flammable. When there is a lightning-strike ignited fire, it does not propagate to long distances.

These varied Amazonian regions and terrains have evolved from a long and active geological history shaped by plate tectonics, shifts in climate, and changes in sea levels, spanning from millions to billions of years. The earliest rocks in the Amazon date back to the Meso to Neoarchean era, approximately 3 to 2.5 billion years ago (Ga).[3] The uplift of the Andes, which began 40 ± 10 Ma, along the western margin of South America was fundamental to the current geographic configuration of the Amazon Basin.[4]

The present-day Amazon River Basin, a trans-continental expanse, came into existence over the last 10 million years. It is flanked by the Andes to the west, and the Guiana and Brazilian shields to the north and south, respectively. As the planet's largest drainage basin, it also encompasses the Tocantins-Araguaia and nearby coastal basins in northern Brazil.

The biogeographical region of the Amazon, which encompasses the lowland basins of the Amazon and Orinoco rivers as well as the surrounding upland areas of the Guiana and Brazilian Shields, spans approximately 8.4 million km^2 in northern South America. Within this, the Amazon River basin itself, covering about 7.3 million km^2 and including the Tocantins and Araguaia basins, constitutes 41% of the South American continent. This expansive area includes two of the major biomes of South America: tropical moist forests and tropical savannas.[5] Additionally, it contributes about 16–20% of the world's total freshwater discharge to the oceans annually.[6]

3.Ecosystems

The Amazon region is home to more than 50 different types of aquatic, terrestrial, and wetland ecosystems from the Tropical Andes to lowland Amazonia. [7]

Additionally, the Amazon boasts the largest tropical floodplain system in the world,[8] featuring a diverse mosaic of land, water, and transitional ecosystems. These areas are subject to either seasonal or permanent waterlogging, further enriching their ecological complexity.[9] Finally, the Amazon region also encompasses a wide range of terrestrial ecosystems, including high-altitude glaciers, paramos, and cloud forests in the Andes, lowland rainforests, white sand deserts, dry forests, tropical savannas, and grasslands.

4.Biodiversity

The diversity in the Amazon is huge: over 13% of the world's known vertebrate and plant species are concentrated in an area that makes up about 0.5% of the Earth's total surface area. The role of the Andes in enhancing biodiversity is evident across various taxa and ecosystems, with vascular plants and non-vascular plants finding their diversity center in the tropical Andes, and species diversity increasing along the initial sloping of the Andes, but not all the way to 4 km altitude with even deserts. When the temperature and rainfall decrease substantially, the biodiversity decreases a lot. In addition, the uplift of the Andes and resulting lowland geological dynamics are considered to have influenced patterns of amphibian diversity in the Amazon.[10]

Evaluations of plants and animal richness reveal that there are documented about 15,000 tree species and a total of over 55,000 species of trees and vascular plants (e.g., trees, palms, herbs), over 2,400 fish species in the Amazon Basin, and in the Amazon rainforest, there are about 427 types of amphibians, 371 varieties of reptiles, around 1,300 bird species, and approximately 425 mammal species.[11] [12] [13] [14] [15] The number of species found nowhere on Earth expresses the level of uniqueness and species turnover found in the region. 20% of bird species and 58% of fish diversity are endemic to Amazonia.[16]

The Amazon forest is home to roughly 392 billion trees that have a diameter of more than 10 cm at breast height (dbh), accounting for about 13% of the total number of trees across the globe.[17] Including trees with a diameter at breast height (dbh) of more than 2.5 cm could potentially double the count from 392 billion. On average, there are about 570 trees per hectare, including 300 to 350 different tree species per hectare, with the densest concentrations found in the wettest regions, particularly in the northwestern part of the Amazon.[18]

Many plants in the Amazon hold cultural significance, with over a hundred being domesticated and cultivated by Indigenous Peoples before European colonization. These include cacao, cupuaçu (Theobroma grandiflorum), Brazil nuts, manioc, potato, and a variety of fruit trees.[19] It is important to recognize that these figures are approximate, as, despite extensive research over decades, the complete scale of the Amazon's biodiversity is still significantly unknown and underappreciated. Consequently, numerous species in the Amazon have yet to be collected, identified, or examined, and frequently, an entire group of closely related species is incorrectly regarded as a single species due to the lack of detailed study.[20]

5. Indigenous Populations

Nowadays the Amazon Basin serves as the homeland for nearly 2.2 million Indigenous inhabitants (about 8 to 10 million when Europeans arrived), belonging to around 410 distinct groups,[21] reflecting the region's rich cultural and ethnic diversity. These Indigenous populations inhabit over 6,000 distinct territories, encompassing about 170 million hectares of forested land, which accounts for 27% of the entire Amazon region,[22] speaking over 300 languages.[23]

These Indigenous communities possess a wide array of knowledge, traditions, and cultures, which have played a crucial role in the shaping & modeling, conservation, and sustainable management of the Amazonian ecosystems for at least 12,000 years. Their deep-rooted understanding, practices, and innovation systems have been integral to the preservation of this ecologically vital region.[24]

Indigenous Territories in the Amazon are vital in the global fight against global climate change, as they safeguard approximately 24.5 gigatons of carbon (GtC) in aboveground biomass. This amount represents 10-20% of the world's forest carbon stocks, equivalent to about 2.5 years of global CO2 emissions, using 2019 as a reference.[25]

The protection and acknowledgment of Indigenous Peoples' land rights are crucial for mitigating climate change, especially in achieving the Paris Accord's objective of limiting the global temperature increase to below 1.5 degrees Celsius.[26] Indigenous Territories also play a crucial role in ensuring adaptation to climate change, facilitated by the protected forest ecosystems which provide cool and moist habitats, while offering a diverse source of food, medicinal plants, and other natural assets. Additionally, these forests reduce pollution due to fires and reduce the number of people with health issues caused and affected by pollution.

Indigenous Territories (ITs) in the Amazon are crucial in protecting carbon stocks and enhancing the resilience of the regional climate system. They serve as formidable barriers against deforestation, forest degradation, and wildfires, and together with other protected areas act to maintain critical connections between Andes-Amazonian ecosystems. Indigenous Territories play a major role in safeguarding public health. Research in the Brazilian Amazon quantifies the human health and economic advantages of conserving these areas, drawing on data related to cardiovascular and respiratory diseases, fire created pollutants, and forest coverage. From 2010 to 2019, an annual emission of 1.68 tons of fine particulate matter (PM2.5) was recorded, adversely affecting human health. Conversely, municipalities with extensive, less fragmented forest cover experienced fewer disease and infection cases. This correlation is attributed to the Amazon Forest's ability to absorb PM2.5—approximately 26,376.66 tons yearly, with Indigenous Territories accounting for 27% of this absorption. The study suggests that the protection of Amazon Indigenous Territories could prevent over 15 million cases of respiratory and cardiovascular diseases annually, saving around $2 billion USD in healthcare expenses.[27]

Between 1985 and 2022, the largest loss of forested area occurred outside Indigenous Territories and Natural Protected Areas, accounting for 93% of the total loss (approximately 743 thousand km2). In ITs, which have a larger extent than NPAs, there was 4.3% reduction in forest cover, while in NPAs, the reduction was 3%. Proportionally, the loss of these forest formations is slightly higher in ITs than in NPAs. Furthermore, ITs help prevent deforestation and the spread of fires within a 10-km buffer zone around their borders. This effective containment contributes to reduced forest loss and degradation on a larger landscape scale.[28]

Additionally, the Amazon holds an immense cultural significance for the world too as it is a cradle of diverse cultures and traditions, and is a region with profound global cultural significance. In addition to Indigenous Peoples, the Amazon is also inhabited by vibrant Local Communities, including riverine and Afro-descendant groups, each with a deep understanding of the region's ecosystem dynamics. Indigenous Peoples and Local Communities (IPLCs) in the Amazon play an indispensable role in nurturing and preserving the region's agricultural, biological diversity, and ecosystems through their traditional practices and wisdom. Their contributions to the Amazon over the past 12,000 years are immense, including pioneering cultural and technological advancements. These achievements range from creating the earliest ceramics found in the Americas to developing early monumental architecture and initiating the domestication of plants. This rich legacy of sophisticated environmental knowledge and worldviews of the Amazon's inhabitants is invaluable, as evidenced by the survival of the four Indigenous children for forty days, after a plane crash in the Colombian Amazon rainforest.[29] It offers essential insights and guidance for scientific research, development initiatives, conservation efforts, and the shaping of socio-bioeconomy strategies. The cultural heritage of the Amazon is not just a regional treasure but a vital contribution to the world, offering lessons and perspectives crucial for the future stewardship of our planet.[30]

6.The importance of the Amazon for water and climate regulation

The Amazon is pivotal in the regional water cycle and impacts areas beyond the basin, such as glaciers, páramos, La Plata basin and major cities. Roughly 28% of the rain in the Amazon is recycled, with this percentage increasing westward, surpassing 50% near the Andes foothills. This process drives a substantial flow of atmospheric moisture inland from the Atlantic Ocean, supporting high evapotranspiration rates throughout the year, and most of the Amazon forest recycles more water during the dry season, increasing rainfall during the short dry season. A considerable portion of this moisture, recycled as rainfall, contributes significantly to South America's southern regions through "aerial rivers" (of about 200,000 cubic meters per second), accounting for about 70%-90% of rainfall recycling along the tropical Andes, and 70% of the annual average water vapor in the La Plata basin.

Such aerial rivers transport large amounts of water by means of evapotranspiration from the low-lying Amazon forests into the high Andes, providing water to glaciers and paramos from which many important cities get their supply (Bogotá, Quito, La Paz, even Lima), and for hundreds of towns and rural human settlements along the Andes. The rainfall in the Amazon generates the largest river discharge globally, at 220,000 cubic meters per second (including the Tocantins-Araguaia river discharge), making up 16-22% of the world's total river contribution to the oceans.[31] In summary, the Andes and the low-lying Amazon make up a coupled two-way feedback system where the two biomes depend on each other to maintain the stability and balance of the whole system. This is another compelling reason to stop deforestation,forest degradation and wildfires at both ends.

In climate regulation, the Amazon plays a major global role as it acts as one of the largest carbon storage, with approximately 150-200 billion tons of carbon above and below ground, but also due to the cooling provided by the forest evapotranspiration amounting to 20 billion tons of water per day. These are crucial to mitigate the effects of climate change.[32]

However, recent studies highlight a significant shift in the carbon dynamics of the Amazon forest, with particular concern for the southeastern region. It was found that, during the years 2019 and 2020, the southeastern Amazon has transitioned into a carbon source. This change is attributed primarily to increased deforestation, biomass burning, and forest degradation. These activities not only elevated carbon emissions but also contributed to the drying and warming of the Amazon forests. This alarming transformation is linked to a reduction in law enforcement of environmental protection policies, underscoring the critical impact of human actions on the forest's carbon balance. The overall increase in Amazonia carbon emissions and the specific transition of the southeastern Amazon into a carbon source underscore the urgent need for enhanced environmental protection measures to mitigate further damage.[33] [34]

7.Threats

Despite its importance in contributing to the world's ecobiological and hydroclimatic balances, the Amazonian Basin has lost over 19,789.15 square kilometers of forests only in 2022 (a 21% increase from 2021).[35] This represents approximately a daily loss of roughly 16 times the size of Central Park or over 27 times the size of Monaco, 3.79 times The Isla del Sol in Lake Titicaca (Bolivia), 452 times the Plaza de Armas in Cusco (Peru), over 14 times Quito's UNESCO World Heritage site - Old Town (Ecuador) and 54.22 times larger than the iconic walled city of Cartagena (Colombia).

It is important to highlight that deforestation has reduced more than 50% in 2023 compared to 2022.[36]

Around 17% of the Amazon Basin region has undergone conversion to other land uses, and at least another 17% has experienced degradation within the biome. These human-induced disturbances have placed numerous species on the brink of extinction, confining many to just a fraction of their original habitats. This situation not only threatens individual species but also disrupts the intricate web of species interactions and dependencies.

The impact of these changes is profound, altering the fundamental functioning of the Amazon's forests and various ecosystems. This includes significant effects on carbon storage and sequestration and hydrologic regulation, leading to a reduction in the productivity and resilience of the Amazon basin. Consequently, the capacity of the Amazon to provide essential regional and global ecosystem services is being compromised, affecting its role in climate regulation, water cycle maintenance, and biodiversity conservation. The ongoing transformation of the Amazon landscape not only poses immediate risks to its diverse ecosystems but also has far-reaching implications for global environmental health and sustainability.

According to the Science Panel for the Amazon (SPA) - 2021 Amazon Assessment Report, the principal threats include as follows:[37]

1. "*Deforestation and Forest Fragmentation: The potential for reaching an irreversible tipping point underscores a global threat and underscores the urgency of implementing effective conservation and sustainable development strategies to protect this ecosystem. The Amazon, as one of Earth's 16 regulatory sub-systems, plays a pivotal role in regulating the global climate.*

However, ongoing deforestation and fragmentation are threatening this balance, with potential consequences that will extend beyond the Amazon region. In recent decades, the forest has seen a significant reduction in its area due to various legal and illegal human activities, including agriculture, cattle ranching, infrastructure development, and mining. This has led to a fragmentation of the once continuous forest into isolated patches, disrupting the natural processes that maintain the forest's ecological balance. One of the most significant hydroclimatic impacts of deforestation in the Amazon is on the regional water cycle. The Amazon forest plays a major role in regional precipitation patterns. Deforestation reduces this moisture feedback to the atmosphere, leading to a significant decrease in rainfall. This change in precipitation patterns can have severe consequences for hydrological balance in the region. On a continental scale, the Amazon influences rainfall patterns throughout South America. Therefore, deforestation in the Amazon can disrupt precipitation patterns across the continent. At the global level, the Amazon's role in carbon storage and sequestration is critical in moderating global climate change. The forest acts as a significant carbon storage, absorbing large amounts of CO2 from the atmosphere. Deforestation not only releases this stored carbon, contributing to increased atmospheric CO2 levels, but also reduces the forest's capacity to absorb future emissions. This feedback loop between deforestation, climate change, and reduced rainfall further exacerbates the vulnerability of the remaining forest areas and increases the risk of reaching a tipping point. If deforestation surpasses 25% of the forest's original area, it could trigger a dramatic shift in the Amazon's ecosystem, from a lush rainforest to a drier, savannah-like state. This transformation would have catastrophic effects on biodiversity, regional hydrology, and the global climate. The consequences of failing to protect the Amazon could be dire, not only for the Amazon and its inhabitants but for the entire planet.

2. Agricultural Expansion: In the Amazon, the primary cause of deforestation has been agricultural expansion, with cattle ranching being a significant factor, particularly due to various public policies. In the Brazilian Amazon, around 80% of deforested areas are now used as pastures. In the early 2000s, the expansion of large-scale croplands, especially for soy cultivation, emerged as a key driver of deforestation. However, this trend was reversed due to comprehensive conservation policies, including the soy moratorium and the establishment of protected areas in Brazil's regions most affected by soy-related deforestation. Now, soy cultivation in the Brazilian Amazon mainly takes place on lands that were formerly pastures, rather than directly replacing forests. However, in Bolivia, soy cultivation continues to expand, with the Santa Cruz region identified as a major deforestation hotspot, primarily due to forest conversion into soy fields. Since the mid-2000s, palm oil cultivation has become an increasing threat to the Amazonian forests, notably in Colombia, Ecuador, Peru, and the eastern part of the Brazilian Amazon.

Even though palm oil plantations often replace other agricultural land uses, such as cattle ranching, there have been instances where they directly replace primary forests. For instance, between 2007 and 2013, oil palm plantations were responsible for 11% of deforestation in the Peruvian Amazon. Illicit crops, specifically coca, also contribute to deforestation, especially in Colombia, but also in Bolivia, Ecuador, and Peru. However, the impact of illicit crops on forest loss is significantly less than that caused by legal commodities. Following the 2016 peace agreement between the Colombian government and the Revolutionary Armed Forces of Colombia (FARC), the extent of coca-driven deforestation has reduced. Since then, areas previously affected by conflict have been deforested for pasture use, including within protected areas.

3. Infrastructure:

a) Roads: Significant government-built roads and highways penetrate deep into the Amazon, with the western part of the basin being one of the few areas largely free of such infrastructure. These official roads, even when unpaved, frequently lead to the creation of networks of unofficial roads, constructed by local actors. These unofficial routes further open up access to previously inaccessible forest areas, leading to the characteristic 'fishbone' pattern of deforestation. In terms of their total length, the network of these unofficial roads is so extensive that it exceeds the length of the official roads in the region. This expansion of both official and unofficial road networks has a substantial impact on the Amazon's ecosystems, facilitating increased deforestation and habitat fragmentation.

b) Hydropower dams: The Amazon region is rich in energy resources, with some already being actively exploited and others existing as potential reserves. As of 2014, there are 307 hydropower dams either operational or under construction in the Amazon, and there are proposals for at least 239 additional dams. Among these, some are categorized as mega dams, with a capacity exceeding 1 gigawatt (GW). These hydroelectric dams have significant impacts not only on aquatic ecosystems but also on terrestrial ones. They disrupt the natural flow and ecology of rivers, affecting both water-based and land-based ecosystems and species. This dual impact on aquatic and terrestrial environments highlights the complexity and far-reaching consequences of energy development in ecologically sensitive areas like the Amazon.

c) Urbanization: Approximately 70% of the population in the Amazon live in urban areas, a notable shift from traditional rural lifestyles. The largest of these urban centers is Manaus, with over 2.2 million residents as of 2021. Urban expansion is primarily happening in smaller and medium-sized cities and is attributed to a range of processes. These include migration from rural to urban areas and between cities, displacement due to armed conflict, and natural population growth. This trend of urbanization is reshaping the social, economic, and environmental landscape of the Amazon, reflecting the region's dynamic and evolving character.

d) Railways and waterways: In the Amazon, the network of railways and waterways is significantly less dense compared to roads. Consequently, research is scarce on how these types of infrastructure affect terrestrial ecosystems. The construction of railways in the Amazon leads to deforestation and fragmentation of the forest areas they traverse. This has a notable impact on the mobility of wildlife species, many of which are unable to cross even narrow clearings created by the railway lines. As for waterways, there is currently a lack of published research specifically addressing their direct impact on the Amazonian forests. This gap in knowledge points to a need for further investigation into the environmental effects of these infrastructural developments in the Amazon.

4. Mining:

a) Minerals: Mining significantly impacts the Amazon's environment, with over 45,000 mining concessions in operation or awaiting approval. Notably, more than half of these concessions intersect with protected areas and Indigenous lands. The extraction of minerals like bauxite, copper, and iron ore is often conducted through legal means by large corporations. However, gold mining in the region is predominantly illegal. Despite its unlawful status, gold mining in the Amazon has evolved beyond small-scale operations. It has become a semi-mechanized industry, utilizing substantial and costly equipment such as prospecting drills and hydraulic excavators, and polluting rivers, soils and organisms with poisonous substances such as mercury and arsenic. This shift towards more intensive mining methods presents a growing environmental challenge in the Amazon.

b) Oil and gas: Oil and gas exploitation is primarily concentrated in the western Amazon, with crude oil extraction beginning in the 1940s and expanding significantly from the 1970s. As of now, there are 192 active oil and gas leases, and 33 are in the prospecting stage, with some overlapping protected and Indigenous lands. Key concerns from hydrocarbon development include deforestation and frequent oil spills, as witnessed in Colombia, Ecuador, and Peru.

For instance, in the northeastern Ecuadorian Amazon, there were 464 oil spills between 2001 and 2011, releasing 10,000 metric tons of crude oil into the environment. This volume is about a quarter of what was leaked in the Exxon Valdez oil spill. However, the actual number of oil spills in the Amazon is likely much higher than reported. The effects of these spills on terrestrial ecosystems are not well understood, but there have been instances where wildlife like Lowland Tapirs, Pacas, Collared Peccaries, and Red-brocket Deer have been observed consuming soil and water contaminated by oil from tanks and abandoned wells. The impact of this contamination on animal populations remains unclear.

c) Fires: Typically, the substantial moisture present in the understory of undisturbed Amazonian primary forests keeps flammability levels very low. Nonetheless, thousands of hectares of these forests still experience fires annually. Known as understory fires, forest fires, or wildfires, these blazes spread slowly and are characterized by relatively low flame heights of about 10-50 cm, emitting a limited amount of energy. Despite the generally high moisture levels in these forests, the occurrence of these fires demonstrates the vulnerability of even the most moisture-rich environments to burning and the consequences on air quality affecting human and ecosystem health. Most of the fires today are illegal.

d) Logging: Selective logging, a major activity in tropical forest regions, plays a significant role in timber production. In the Pan-Amazonian countries, around 13% of the tropical sawn-wood production takes place, with Brazil leading at over half (52%) of this output. Ecuador, Peru, and Bolivia each contribute about 10%, while Venezuela, Colombia, Suriname, and Guyana account for the remaining 17%. The scale of logging activities in these Amazonian countries is substantial. For instance, in the Brazilian Amazon, the area impacted by selective logging is roughly equivalent to the area deforested each year. These logging activities are primarily concentrated along the deforestation frontier and near major logging centers. In the Brazilian Amazon, selective logging is the second leading cause of forest degradation, just after the effects caused by forest edges.

e) Hunting: Many species of mammals, reptiles, and birds in the Amazon are experiencing population declines due to over-harvesting, with large-bodied species being particularly affected. This defaunation has significant impacts on species composition, population biomass, ecosystem processes, and human welfare in overhunted areas of the Amazon. In the 20th century, commercial hunting for animal hides was extensive.

From 1904 to 1969, an estimated 23.3 million wild mammals and reptiles across at least 20 species were hunted for their hides. While this commercial exploitation has substantially decreased, the fashion industry still imports around 41,000 peccary skins annually, mostly from the Collared Peccary. Nowadays, hunting in the Amazon is primarily for food. It's estimated that hunting impacts 32% of the remaining forests in the Brazilian Amazon, roughly 1 million km². This hunting activity, particularly near settlements, roads, and rivers, has led to a notable depletion of large vertebrate populations".

Additionally, the Science Panel on the Amazon has elaborated policy briefs that underscore threats in the Amazon region and its impact to the world:

- SPA Land Market and Illegalities: The Deep roots of deforestation in the Amazon Policy brief, highlights the threat of illegal activities and land markets including, cocaine trafficking, money laundering, illegal gold mining in exacerbating deforestation, violence, and social and environmental degradation across the Brazil, Colombia, Venezuela, Peru, and Bolivia Amazon region. It emphasizes the urgent need for empowering national and local governments, civil society, and Indigenous communities with tools to differentiate between legal and illegal activities to control and eliminate illegal activities. Furthermore it presents critical information to build on the relevance of this threats:
    - From 2016 to 2020, the Brazilian Federal Police conducted 166 of its operations on rural properties at various stages of the production and land use process. Out of these, 47% of all the properties investigated resulted from land grabbing mediated by fraud (45%) and corruption (34%). Moreover, 60% of the properties suffered illegal deforestation and illegal logging (22%). Other illicit activities included money laundering (16% of properties), possession of illegal weapons (15%), and involvement in violent crimes, including people trafficking (7%) and illegal mining (9%).
    - In regards to land expansion made by privates during the last period, establishments larger than 2500 hectares appropriated 9.5 million hectares, which constituted 62.5% of the total appropriation of 15.2 million hectares.
    - Land market is driven by the "production" of the deforested land which has led to an average profit margin from the production of deforested land at a rate of 6.2% per year from 2001 to 2020.

- SPA "A call for global action to move the Amazon Forest system away from tipping points" policy underscore on:
    - *"Tipping Points Identified: Five potential tipping points have been identified, including a 2°C mean global temperature rise relative to pre-industrial levels, local annual rainfall dropping below 1000 mm, a maximum cumulative water deficit of -400 mm, dry season lengths of 6 months, and accumulated forest loss of 20%. In areas where rainfall is below 1800 mm per year, forests become unstable, increasing the risk of crossing these tipping points".*

- *Deforestation and Climate Change Impact: Deforestation is contributing to the transformation of the Amazon from a carbon sink to a carbon source, which will have a significant impact on the world's climate balance.*
- *Environmental Changes and Carbon Emissions: Climate change is expected to increase droughts and temperatures across the Amazon. These changes significantly affect tree mortality rates and fire incidence, causing southeastern Amazonian forests to shift from a carbon sink to a carbon source, which in turn accelerates climate change affecting even more tree mortality rate, thus becoming a revolving cycle.*

- *SPA "Nine ways to avoid the Amazon Tipping point" provides us with a route to avoid this revolving cycle on climate change and the Amazon tipping point:*
  - *The document builds on a route to avoid the Amazon Tipping Point, including:*
    - *Drastically reducing global greenhouse emission.*
    - *Ending large scale deforestation, degradation and forest fires in the Amazon.*
    - *Restoring abandoned and degraded forests at large scales.*
    - *Creating and maintaining protected areas and Indigenous territories.*
    - *Investing in Science, Technology and Innovation in Amazonia.*
    - *Strengthening the participation of civil society organizations.*
    - *Developing a sustainable socio-bioeconomy of healthy standing forests and flowing rivers.*
    - *Maintaining forest and river connectivity across the Andes-Amazonian frontier.*
    - *Including the fundamental rights of the Amazon in the constitution of Amazonian Countries.*

8.The Andean Community and the Andean Parliament - An opportunity for the Amazon

The Andean Community (CAN) is a regional international organization in South America, comprising four member countries: Bolivia, Colombia, Ecuador, and Peru. Its origins can be traced back to the signing of the Cartagena Agreement in 1969, an event that marked a significant step in the region's integration.[38] This agreement was a response to the economic and political challenges of the time, aiming to promote development through integration and economic cooperation. It has an "administrative body", a Secretariat based in Lima, being the current Secretary General Peruvian Ambassador Gonzalo Gutierrez Reinel.[39]

Over the years, it has made substantial progress in harmonizing economic policies and promoting a common market. The CAN operates on the principles of subsidiarity, solidarity, and consensus, emphasizing the importance of cooperation and mutual assistance among its members.

One of the significant achievements of the Andean Community has been the establishment of a customs union, which facilitates the free movement of goods, services, capital, and people within the member states. This has helped to enhance trade and investment opportunities within the region, contributing to economic growth and development.[40] Additionally, the Andean Community has worked on harmonizing legislation and regulations in various sectors, including agriculture, energy, and environmental protection, to ensure a level playing field for businesses and to promote sustainable development.

In 1979, the Andean Parliament and the Andean Tribunal of Justice were established. The Andean Parliament is an integral part of the Andean Community. It is a deliberative and advisory body that represents the people of the member states. The Andean Parliament has the functions of *"advising on matters related to regional integration, proposing measures to promote economic and social progress, and fostering cooperation between Andean nations and other regions"*. *Its role is to promote the integration process, strengthen democratic governance, and ensure that the policies and actions of the Andean Community reflect the interests and aspirations of its citizens.* Its members are democratically elected guaranteeing citizen representation in the integration process.[41]

The relationship between the Andean Community and the Andean Parliament is characterized by collaboration and mutual support. The Parliament provides input and recommendations on various issues related to integration, including economic policies, social development, and environmental protection. It also serves as a forum for dialogue and consensus-building among the member states, helping to resolve conflicts and align policies.

In terms of mandate and power, the Andean Community has a range of institutions and mechanisms to implement its policies and programs. These include the Andean Presidential Council, the Council of Foreign Ministers, the General Secretariat, the Andean Parliament, Andean Health Organization, among others.[42] The Andean Community has the authority to make decisions on matters related to economic integration, trade, and cooperation. However, the implementation of these decisions relies on the political will and commitment of the member states.

Even though the extent of the Andean Parliament´s power is limited by the sovereignty of its member states as the implementation and enforcement of these decisions depend on national governments, this institution can pass legislative instruments that can be elevated to build into national regulations, laws and policies taking into consideration a regional perspective. This comes particularly relevant as countries such as Peru, Colombia, Bolivia, and Ecuador (all members of the Andean Parliament) hold a significant part of the Amazon, accounting for the second largest Amazon region apart from Brazil which is an “associate member state”. This becomes even more relevant when considering the Andean Parliament mandate. which is to promote the harmonization of regional local legislation, which can play a major role in environmental policies, fostering collective action to address a shared challenge, in this case, the protection of the Amazon, which is not confined to national borders and that the consequences of failing to protect it, will be felt not only by the region where it is hosted but by the world overall.

The Andean Parliament has a long-standing history of addressing environmental issues and sustainable development, including the Regulatory Framework for Sustainable Energy Development (passed through “Decision 1347”), the Regulatory Framework for Climate Change (passed through “Recommendation 228”), the Regulatory Framework for Disaster Risk Management (passed through “Decision 1381”), the Regulatory Framework for Energy Crimes (passed through “Decision 1420”), the Regulatory Framework for Blue Sustainable Economy (passed through “Recommendation 393”).[43]

Given the transboundary nature of the challenges that the Amazon faces, such as deforestation, forest degradation, wildfires, illegal mining, and agriculture expansion, there is an urgent call for a cohesive response from the Amazon Basin countries and the international community in general. The Andean Parliament as a regional body can contribute to shaping the Amazon's future, harmonizing policies, driving collective action, and using its political representative mandate to put this issue at the center of international environmental discussions.

Additionally, it is important to highlight the increasing organized criminal activity in the region, including the Amazon region, closely linked to drug trafficking, illegal mining, selective logging, and land grabbing, among others. There will be very little chance to protect the whole Amazon forest, its biodiversity and all its populations without addressing organized crime. More and more, there is a discussion whether there are ways to combat organized crime if cocaine consumption increased worldwide.

According to different studies, such as the Folha de Sao Paulo, 2024, "As Brazil prepares to host the Climate Summit (COP30) in Belém in 2025, the Amazon basin and its people suffer very serious threats from transnational criminal organizations. Allied with local factions that commit environmental crimes and other activities, such as drug trafficking, these organizations form an ecosystem of illicit activities that are destroying the forest. Therefore, it is crucial to prioritize the creation of economies and enterprises compatible with the standing forest, which can replace the income generated for workers at the base of illicit economies, and follow dirty money to reach those who get rich through criminal activity, in addition to stopping deforestation and regenerating the forest. Recent research from the United Nations Office on Drugs and Crime (UNODC), supported by the Igarapé Institute, sheds light on the complex interplay between drug-related crimes and environmental threats in the Amazon basin. The analysis reveals a worrying increase in drug cultivation, trafficking and environmental crimes in the region, especially in Brazil, Colombia, Peru and Bolivia. This increase in deforestation is fueled by the abundance of natural resources, weak state presence, corruption and structural issues related to informality, inequality and unemployment. The actions of organized criminal networks affect the environment, leading to deforestation and a series of other crimes, such as land grabbing, timber and wild animal trafficking and illegal mining.[44]

9.Legal Framework

There are significant international, regional, and national robust legal frameworks that address environmental conservation efforts and prosecute crimes against the Amazon forest. However, these frameworks have proven to be not enough to reduce deforestation and degradation, which are just symptoms of systemic problems that have threatened the Amazon for decades. Here we review the national policy frameworks of the member countries.

At National Level

Bolivia

1. Constitutional Provisions: While the Bolivian Constitution, adopted in 2009, emphasizes the importance of protecting nature, it does not establish constitutional rights of nature as such. Additionally, the Constitution contains several anthropocentric provisions that prioritize human interests and the industrialization of natural resources, which often conflict with the objectives of the Mother Earth laws.
2. Mother Earth Laws: Bolivia's legal framework for environmental protection includes the Law N° 071 of December 21, 2010, Mother Earth Rights Law (Ley de Derechos de la Madre Tierra), and the Law N° 300 of October 15, 2012, Framework Law of Mother Earth and Integral Development for Living Well (Ley Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien). These laws were inspired by Indigenous traditions and aimed to establish specific rights for Mother Earth, focusing on living in harmony and balance with nature.
3. Environmental Law: Law No. 1333, enacted on April 27, 1992, in Bolivia, is a comprehensive legal framework designed to protect and conserve the environment and natural resources. This law regulates human activities concerning nature and aims to promote sustainable development, thereby improving the quality of life of the population. This includes rights to information, rights to participate, right to appeal, active legal standing, environmental education, and recognizes the importance of participation of indigenous and traditional communities. It forms an integral part of Bolivia's efforts to conserve its rich biodiversity and natural environments, including the Amazon.
4. National Institute for Agriculture Reform Law (INRA Law): Enacted in 1996, The legislation acknowledges and ensures the following types of agricultural land ownership in Bolivia: a) the peasant homestead, b) smallholdings, c) medium-sized properties, d) agricultural enterprises, e) original communal lands, and f) communal properties.

5. Forestal Law No.1700: Enacted in 1996, This law is designed to regulate the sustainable use and protection of forests and forest lands for the benefit of current and future generations, aligning the country's social, economic, and ecological interests. It aimed to encourage the initiation of sustainable and efficient forestry activities; achieve sustainable and improved yields from forest resources and ensure the conservation of ecosystems, biodiversity, and the environment; protecting and restoring watersheds, preventing and halting land erosion, forest, grassland, soil, and water degradation, and promoting afforestation and reforestation. Additionally it aimed to ensure public access to forest resources and their benefits, in strict adherence to sustainability and protection standards and promoting forest and agroforestry research and its dissemination to support productive processes, conservation, and protection of forest resources.

6. Supreme Decree No. 26556: Enacted in 2002, which approved the National Strategy for the Conservation and Sustainable Use of Biodiversity (ENCB). This decree highlights the fundamental role of biological diversity in the country's natural heritage, encompassing ecosystems, flora and fauna species, and genetic resources essential for the nation's wellbeing and development. It emphasizes the state's duty to preserve biodiversity and the genetic integrity of both wild and domesticated species, as stated in the Environment Law No. 1333 of 1992.

7. Supreme Decree N° 24781: It is a legal provision for the protected areas regulation, enacted on July 31, 1997. The decree underscores the state's duty to protect the country's natural heritage, conserve, and regulate the sustainable use of biodiversity resources. It lays down provisions for defining categories of protected areas, their creation, management, and conservation, and provides national budget allocations. Additionally, it gives legal limitations on the use and exploitation of natural resources in protected areas, with obligations for indemnification, relocation, or compensation in case of damage, and takes provisions against the illegal occupation of protected areas, setting forth the immediate legal and administrative actions to be taken against such violations.

8. Law of recovery, conservation, use, and sustainable use of wetlands - Law N° 404: It highlights the importance of lowland wetlands (bofedales) in Bolivia's environmental conservation efforts, recognizing their ecological, cultural, and economic significance. The law establishes a framework for their protection and sustainable management, emphasizing the integration of traditional knowledge and modern scientific approaches in conserving these vital ecosystems. Río Blanco is an extensive and important system of alluvial plains, located in the northeast of the country, with flood-prone Amazonian forests, also recognized as a Ramsar site.

Brazil

1. Federal Constitution of 1988: Treats the environment as a common good and forms the basis for Brazil's robust environmental legal framework, which has become more comprehensive, scientifically based, and punitive over the years. It has led to significant legislation improvements for the protection of public forests, land rights, and the legalization of private areas.
2. Law 8, 629/1993 - Agrarian Reform Act: Regulates land ownership and its social function, is a key piece of legislation that addresses land ownership and its utilization within the framework of agrarian reform.
3. Law 9. 605/1998 - Environmental Crimes Act: This Brazilian legislation defines and penalizes various forms of environmental damage. It covers a broad spectrum of illegal activities, including pollution, illegal deforestation, and wildlife abuse. The act imposes fines and imprisonment for severe offenses, emphasizing the responsibility of individuals and corporations in environmental conservation. It also includes provisions for lesser penalties such as community service in environmental projects.
4. Law 9,985/2000 - National System of Conservational Units: This Brazilian law, established in 2000, is crucial for environmental protection, as it created the National System of Conservation Units (SNUC). It categorizes and regulates various types of protected areas, ranging from strict nature reserves to sustainable use areas. The law aims to conserve biodiversity, natural landscapes, and regional ecosystems, while also allowing for controlled, sustainable use of some natural resources. It represents a significant step in Brazil's commitment to environmental conservation and sustainable development.
5. Decree 3.420/2000: This decree, issued in Brazil in 2000, operationalizes the National System of Conservation Units (SNUC), established by Law 9,985/2000. It provides detailed guidelines for the implementation and management of conservation units, covering aspects such as creation, classification, administration, and sustainable use. The decree emphasizes the importance of preserving biodiversity and natural heritage while promoting environmental education and scientific research. It also sets forth the involvement of local communities in the management and decision-making processes related to these conservation areas.
6. Law 10,650/2003 - Law on Public Access to Environmental Information: Enacted in 2003, this law enhances public access to environmental information in Brazil. It mandates that environmental data, such as licenses, studies, and reports held by government bodies, must be made publicly available. This transparency is intended to facilitate public involvement in environmental decision-making and oversight. The law also establishes the procedures for accessing this information, reinforcing the principle of public participation in environmental governance.

7. Law 11,284/2006 - Public Forest Management: This law, implemented in 2006, focuses on the management of public forests in Brazil. It establishes guidelines for sustainable forest management, aiming to ensure the conservation and responsible use of forest resources. The law sets out the rules for the concession of public forests to private operators under strict environmental, social, and economic criteria. It also strengthens the role of the federal government in overseeing and regulating forest exploitation, with an emphasis on sustainable development and biodiversity conservation.
8. Complementary Law 140/2011 - Environmental Licensing Law: This law, passed in 2011, clarifies the roles and responsibilities of federal, state, and municipal governments in environmental management and licensing in Brazil. It aims to reduce bureaucratic overlaps and conflicts between different levels of government. The law delineates authority over environmental permits, inspections, and conservation policies, promoting more efficient and effective environmental governance. It represents a significant step in coordinating environmental policy and management across Brazil's multiple governmental layers.
9. Temporal Framework: The Marco Temporal is a judicial principle asserting that Indigenous Peoples can only claim demarcation rights on their ancestral territories if they were in possession of these lands on October 5, 1988, which coincides with the enactment of Brazil's Federal Constitution. The Supreme Court did not consider the Marco Temporal in 1988, but the Congress rejected that and did want to allow demarcation of Indigenous Territories only if people were already living there in 1988, attacking hundreds of people who were kicked out of their territories before that.
10. Presidential Decree on Brazilian Carbon Market: Published on 19 May 2022, this decree regulates the Brazilian carbon market, fostering environmental protection and focusing on credit exports for countries and companies that need to compensate for their emissions to meet their carbon neutrality commitments.
11. Guardians of the Amazon Biome Operation: Launched by the Brazilian government, this initiative combats environmental crime in the Amazon, involving six fixed bases and a joint force working under the Ministry of Justice.
12. Fines for Environmental Crimes: Decrees have established heavy penalties for illegal deforestation and mining on protected land, with fines being doubled in conservation areas or buffer zones.

Colombia

1. Political Constitution of the Republic Colombia: Articles 58, 79, 80, 268, 313, 317, 334, and 339 establish the constitutional rights to guarantee a safe and healthy environment, distributing responsibilities across national and local level authorities, as well as assigning the National Comptroller to review on the appropriate allocation and use of Colombia's public resources, including its natural resources. The Constitution also establishes as a responsibility that all citizens must "protect the cultural and natural resources of the country and ensure the conservation of a healthy environment".
2. Colombia's Resolution 97 of 2017: Established the "Unique Registry of Ecosystems and Environmental Areas" This resolution aims to create a comprehensive and dynamic informational tool for the identification and prioritization of ecosystems and environmental areas within the national territory. The registry is intended to facilitate and support conservation efforts, including the implementation of Payments for Environmental Services. This system incentivizes the protection and sustainable management of valuable ecosystems by providing financial compensation for ecosystem services. It also plays a crucial role in environmental management and planning in Colombia. By identifying and prioritizing important ecosystems and areas, it aids in strategic decision-making regarding environmental protection, sustainable use, and restoration efforts.
3. Decree 2372: Issued in 2010, primarily focuses on regulating various environmental and conservation laws regarding the National System of Protected Areas. Specifically, it regulates Decree-Law 2811 of 1974, Law 99 of 1993, Law 165 of 1994, and Decree-Law 216 of 2003. These regulations cover the management categories within the National System of Protected Areas and include other related provisions. The decree plays a critical role in the environmental governance of Colombia, especially concerning the preservation and management of its protected areas.
4. Decree 2041: Issued in 2014, is a comprehensive regulation that builds upon the 1993 law that established the Environmental Ministry. Article 8 of the decree outlines the jurisdiction of ANLA, especially in the hydrocarbon (HC) sector. It covers activities such as exploratory drilling outside existing HC production fields, drilling of wells, construction of gathering lines, and transportation of HCs that require pipelines over 6 inches in diameter. It also includes delivery terminals, refineries, petrochemical plants, and coal mining operations exceeding 800,000 tons per year. Title 3 of the decree details the requirements for environmental impact studies, in line with Law 99. However, it does not currently cover aspects related to methane releases or air pollution. Article 18 requires an assessment of development alternatives for activities such as exploration, pipeline construction, and the building of refineries and petrochemical plants, although it does not extend to production.

5. General Forestry Law - Law 1021 of 2006: Establishes a national forestry regime comprised of a coherent set of legal norms and institutional coordination. The primary objective of this law is to promote the sustainable development of Colombia's forestry sector within the framework of the National Forestry Development Plan. The law covers a wide range of topics including forest management and conservation, forestry protection measures, afforestation and reforestation, timber extraction and logging, subsidies and incentives, timber research, data collection and reporting, access to information, transport and storage, agroforestry, policy and planning, and traditional knowledge. Geographically, the law encompasses areas including Amazonia, indicating its relevance to the protection and management of the Amazon region.
6. Decree 1200 of 2004: Promulgated by the Ministry of Environment, Housing, and Territorial Development. The primary focus of this decree is to define the instruments of environmental planning and adopt other related provisions. The decree plays a crucial role in outlining the strategies and tools necessary for effective environmental management and planning within the country. It is a key legislative document that contributes to the framework of environmental governance in Colombia, particularly in the context of sustainable development and territorial planning.
7. Regulations on Civilian Oversight - Law 850 of 2003: Establishes specific rules for their creation, democratic principles governing their internal organization, and their restrictions and limitations. It also sets out the conditions and special tools that enable citizens to exercise functions of surveillance and control. The enactment of this law is considered a significant achievement in the fight against corruption, as it formalizes a democratic mechanism of representation that allows citizens and various community organizations to monitor public management. It can also be used for the protection of the Amazon region.
8. Law 74 of 1979: It approved the Amazon Cooperation Treaty, signed in Brasilia on July 3, 1978. This treaty involves multiple countries, including Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela. It aims to promote the harmonious development of the Amazon region, ensuring an equitable distribution of development benefits among the participating countries, improving the quality of life of their populations, and fully integrating their Amazonian territories into their national economies. The treaty focuses on balancing economic growth with environmental preservation. It emphasizes the importance of maintaining the ecological balance in the Amazon region, promoting scientific research, exchanging information and technical personnel, and regularly sharing information on conservation measures implemented in the Amazon territories of each state. These efforts are integral to preserving the flora, fauna, and overall ecological equilibrium of the Amazon. Furthermore, the treaty applies to the Amazon Basin territories of the participating countries and any other territories considered closely linked to the Amazon due to geographical, ecological, or economic characteristics.

9. Green Fund to Save the Amazon Rainforest: The Government of Colombia has been a strong advocate for this fund will also benefit from resources obtained through a carbon tax, as stipulated in the recent tax reform approved by the Colombian Congress. The funds aim to compensate peasant families in six Colombian departments for preserving flora and fauna in the Amazon region, to recover the natural border of the jungle, and to promote sustainable coexistence with the ecosystem.

Ecuador

1. The Constitution of the Republic of Ecuador (2008): Is the only constitution in the world that explicitly recognizes nature as a subject of rights. Constitutional articles (71-74) recognize ecosystems' rights to exist and flourish, allowing individuals to petition on behalf of nature. It establishes a new environmental regime, recognizing nature as a rights holder and biodiversity conservation as a public interest. Article 395 advocates for sustainable development and biodiversity conservation. Articles 396 and 397 emphasize preventive measures and responsibility for environmental damages. Articles 400-407 and 408 focus on biodiversity, natural assets, and nonrenewable resource management, ensuring environmental protection and sustainable use.
2. Organic Environmental Code: Effective from April 2018, aims to ensure the right to a healthy, ecologically balanced environment and to protect nature's rights. It regulates environmental rights and duties as outlined in the Constitution, emphasizing sustainability, protected areas, wildlife, conservation, and restoration. The COA covers diverse areas like climate change, protected areas, waste management, and biosecurity. It incorporates key principles such as the polluter pays and sustainable development. Additionally, it required the formulation of a comprehensive regulatory framework by 2018 for effective implementation.
3. Organic Law of territorial planning, use, and management of land: Establishes principles and rules for urban and rural land use and planning, aiming for equitable and balanced development. It upholds the right to a safe and healthy habitat, and adequate housing, in line with the social and environmental function of property. The law emphasizes inclusive urban development for the well-being of people, aligning with various government competencies. Its focus on rational and sustainable resource use, and protection of natural and cultural heritage, suggests a significant impact on sensitive areas like the Amazon region, promoting conservation and sustainable development there.

4. Organic Law of the Communes: Focuses on protecting communal lands and rights, emphasizing land ownership, ethnic and territorial identity, and social development. It aligns with collective rights and the rights of nature, stressing the social and environmental function of land and aiming for food security. The law enhances community participation in decision-making and strengthens communal organizations. Its principles and objectives align with the protection of sensitive areas like the Amazon region, promoting sustainable land use and conservation of indigenous and ancestral territories.
5. Ministerial Accords 140 (1970), 190 (1975), 69 (1979): Create National Parks Cayambe, Sangay, and Yasuni respectively which are located in the Ecuadorian Amazon.

Suriname

1. Suriname Constitution (1989): Revised in 1992, includes provisions for the protection of the environment. It focuses on creating and improving conditions necessary for the protection of nature and preserving the ecological balance. While the Constitution itself does not explicitly mention the Amazon region, these general environmental protection mandates could be applied to the conservation and sustainable management of the Amazon region within Suriname's territory, given the Amazon's ecological significance and the need for maintaining its balance and biodiversity
2. Nature Conservation Act (1969): It enables the declaration of natural reserves, essential for Amazon protection. It involves the Nature Conservation Commission for reserve management advice, crucial for sustainable conservation. The Act includes criminal provisions to deter activities harmful to these areas. This framework is vital for safeguarding biodiversity and ecosystems in the Amazon region, mitigating threats like deforestation and pollution.
3. Forest Management Act (1992): It is designed for the conservation and sustainable management of forest resources. It regulates forest exploitation and the primary forest processing industry to balance economic, social, and ecological benefits. The Act facilitates forest concessions for controlled timber harvesting and transport. It also allows for the creation of conservation forests, aiding in biodiversity preservation. This framework is crucial for sustainable forest management and the protection of ecosystems like the Amazon.

Peru

1. Constitution of the Republic of Peru: Article 2, clause 22 of the Constitution guarantees every person the right to enjoy a balanced and suitable environment for the development of their life. Article 67 mandates that the Peruvian Government determines the national environmental policy and promotes the sustainable use of its natural resources.
2. General Environmental Law - Law No. 28611: Published in 2005, recognizes the rights of individuals to enjoy a healthy environment and to participate in decision-making processes, policy definition, and application of measures related to the environment at all levels of government.
3. Penal Code in its Title XIII "Crimes Against Environment": Lists behaviors that constitute ecological crimes, including environmental pollution, aggravated forms of pollution, illegal granting of licenses by public officials, industrial and domestic waste, destruction of legally protected flora and fauna, illegal extraction of aquatic species, destruction of protected forests, misuse of agricultural land, illegal urban habilitation, and altering the environment or landscape.
4. Law of National Protected Areas - Law No. 26834: It is instrumental in Peru's environmental conservation efforts, particularly in the Amazon. It defines protected areas for biodiversity conservation, aligning with the 1993 Constitution's environmental mandates. The law, structured into 31 articles, outlines the governance, management, and sustainable use of these areas, under the oversight of the National Institute of Natural Resources (INRENA). Its impact is significant in conserving diverse ecosystems, particularly in the Amazon, by safeguarding habitats and promoting sustainable practices. The law also emphasizes community involvement, recognizing the role of local populations in conservation efforts and sustainable resource use.
5. Forestal and Wildlife Law - Law No. 29763. It is a critical legal framework that regulates, promotes, and supervises forest and wildlife-related activities in Peru. Its primary objectives are to conserve, protect, enhance, and sustainably use forests and wildlife within the national territory. This law is particularly significant for sustainable development, emphasizing the important role of communities in managing and conserving forests. Holders of forest concessions are required to comply with management plans approved by regional forestry and wildlife authorities.
6. Law that regulates the declaration of environmental emergency: This law is designed to regulate the process for declaring an environmental emergency in specific geographical areas. This declaration is applicable in instances of significant environmental damage caused by natural, human, or technological causes. The law primarily addresses environmental deterioration that leads to public health issues due to the contamination of air, water, or soil.

Venezuela

1. Constitution of the Bolivarian Republic of Venezuela: Presents principles around environmental protection and sustainable development framework that could be applied to Amazonian conservation. With its emphasis on ecological balance, indigenous rights, and natural resource protection, the constitution can potentially guide policies and actions to preserve and sustainably manage the Amazon region. This broad interpretation aligns with the country's ecological priorities, considering the Amazon's critical role in Venezuela's biodiversity and environmental health.
2. Organic Law on the Environment: Designed to establish guidelines and principles for environmental management within the framework of sustainable development, recognized as a fundamental right and duty of the State and society. This law aims to contribute to the security and well-being of the population and the sustainability of the planet in the interest of humanity.
3. Penal Law on the Environment: Sanctioned in 2012, establishes criminal penalties for acts against natural resources and the environment. It emphasizes environmental conservation as a fundamental human right, making individuals and corporations liable for environmental damage. Individuals are held accountable based on objective responsibility, not requiring proof of intent or negligence. Corporations are responsible for environmental crimes committed in violation of norms or regulations. Its provisions are pertinent for protecting the Amazon biome in Venezuela, especially given the country's rapid deforestation rates and environmental challenges. By criminalizing harmful environmental practices, the law could deter activities like illegal mining and deforestation, which are significant threats to the Amazon's ecosystem and biodiversity.
4. Biological Diversity Law: Adopted in 2000, sets guiding principles for the conservation of biological diversity in line with the Convention on Biological Diversity. The law classifies biological diversity as legally protected environmental assets of fundamental importance to life, with their conservation and sustainable use deemed a public interest. It establishes the State's sovereign rights over these resources and includes provisions for the recognition and protection of traditional knowledge of indigenous and local communities. The law led to the creation of the National Office of Biological Diversity, tasked with coordinating conservation policies in national parks, natural monuments, and other specially administered areas. It also specifies sanctions and the recovery and compensation costs for biodiversity damage. Significantly, it recognizes and protects the property rights and traditional knowledge of indigenous communities, crucial for the Amazon region where indigenous populations have a profound connection with the ecosystem.

French Guiana

1. The French Environmental Code (Code de l'Environnement): A comprehensive legal framework that plays a critical role in the environmental protection of French Guiana, particularly in the Amazon region. This code consists of several key aspects that are directly relevant to the conservation and sustainable management of the Amazon, including water management, forest conservation, protected areas, biodiversity protection, regulatory enforcement and penalties, community involvement, and indigenous rights.
2. The Law for the Recovery of Biodiversity, Nature and Landscapes (2016) Law No. 2016-1087: Represents a significant advancement in environmental legislation. Its focus is on enhancing biodiversity and natural landscape conservation, and it introduced several innovative measures. One of the most notable introductions of this law is the concept of the "obligation réelle environnementale" (ORE). This legal tool allows landowners to voluntarily establish long-term environmental conservation obligations on their land. The term "real" in this context refers to a fundamental aspect of French civil law, emphasizing the binding and enduring nature of these obligations. This tool is particularly important as it empowers private landowners to actively participate in conservation efforts. It also provides an additional legal framework for biodiversity protection, national biodiversity strategy, public participation and awareness, and regulatory framework for environmental damage.
3. Environmental Criminal Law (2021): Law no. 2021-1104 of August 22, 2021, on the fight against climate change and strengthening resilience to its effects: Enacted in France on August 22, 2021, significantly strengthens the legal framework against environmental violations, with direct implications for regions like French Guiana and, by extension, the Amazon rainforest. This law categorizes certain actions harming the environment as criminal offenses, including activities that lead to pollution, destruction of habitats, and illegal exploitation of natural resources. One of the landmark features of this law is the recognition of 'ecocide' as a serious offense. Ecocide refers to extensive damage, destruction, or loss of ecosystems of a particular territory due to human activity. In the context of the Amazon, this could apply to large-scale deforestation, significant pollution of water bodies, or other actions causing severe harm to the ecosystem.

At Regional Level

1. Convention for the Protection of the Flora, Fauna, and natural scenic beauty of the Countries of America: Signed in 1940 by all the Amazon Basin countries except Guyana. This law focuses on conserving and protecting the natural resources and landscapes of the Americas. It emphasizes the preservation of flora, fauna, and natural scenic beauty, which are critical for ecological balance and biodiversity. For the Amazon region, this convention underlines the importance of protecting its vast biodiversity, including unique species of plants and animals, and its iconic landscapes. It encourages collaborative efforts among American countries to implement conservation measures and sustainable practices. This international agreement serves as a framework guiding policies and actions for the comprehensive protection of the Amazon's natural heritage.
2. American Declaration on the Rights of Indigenous Peoples: It significantly enhances the protection and rights of Indigenous communities in the Americas, with specific relevance to the Amazon region. It addresses unique regional issues, including the rights of Indigenous peoples in voluntary isolation and those affected by armed conflict. By affirming Indigenous rights to self-determination, land, territories, and natural resources, the declaration provides a robust framework for safeguarding the Amazon against exploitative practices. It also emphasizes the importance of Indigenous governance, cultural preservation, and access to resources, essential for the sustainable management of the Amazon. This declaration, therefore, serves as a key legal tool in advocating for the conservation of the Amazon and the rights of its Indigenous inhabitants. It was ratified by the OAS in 2016.
3. Treaty for Amazonian Cooperation: Signed in 1978 by Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela, establishes a framework for collaborative Amazon region preservation and development. Its implementing agency, the OTCA, focuses on environmental preservation and rational resource utilization. Key areas include forest and biodiversity conservation, Indigenous and tribal community inclusion, sustainable water resource management, improving Amazonian populations' quality of life, knowledge management, and climate change mitigation. This treaty is a unified approach towards the Amazon's ecological and cultural preservation, highlighting the importance of international cooperation for the region's sustainable development and environmental protection.
4. Belem Declaration: Signed during the Amazon Summit in August 2023 by the eight member states of the Amazon Cooperation Treaty Organization (ACTO). The declaration outlined a comprehensive agenda across 113 objectives and principles addressing urgent challenges faced by the Amazon with a special emphasis on active participation and protection of the rights of Indigenous people and local communities.

5. Leticia Pact: Signed by Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, and Suriname in September 2019 it outlines a coordinated response to the alarming rates of deforestation and wildfires at the Amazon, recognizing its global's crucial role in biodiversity conservation, freshwater provision and climate regulation.
6. The Coordinator of Indigenous Organizations of the Amazon Basin (COICA): Founded in 1984, it represents the interests of Indigenous Peoples living in the Amazon Basin. It is the coordination body advocating for the rights and territories of Indigenous communities across the Amazon Basin.

At International level

1. Convention on the protection of world, cultural, and natural heritage: An international treaty established in 1972 to preserve natural and cultural heritage sites of global significance. Its primary goals are nature conservation and the preservation of cultural properties. The convention outlines the responsibilities of signatory countries to identify, protect, conserve, present, and transmit to future generations the cultural and natural heritage of their territories. In relation to the Amazon, the application of this convention is significant. The Amazon, known for its unparalleled biodiversity and cultural heritage, could greatly benefit from the protective measures outlined in the convention. Signatory countries within the Amazon basin are tasked with identifying potential World Heritage sites within the Amazon and implementing measures for their preservation. This includes managing threats to these sites, such as deforestation, illegal mining, and habitat destruction, and ensuring their conservation for future generations.
2. The Convention on Biological Diversity (CBD): It is a comprehensive international agreement focused on conserving biodiversity, using biological resources sustainably, and sharing the benefits arising from genetic resources equitably; its operation was developed in Rio de Janeiro since 1992. It provides a framework for action and cooperation, including the identification and protection of significant ecosystems and species, sustainable use of biological resources, and equitable sharing of benefits from genetic resources. In the context of the Amazon rainforest, the CBD has particular relevance to Biodiversity Conservation, The Amazon is one of the most biodiverse places on Earth, with over 3 million species and about 16,000 tree species. The CBD's emphasis on biodiversity conservation is crucial for protecting this unique ecosystem. Also, this agreement involves addressing threats from Human Activities. The Amazon faces significant threats from human activities such as deforestation, mining, and large-scale agricultural expansion. These activities lead to habitat destruction and biodiversity loss. The CBD's focus on sustainable use and conservation can help address these challenges by promoting practices that are environmentally friendly and respectful of the rainforest's ecological integrity.

Finally, it also addresses International Cooperation and Shared Responsibility, this framework encourages cooperation among countries and recognizes the shared responsibility for conserving and sustainably using biodiversity. This is particularly important for the Amazon, which spans multiple countries, making collaborative international efforts essential for its protection.

3. United Nations Framework Convention on Climate Change (UNFCCC): Adopted in New York on May 9th, 1992, and opened for signature on June 4, 1992, in Rio de Janeiro, focuses on global awareness and action against climate change. It entered into force on March 21st, 1994, with 197 countries ratifying it. A key addition to this treaty was the Kyoto Protocol in 1997, which introduced more stringent, legally binding measures. The Convention's main objective is to stabilize greenhouse gas concentrations in the atmosphere at a level that prevents dangerous human interference with the climate system, allowing ecosystems to adapt naturally to climate change, ensuring food production is not threatened, and enabling sustainable economic development. In the context of the Amazon rainforest, the UNFCCC's goals are crucial, as the Amazon plays a vital role in regulating the global climate. Efforts to stabilize greenhouse gas concentrations directly contribute to protecting and preserving the Amazon. The Convention's framework encourages international cooperation, which is vital given the transnational nature of the Amazon and its importance in global climate regulation.

In the past, the forest acted as a significant carbon sink, absorbing large amounts of CO2. Unfortunately, this is no longer the case. The forest in the southeastern Amazon has turned into a carbon source. The net carbon is positive for more than 10 years due to deforestation, degradation and wildfires.

4. Paris Agreement: An international treaty adopted in Paris in December 2015, aims to reduce emissions of gasses contributing to global warming, building upon and replacing the Kyoto Protocol. As of January 2021, it has been signed by 195 countries (all Amazon basin countries). A notable aspect of the Paris Agreement is its recognition of the importance of forests in climate action. The inclusion of REDD+ (Reducing Emissions from Deforestation and Forest Degradation) in the Agreement highlights the critical role of forest conservation and restoration as part of the global climate strategy. REDD+ aims to cut emissions by providing financial incentives to reduce deforestation and forest degradation, promote forest conservation and sustainable management, and enhance forest carbon stocks in developing countries. The Amazon, a major carbon sink, is crucial in this regard. Its protection can significantly reduce global emissions, considering that deforestation accounts for about 10-12% of annual carbon emissions worldwide. In this regard, it is important to mention that at COP26 at the end of 2021 in Glasgow, Scotland, parties agreed on not letting the temperature exceed 1.5 C of warming. For that, 43% of GHG emissions reduction by 2030 and net zero by 2050. Also, more than 130 countries agreed to get to zero deforestation by 2030. Not all Amazonian countries signed that agreement.

5. International Labor Organization Convention 169: This Convention started in 1989; not signed by Suriname and Guyana. It is a significant international convention focused on the rights of Indigenous and Tribal Peoples. It serves as the primary binding international law in this area, being a precursor to the Declaration on the Rights of Indigenous Peoples. The Convention emphasizes the rights of Indigenous and Tribal Peoples to maintain their cultural and political independence, disallowing integrationist and assimilationist approaches by governments. For the Amazon, where numerous Indigenous communities reside, ILO Convention 169 is particularly relevant. It ensures the protection of their rights, traditions, and lands, which is essential in the face of challenges like deforestation, mining, and climate change. The Convention's emphasis on respecting and maintaining the sovereignty and cultural integrity of Indigenous Peoples supports their role as stewards of the Amazon, contributing to its preservation and sustainable management.

6. Declaration of Rights of Indigenous Peoples: Adopted by the United Nations General Assembly in 2007, is a pivotal instrument in international law and policy that outlines the rights of Indigenous Peoples. It is recognized as the most comprehensive document detailing these rights, setting minimum standards for their recognition, protection, and promotion. Central to its provisions is the affirmation of indigenous peoples' rights to the lands, territories, and resources they have traditionally owned, occupied, or otherwise used or acquired. This aspect is crucial for the protection of regions like the Amazon, where Indigenous sovereignty over their ancestral lands is paramount.

7. Universal Declaration of Human Rights: It indirectly contributes to the protection of the Amazon through its foundational human rights principles. It emphasizes the importance of a healthy environment as a component of human dignity, health, and well-being, which can extend to environmental rights. The rights of Indigenous Peoples, who are crucial to the Amazon's conservation, are supported by this declaration on the commitment to equality and non-discrimination. Additionally, this declaration serves as an advocacy tool for public participation in decision-making and reinforces community involvement in Amazon conservation. Furthermore, the right to life and security is linked to environmental protection, highlighting the global and local impacts of the Amazon's degradation.

8. United Nations General Assembly's resolution A/76/L.75, recognizing access to a clean, healthy, and sustainable environment as a universal human right: It has profound implications for the protection of the Amazon Rainforest. This resolution, adopted with significant support, urges states, international organizations, and businesses to enhance efforts to ensure a healthy environment for all. It aims to reduce environmental injustices, protect vulnerable groups, and empower people, including Indigenous populations crucial to the Amazon's ecosystem. Recognizing the detrimental impact of climate change, unsustainable resource use, and pollution on human rights, this resolution underscores the interconnectedness of environmental health and human rights, thereby strengthening the global commitment to preserving vital ecosystems like the Amazon.

9. The Sustainable Development Goals: These goals are crucial for the protection of the Amazon Rainforest. Additionally, there is a significant gap in achieving the 17 SDGs across the Amazon Basin, which can in turn have a significant positive impact not only in the Amazon Basin region but in the world. Furthermore, the Amazon contributes to key goals such Good health and wellbeing (Goal 3) as protecting the forest, zeroing deforestation, degradation and fire improves greatly the health of all Amazonian populations and even population living outside of the Basin. It also reduces the great risk of epidemics and pandemics. Furthermore, Climate Action (Goal 13) and Life on Land (Goal 15) directly related to the Amazon's role in carbon sequestration and biodiversity preservation. The Amazon's vast waterways support Clean Water and Sanitation (Goal 6) and Life Below Water (Goal 14). Additionally, sustainable Amazon management contributes to No Poverty (Goal 1) and Zero Hunger (Goal 2) by supporting local livelihoods and food security. Responsible Consumption and Production (Goal 12) emphasizes sustainable resource use in the region. Peace, Justice, and Strong Institutions (Goal 16) and Partnerships for the Goals (Goal 17) highlight the need for effective governance and collaborative conservation efforts. Therefore, the SDGs provide a comprehensive framework for Amazon's preservation, linking environmental health to global sustainability and community well-being.

10. Policy Recommendations

Building on the existing legal framework at the national and international level, we provide the following policy recommendations to be addressed both at the Andean Parliament and its member states.

At the Andean Parliament:

1. Call for a cohesive and coherent common regulatory framework for the conservation of the Amazon, aiming to harmonize existing legislation to address the root causes of deforestation,degradation, and wildfires, under a multi-stakeholder participatory process.
2. Call the Andean Parliament member states for a United Nations Resolution to urge the international community for the conservation of the Amazon, calling states, academia, international organizations, non-governmental organizations, civil society, businesses, and other relevant organizations, for the mobilization of technical and financial resources for the conservation of the Amazon.
3. Call for international financial mobilization and the development of private and public partnerships. This effort is essential to facilitate and maintain various critical initiatives. These initiatives include restoration efforts, conservation activities, forest management, the establishment of sustainable value chains for a socio-bioeconomy of healthy standing forests and flowing rivers, and the implementation of payment schemes for ecosystem services. Additionally, substantial investment in education, science, technology, and innovation is crucial to support these endeavors and ensure the sustainable development of the Amazon. This call to action underscores the need for ambitious and collaborative financial strategies to address the unique challenges faced by Amazon.

The regulatory framework recommended in point 1 should address the following actions for the Andean Parliament:

- Significance for the World: Recognizing the Amazon's pivotal role in regional and global hydroclimate regulation, integrating strategies for carbon sequestration and emission reduction, and the maintenance of evaporative cooling as a fundamental new ecosystem service from forests. In addition to its important global role in cooling, water recycling and aerial rivers that are fundamental ecosystems services to be highly valued as well.
- Acknowledge the Emergency: Declaring the Amazon Basin in an emergency, driving the discussion for the conservation of the Amazon Basin at the national, regional, and international environmental discussions, highlighting its role in global ecobiological balance and the catastrophic impact that its disappearance could produce to the world.

- A Vision for the Amazon: Developing a Living Amazon Vision aligned with the United Nations Sustainable Development Goals, with the broad participation of all stakeholders involved, with an emphasis on Indigenous Peoples and Local Communities. The Living Amazon Vision should provide an alternative development vision for the region that includes a new socio-bioeconomy of healthy standing forests and flowing rivers, it is adapted to the Amazon reality, improves the living conditions in the Amazon, strengths markets for socio-biodiversity products, and promotes the expansion of investments in education, science and technology in the region of academic science.
- Indigenous Rights: Recognizing the role of Indigenous Peoples, Afro-descendants and Local and riverine Communities in the protection of the Amazon, ensuring their land rights, and celebrating its historical knowledge, facilitating and guaranteeing its active participation in decision-making processes, and merging their knowledge with science to produce technological innovations for a sustainable Amazon.
- A new socio-bioeconomy of healthy standing forests and flowing rivers must be adapted to the Amazon reality, improving the living conditions in the Amazon, strengthening markets for socio-biodiversity products, and promoting the expansion of investments in science and technology in the region of academic science.

The framework should address the following actions at the national level:

- Sustainable land use and forests management: Promoting sustainable production practices that balance ecological and socio-economic aspects, regulating facilitating implementation through financial support to forestry, agroforestry, regenerative livestock farming, and regenerative agricultural practices.
- Biodiversity Conservation: Implementing comprehensive measures to safeguard endangered species and their habitats, aiming to preserve the rich biodiversity of the Amazon. This includes establishing protected areas, enforcing laws against poaching and illegal trade, and promoting conservation efforts. It involves collaboration from both local communities and international partners to ensure the effective management and recovery of vulnerable ecosystems. Additionally, this effort should include monitoring and research to inform conservation strategies, engaging Indigenous communities in stewardship roles, and securing financial support from governmental, non-governmental, and international sources dedicated to preserving biodiversity for future generations.

- Restore Degraded Areas: Ensuring Effective restoration and remediation must focus on priority areas where multiple ecosystem services are maximized to a wide range of stakeholders across rural and urban networks. In this context, successful restoration needs to benefit local people, including restoring sustainable and socially just economic activities. Therefore, restoring and rehabilitating abandoned and unproductive agricultural lands must be a priority, including giving scale to Agroforestry Systems in large-scale restoration policies.
- Follow-up and review mechanisms: Integrating National systems into the regional system for monitoring the Amazon and the effectiveness of conservation efforts, facilitating transparency and accountability.
- Control of Illegal Activities: Surveilling law enforcement mechanisms that guarantee controlling illegal mining, selective logging, land grabbing and titling, and other illicit activities, including threats to Indigenous communities and environmental defenders.
- Combat organized crime: *Implementing* local strategies that aim to dismantle organized crime networks that threaten the Amazon's ecosystems. This includes developing cross-border cooperation and intelligence gathering and sharing among Andean Parliament member states to effectively target and disrupt operations involved in illegal activities.

The Andean Parliament Amazon Report presents policy recommendations for the Andean Parliament member states at national level:

1. Committing to achieve zero deforestation and preventing further ecosystem degradation is imperative. If deforestation and forest degradation combined exceed the 20-25 percent threshold, it could translate into the dieback of up to 70% of the entire ecosystem. To meet this critical goal, the utmost priority is to promptly implement a comprehensive and immediate moratorium on deforestation,ecosystem degradation, and wildfires in regions that are on the brink of reaching a tipping point.
2. *Adhering* and enforcing the application of OTCA resolutions at the national and Amazon region level, especially the Belem Declaration that provides a roadmap for actions for governments.
3. *E*nforcing law in Protected Areas, ensuring the allocation of funds and available resources for law enforcement activities.
4. *Protecting* Indigenous Territories, demanding full recognition of territories and collective rights, and the strengthening of local governance.

5. Restoring terrestrial and aquatic ecosystems and remediating forest cover and aquatic ecosystems is essential to preserve the Amazon's resilience to climate change and conserve bio- and cultural diversity. It goes beyond natural ecosystems to include the recovery of socially just economic activities in deforested lands.
6. Implementing real-time Monitoring: Establish a system for near-real-time monitoring of forest loss, degradation, and wildfires using advanced technology and satellite data for all of the Amazon. Combine this with on-the-ground enforcement to swiftly address illegal activities and violations.
7. Engaging local communities. Indigenous Peoples and Local Communities have shown they can manage their territories sustainably, participating in socio-economic activities that bolster forest resilience. They are also at the forefront of creating sustainable value chains for Amazon forest products. This approach offers opportunities for sustainable development and adding value to the forest products through bioindustrialization.
8. Implementing mechanisms that financially reward reductions in deforestation and degradation can enhance biodiversity conservation and ecosystem services, while also generating widespread economic opportunities. These mechanisms include payments for environmental services, the use of environmental reserve quotas, and the development of ecotourism, as well as the promotion and development of a strong bio-economy based upon the extraordinary biodiversity of the Amazon River basin.
9. Developing integrated fiscal and financial incentives to promote private sector engagement in sustainable practices, focusing on innovation and sustainable value chains, enhancing supply chain transparency to ensure accountability and traceability from production to consumption. Building from the socio-bioeconomy concept, valuing standing forests and flowing rivers for their ecological, social, and economic benefits harmonizing a policy framework that aligns economic development with environmental conservation in the Amazon.
10. Supporting Green Job Creation: Foster the creation of green jobs, provide capacity-building opportunities, and incentivize local entrepreneurship to promote sustainable economic growth.
11. Investing in Sustainable Infrastructure: Allocate resources for the development of sustainable infrastructure in rural, urban, and peri-urban areas to support eco-friendly practices. Transitioning to a knowledge-based economy also needs sustainable infrastructure, new markets, changes in social preferences, and cultural changes in the vision regarding forest socio-biodiversity.

12. Promoting Regional Cooperation: Encourage collaboration and coordination among Amazon countries to facilitate collective efforts towards achieving these goals. It is critical to accommodate and harmonize transregional and transnational policies to protect neighbor biomes since they are crucial for regional ecological integrity.
13. Scaling up intercultural education, strengthening platforms for dialogue that facilitate the integration of academic knowledge with Indigenous and Local Knowledge, and ensuring that proper credit is attributed to Indigenous Populations and Local Communities.
14. Providing direct funding and capacity building for Indigenous Peoples and Local Communities and organizations, to contribute with the necessary resources to continue the conservation actions.

11. Conclusion

The Amazon Basin stands at a critical juncture, facing threats that jeopardize its ecological integrity, biodiversity, and global climate regulatory functions. The collective insights gathered from the Andean Parliament Amazon Report underscore the urgent necessity for integrated, proactive measures to safeguard this irreplaceable ecosystem. The conclusion of this comprehensive analysis crystallizes around several pivotal themes, emphasizing the need for immediate, coordinated action to avert an ecological catastrophe.

Firstly, the preservation of the Amazon Basin should address regional action complemented by global mobilization. The Amazon's unparalleled biodiversity, its role in freshwater provision, and its contribution to climate stability are invaluable assets that underpin the health of our planet. The report highlights the dire consequences of continued environmental degradation, not just for the local flora, fauna, and Indigenous communities, but for the global community. The risk of crossing a tipping point, which could see the Amazon transform into a degraded, open-canopy savannah-like ecosystem, underscores the urgency of reversing deforestation trends and ecological degradation.

Secondly, the report champions the rights and traditional knowledge of Indigenous Peoples and local communities, recognizing them as essential stewards of the Amazon. Their knowledge, practices, and sustainable management practices and strategies are critical for the conservation and restoration of the Amazon. Ensuring their land rights, participating in decision-making processes, and integrating of their traditional knowledge into conservation strategies are fundamental steps towards achieving ecological sustainability.

Furthermore, the development of a sustainable socio-bioeconomy, rooted in the valuation of standing forests and flowing rivers, emerges as a vital strategy for the Amazon's future. This approach offers a path toward economic development that harmonizes with the preservation of biodiversity and ecological services, providing livelihoods that respect the forest's ecological boundaries.

The call for a cohesive and coherent framework highlights the necessity for collaboration across Amazonian countries and beyond. This includes enforcing existing environmental protections, enhancing monitoring and accountability mechanisms, and fostering international partnerships to support conservation efforts.

In conclusion, the Amazon Basin's preservation requires a paradigm shift towards a model that values ecological integrity, respects Indigenous rights, and promotes sustainable development. The time for action is now; failure to act decisively risks not only the loss of this majestic ecosystem but the exacerbation of global climate challenges. Through this report the Andean Parliament member countries must step in along with international actors, ensuring that the Amazon remains a vibrant, life-sustaining force for all of us and generations to come.

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