Forum: *United Nations Environment Programme (UNEP)*

Issue: *Addressing deforestation in the Amazon rainforest*

Student Officer: *Esther Duann*

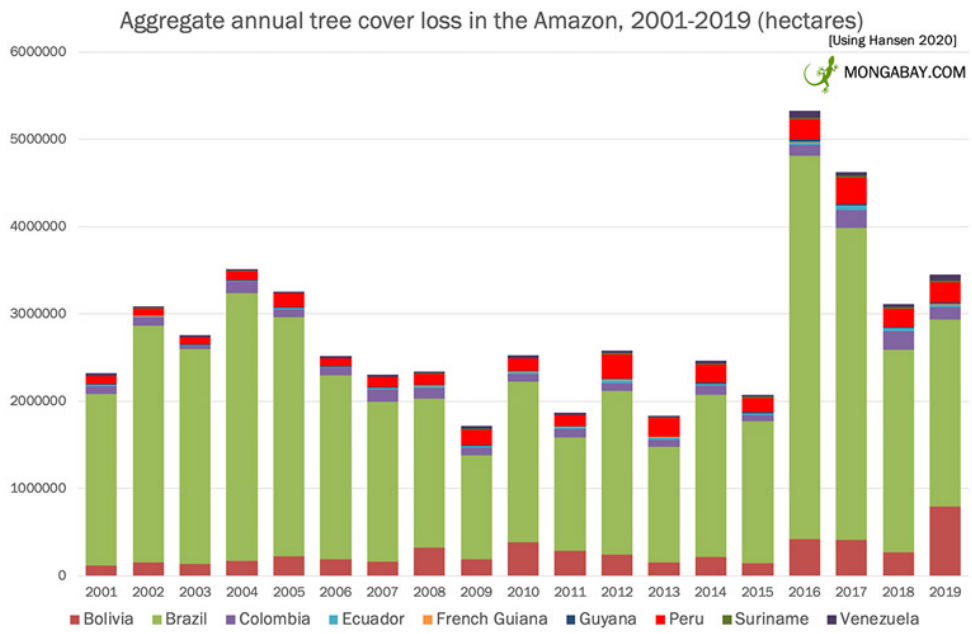
Position: *Head Chair*

Introduction

The recent UN Climate Change Conference in Glasgow (COP26) features over 100 world leaders committed to numerous environmental challenges faced by contemporary society. Among the plethora of promises made, one specific target symbolized member states' unprecedented ambition: end all forms of deforestation by 2030. By far the largest rainforest on Earth, the Amazon stretches across nine countries with a size of 6.9 million square kilometers, equivalent to twice the size of India. Known for its rich ecosystem and vibrant biodiversity, Amazon is also home to more than 3 million species, including 16 thousand trees, 2.5 million insects, and 430 mammals species. In addition, it also provides for the livelihoods of some 250 million forest inhabitants, including over 400 indigenous tribes and hunter-gatherer communities, all with unique cultural identities and indispensable wisdom for forest management. Although such rainforests cover a mere 2% of Earth's surface, it is vital in producing 20% of the world's oxygen. By absorbing large amounts of carbon emissions – almost 2 billion tons annually – the Amazon rainforest constitutes one of the most oversized carbon sinks worldwide. Especially under the peak surge of carbon emission in the last decade, the ecosystem service that Amazon performs becomes paramount for maintaining environmental stability.

However, such a vital element in the global ecosystem is disappearing at an alarming rate. From 2002 to 2014, there is indeed a downward trend in the deforestation rate credited to the Brazilian government's efforts. Nonetheless, the status quo takes a sharp turn as the destruction rate surged in 2019, marking the peak rate of 3,769 square miles in a sole 12-month period. Primary drivers behind deforestation tendency are forestry practices, agribusinesses, and livestock ranching. Even non-artificial causes such as wildfires and forest die-off can often be indirectly attributed to human activities such as clearing forests through burning. When a tree covers die-off in masses, carbon compounds that were initially stored within it get released into the air. In November 2021, the once effective carbon sink became a carbon source, producing positive net carbon emissions for the first time in observed history. The Intergovernmental Panel for Climate Change (IPCC) projected that the Amazon will reach a tipping

point – or a threshold of destruction where recovery becomes nearly impossible – once it is 20-25% deforested. Nonetheless, many actors from both public and the private sectors contributed efforts to combat deforestation. These previous attempts primarily surrounded international agreements and incentivizing product responsibility. Still, changing governance and other socio-economic issues often disrupted anti-deforestation efforts, as forest preservation was often deemed as less of a priority than other developmental agendas. Considering the complexity of such an issue, all delegates are encouraged to think creatively for solutions while keeping in mind the interest of both developing and developed countries.



Caption #1: This graph depicts the aggregate annual tree cover loss in the Amazon rainforest from 2001 to 2019

Definition of Key Terms

Deforestation

Deforestation refers to the loss of forest areas due to both natural and artificial causes. Diseases, parasites, and forest fires are some of the common drivers for natural deforestation. Human activities can also accelerate the scale of deforestation, primarily through agricultural farming and urbanization.

Biodiversity

Biodiversity refers to the variability, or the dynamics of evolutionary traits, of the species in a particular ecosystem. The species indicated here includes all living organisms, namely bacteria, plants,

and animals. Today, around 8.7 million species of flora and fauna bloom on earth, with all of them having a distinct physiological composition that contributes to the planet's biodiversity.

Carbon sink

A carbon sink usually refers to natural mechanisms that take in more carbon dioxide than it releases. Currently, the planet's most effective natural carbon sink includes the workings of forests, the ocean, soil, and the atmosphere. Note that artificial carbon sinks have also undergone significant development processes in recent decades, with technology such as carbon capture increasingly put to use. In contrast, the term "carbon source" refers to the exact opposite, namely anything that produces more carbon outflow than inflow.

Climate tipping point

For certain ecosystems, a small change in temperature patterns or carbon concentration can lead to drastic and irreversible transformation. This concept is known as the "tipping point," where a system completely changes and casts a domino effect on its surrounding ecosystems. Instead of slowly worsening effects such as the melting of glaciers, the passing of these landmark tipping points – such as the dieback of the Amazon rainforest and the disintegration of the West Antarctic Ice Sheet – can bring once the ecosystem was pushed to its threshold. Two decades ago, the Intergovernmental Panel for Climate Change (IPCC) first introduced the idea of climate tipping points; in a recent report, tipping points were again mentioned with more details, noting that said points can easily be exceeded with a mere 1 or 2 degrees of temperature increase.

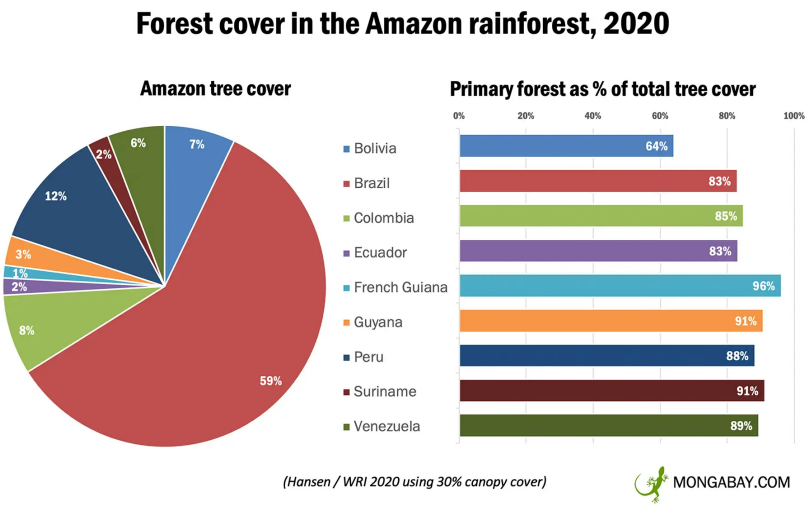
Background Information

Covering 30% of the world's area, forests around the world perform vital ecosystem functions and sustain the life of many, both humans and animals. However, forests are vanishing at an increasing, alarming rate. The world has lost over 420 million hectares of forest since the 1990s. In 2019, the deforestation rate will rise rapidly to 3.8 million hectares per year; in other words, the rate is equivalent to losing the forest area of a football court every six seconds. In particular, over 17% of the Amazon rainforest had disappeared during the past fifty years. Conservation organizations further warned that such a rate can reach a new height this year, resulting in 21% of Amazonian forest cover – the size of Israel – vanishing from the earth.

History

Prior to the 20th century, deforestation in Amazon is mostly a result of small farmers clearing

forests for plantations and livestock ranching. Large-scale deforestation started to occur in the latter part of the 20th century, where industrialized plantations and mass forest clearing were enabled by advancements in technology. In the 2000s, over 3 quarters of the forest cleared in the Amazon was for the purpose of grazing. Still, a period of reduced deforestation activities in Brazil proved that anti-deforestation efforts can be effective. Between 2004 and 2012, the annual deforestation rate declined by almost 80%, primarily due to government efforts such as establishing protection zones, developing satellite monitoring systems, and strengthening law enforcement. However, there has been a reversal to such a trend ever since the rise to power of Jair Bolsonaro, who campaigned successfully through promising the development of Amazon forest in favor of economic interests. Since then, the deforestation rate in Brazil surged sharply, reaching unprecedented levels of destruction.



Caption #2: A diagram showing the distribution of Amazon forest cover in various countries

Key Issues

Cause of deforestation

Long under the spotlight of international attention, the issue of deforestation largely remained as an unsolved environmental dilemma. This is primarily due to the economics and political interest entangled behind such rich natural resources. More than half of the drive behind Amazon deforestation comes from the need for mining, farming, and grazing. Wild forests and other forestry practices constitute the rest, with urbanization being another cause of deforestation that emerged in recent years.

Cattle ranching

Cattle ranching refers to the act of converting forest areas to pasture land for grazing purposes. The widespread development of the cattle ranching industry in Amazon countries

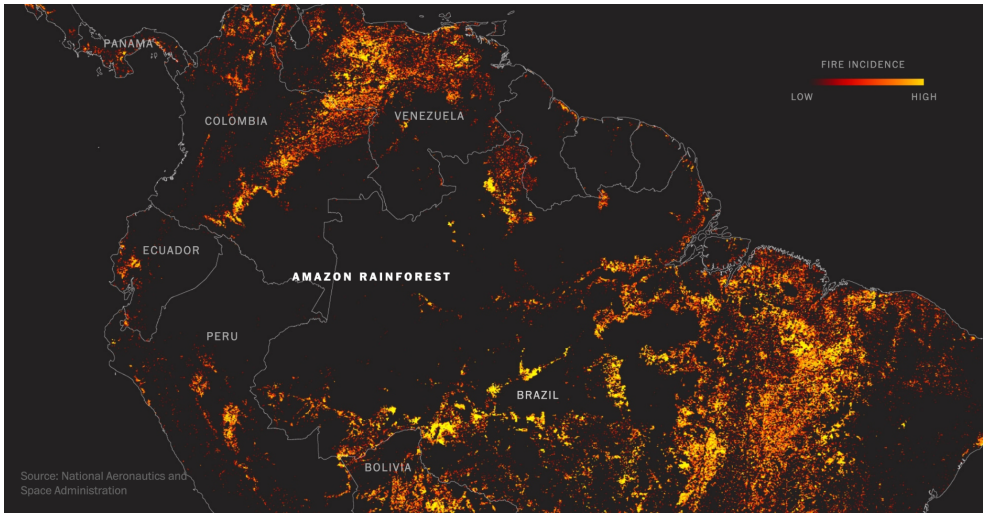
constitutes one of the most deciding factors for forest destruction. Being a marketable liquid asset with little to no requirement for capital, cattle has become a popular choice for low-cost investment since the 1960s. Another incentive for developing cattle ranching is land speculation. In many parts of the Amazon rainforest, cleared, pastured land can be sold at a much higher price than densely forested ones. Under the condition that land price exceeds inflation, land speculators look to cattle ranching as an investment to generate more pasture lands. Not only does cattle ranching incentivize forest conversion, but the industry also generates large amounts of greenhouse gasses. The cattle-ranching industry alone accounts for 3.4% of global carbon emissions every year, an equivalent of 340 million tons of carbon going into the atmosphere. At the same time, Amazon countries are some of the most considerable exporters of beef. Brazil, for instance, is a major exporter of beef products to countries such as China and the US and exports 1.82 million tons of beef to its importers annually. Since 2019, there have been multiple allegations linking major Brazilian meat companies to illegal deforestation practices. One of the world's largest meat producers, JBS, is a company based in and obtains its supply from Brazil. The company had been accused of acquiring raw materials from farms built on illegally converted land. The same situation applies to other primary meat producers: companies claimed that it is simply unfeasible to eliminate elements of deforestation out of products, as they are unable to monitor every branch of "indirect suppliers," or small farm holders in the supply chain that are too far of a reach for the company. All told, the vast economic incentive behind cattle ranching – especially for developing countries – remains as the primary obstacle behind conservation efforts.

Caption #3: To allow lands for grazing, ranchers often intentionally set fire on the forest as a way to efficiently convert it into pasture lands.

Wildfires

Forest wildfire is an innately natural phenomenon that follows seasonal patterns. The El Niño conditions, a seasonal fluctuation that resulted in higher temperature and droughts, often pose a threat of burning for the Amazon forests. Nevertheless, forest evolved mechanisms to cope with wildfires; for instance, the Amazon rainforest has a high level of moisture, which serves as a natural buffer zone to restrain wildfires. Nonetheless, human activities in recent years have exacerbated the intensity of forest wildfires to a degree where nature can no longer bear its burden. When forest areas were cleared for grazing or other agricultural purposes, the land becomes drier as it loses the protection of forest humidity. Even worse, forest ranchers often intentionally start fires in order to efficiently clear lands. Coupled with the effects of temperature rise in recent years, the Amazonian lands are significantly more susceptible to burning. In the map below, one can see that wildfire intensified on the outer edge of the rainforest where deforested lands are more susceptible to burning.

In 2019, a surge of unprecedented wildfires raged throughout the forest, especially the forest cover in Brazil. In August alone, Brazil's National Institute for Space Research (INPE) observed more than 80,000 fires, a near 80% increase compared to the numbers of fires that occurred during the same month in 2018. Despite the increased risk of burning brought upon by seasonal fluctuations (the month around August and September is known as the "dry season"), large-scale wildfire is not a natural phenomenon. The situation only deescalated after President Bolsonaro imposed a 60-day ban on using fire to clear forests in September. Under international pressure, Bolsonaro deployed the military to six states in an attempt to stop the fires; neighboring countries such as Bolivia also developed aerial responses by using planes to douse flames. Despite these efforts, the 2019 wildfires seemed to further magnify the infrastructural problem of fire response in the Amazon. Out of the 778 municipalities in the Amazon, only a little over 100 of them have fire departments. The lack of a forest fire protection system implies that it is structurally difficult for any government to efficiently respond to burning crises.



#Caption 4: This map shows the fire incidence that happen in Amazon in 2019

Agricultural plantation

In the last decade, the production of "high-risk commodities" – or goods whose production process involves risk of deforestation, environmental harm, or human rights abuse – has risen significantly. Large corporations are often linked to these illegal plantations, either indirectly through supply chains or establishing underground connections with illegal farms. Brazil, for instance, is the world's biggest exporter of soya beans. The area designated for soy plantations expanded by 45% since 2010; in the state of Mato Grosso, one of the largest soy-producing hubs of the country, plantations had already dissipated 40% of the Amazon cover. In May this year, three of the largest soy producers in the country, Bunge, Cofco, and Cargill, were found buying soybeans from farms with deforestation charges. The investigation once again brought upon the issue of companies circumventing government regulations and conducting trade with illegal plantation owners. In other words, soya beans that are linked to deforestation can easily enter the global supply chain with little to no barriers. In reality, not only does agricultural plantation pose a threat to the Amazon rainforest, the effects of deforestation can backfire and cast negative consequences on agricultural industries. For one, a dryer temperature can reduce rainfall, leading to droughts and harvest failure. The abnormal pattern of rainfall can also affect soil moisture, leading to a reduction in yield.

Effects of deforestation

Biodiversity loss

Home to more than 3 million species and 2,500 tree species, the Amazon rainforest is one of the most biologically-diverse ecosystems on earth. Yet this vibrant ecosystem is currently

encroached by a plethora of human activities and in danger of losing its biological resilience. All over the world, the survival of over 1 million species is currently jeopardized by human-induced activities, according to a recent report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). This rate of extinction has grown exponentially in the past four decades. First and foremost, illegal logging posed a direct threat to the outer forest cover by destroying species' habitats. After converting rainforests into industrialized plantations, crop producers usually cultivate plants with little biodiversity. This phenomenon is called agricultural "monoculture," in which large plantations are used to produce a single crop – such as soybean, cotton, or palm trees – resulting in a low genetic diversity, vulnerability to environmental changes, and exploitation of soil nutrition. Additionally, the pesticides used to sustain these plantations often leak into the wider habitat and further pollute the surrounding soil and water. Logging and agricultural activities also imply a need for transportation. Roads, bridges, power, and other transport networks were built to sustain economic activities at the expense of native inhabitants. In the Brazilian state of Pará, BR 163 is a controversial highway project that induces deforestation and reaps through the habitats of endangered species. Power-generating infrastructure, like hydropower dams, also caused disturbance to local species and water contamination.

Climate change and climate tipping point

A special report written by the Intergovernmental Panel for Climate Change states that "it is unequivocal that human influence has warmed the atmosphere, ocean, and land." Published on August 9th, the 42-page document part of the UN's Sixth Assessment Report shocked the world with its blunt wording. The scientific community is now certain that human-induced climate change is encroaching rapidly on all aspects of life. In the report, the committee further coined the term "climate tipping point" to describe a degree of environmental destruction where damages become irreversible. When nearing the tipping point, even a minuscule change in the Earth's ecosystem can lead to drastic consequences. Rainforest die-off is a primary example of the climate tipping point: logging and burning rainforests release mass amounts of carbon dioxide into the atmosphere, triggering instability in the intricate global ecosystem. As of now, the Amazon rainforest is about 15-17% deforested. Scientists projected that it will only take up to 20 years – or 25% deforested – before the system reaches its maximum capacity of self-recovery and distorts to chaotic annihilation. The threat of overcrossing tipping point is particularly __ in the southeastern part of the Amazon. During the last four decades, the temperature during the dry season (August to September) had increased by 3.21 degrees celsius in accordance with the global trend of warming. As with natural seasonal fluctuations, trees lose leaves and reduce

photosynthesis due to the heat; followed by the temperature increase, the forest can lose its foliage and die off completely.

Effects on indigenous livelihoods

Over 320,000 years ago, a plethora of indigenous tribes dominated the Amazon rainforest. Since then, they've acquired skills and knowledge to sustainably manage while coexisting with the forest. Today, about 305 tribes inhabit Brazil alone, constituting a total indigenous population of 900,000. Tribes such as the Yanomami and Guarani are among some of the largest indigenous tribes, occupying up to 10 million hectares of land in the Northern Amazon. Other smaller tribes and hunter-gatherer groups scattered across the outer edge of the Amazon basin, migrate seasonally in search of game. Amazon is also the world's largest home to "uncontacted peoples," or indigenous communities that lack sustained connection with the outside communities and are self-sufficient. Over 100 of such communities reside deep in the Amazon forest as of today.

Nonetheless, indigenous communities and other kinds of native inhabitants alike are currently facing unprecedented challenges. The growing speed of urbanization put the indigenous communities in direct contact with the outside world. Many were forced to replace traditional cultural values with sedentary ones, or even stratified into conventional peasant life. Even worse, being displaced from a land implies not only livelihood loss but also identity disconnection. Illegal deforestation and habitat conversion for agricultural practices constitute the main driver behind indigenous displacement. For instance, the development of cacao plantations in the Ucayali and Loreto region – indigenous habitats in Peru – had shrunk habitable lands and pushed numerous indigenous tribes inward, causing intra-tribe violence. In this case, governmental intervention became the sole yet unstable protector of indigenous communities and their land rights. The Javari indigenous area, for instance, was a designated protected area under the Brazilian government for decades. Yet political reforms under the right-wing leader Jair Bolsonaro reversed such policies by reducing the budget for the indigenous affair agency and relaxing on land rights violations fines. In addition, Bolsonaro's urge for the development of Amazon resources had emboldened illegal logging and mining, further accelerating the rate of deforestation.

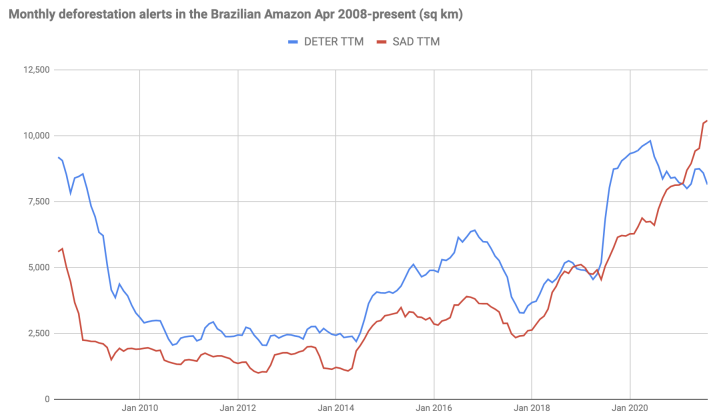
Major Parties Involved and Their Views

Brazil

Under Bolsonaro's administration, the Brazilian rainforest underwent unprecedented deforestation. From 2009 to 2018, the average rate of deforestation is 6,500 square kilometers per year; during the first two years of Bolsanaro's term, the average rate climbed to 10,500 square kilometers,

reaching a 12-year high. Since being in power, the administration has been cutting budgets for law enforcement and relaxing on fines for deforestation crimes. Though what environmentalists called “legalizing illegal land claims” – in other terms, making past deforestation legal through the annulling of relevant forestry laws – the Brazilian government was accused of indirectly stimulating deforestation. Bolsonaro administration’s connection with the agribusiness sector, namely the large landowners and producers of soy, minerals, and beef, served as obstacles in implementing the environmental agenda. The rise of União Democrática Ruralista (UDR), known as the "ruralists," was one of the major lobbyist associations behind a number of political reforms that resulted in shrinking protected areas, mandated harmful agrochemicals, and pardoned violations of forest laws.

In his speech at the opening of the 74th General Assembly, Bolsonaro made a statement that “any initiative for assistance or support to the preservation of the Amazon Rainforest or any other biomes must be conducted in full respect to Brazilian sovereignty,” foreshadowing his unyielding diplomatic attitude toward foreign intervention. A year later, he again commented on the issue of deforestation in a General Assembly speech, infamously found saying that “fire outbreaks tend to occur virtually at the same places, in the eastern surroundings of the forest, where Brazilians of indigenous ancestry burn their farmlands in search of livelihood in already cleared areas.” Indirectly putting the blame of deforestation on indigenous populations obviously enraged activists and local inhabitants alike, who demanded him to retract such a statement and implement actual measures to alleviate the forest exploitation.



#Caption 5: A graph showing the monthly deforestation alerts from 2010 to 2020 in Brazil

Bolivia

As another major holder of the Amazon rainforest, Bolivia suffered from illegal deforestation and lowland degradation similar to its neighbor, Brazil. Over the past decade, Bolivia had lost a total of 6.11 hectares of forest cover, an equivalent of 2,67 Gt of carbon dioxide emissions. The deforestation in

Bolivia can be attributed to small agricultural settlements, farming practices, and cattle-ranching. Since the 1980s, the inhabitants of Andean highlands have migrated down to the lowlands of Bolivia in search of fertile lands for farming. As a result, the land was substantially degraded from vibrant forests to industrialized farmland. The Bolivian government has been taking measures to reverse this trend; approved in 2011, legislation Ley 337 required landowners to pay fines for their past deforestation or establish "productive agriculture" to compensate for the environmental degradation. Government projections claimed that such legislation will increase agricultural production in previously deforested lands and serve as an incentive to halt new land clearing. Similar legislation such as Forestry Act 1700 also demonstrated the country's efforts to combat deforestation. However, the enforcement of such laws is generally lacking and underfunded. Without an advanced monitoring system, governance is perceived to be non-existent in the remote areas of Bolivian forests, especially those under the deep Amazonian forest cover. Additionally, the country's recent act of reducing fines for forest crimes implies that the government has less revenue to strengthen its law enforcement.

Guyana

Although mostly covered in forest, 90% of the Guyana population reside away from the forest landscape and live in the coastal regions, protecting the third-highest percentage of intact forest landscape globally. Covering a vast 85% of the country's area, its forest is home to a vibrant culture of rare species and precious minerals that remain primarily undisturbed by human activities. In 2009, Guyana made a bilateral agreement with Norway, receiving a development aid of 250 million for forest conservation purposes. This is one of the world's first working cases of REDD+ (Reducing Emissions from Deforestation and Forest degradation), in which less developed countries receive monetary payments from more developed countries for forest preservation in light of global responsibility for climate change. Within this framework, Guyana used the payments received to fund national preservation projects and keep its carbon emission low. The country is able to keep its deforestation rate low – ranging from 0.02% to 0.08% – over the past two decades, according to the figures in REDD+ Monitoring Reporting & Verification System.

Timeline of Relevant Resolutions, Treaties and Events

Date	Description of event
	Forest Code
1965	Brazil passed its first forest code, a legally binding code of conduct that requires landowners to keep 35-80% of their land untouched. Under the

	enactment of such a law, buyers of new Amazon land can only technically perform agricultural activities on 20% of the area. Nonetheless, this law had never been effectively implemented.
1992	**Establishment of the Rio Declarations** The 1992 UN Conference on Environment and Development, also known as the Earth Summit, gave rise to three landmark conventions: the UN Framework Convention for Climate Change (UNFCCC), the Convention on Biodiversity (CBD), and the Convention to Combat Desertification (CCD).
April 27th, 2017	**United Nations Strategic Plan for Forests 2017-2030** The UN Economic and Social Council (UN ECOSOC) adopted a set of Global Forest goals and 26 detailed targets for 2030. This includes increasing the current forest cover by 3%, an equivalent of 120 million hectares.
January 1st, 2019	**Jair Bolsanaro elected as President of Brazil** A candidate from the Social Liberal Party (PSL), Bolsanoro won the 2018 presidential election by 55.13% of the vote.
May – August, 2019	**Start of the dry season and large growth of wildfire occurrences** Dry season – a time period that occurred annually where rainfall decreases substantially – exacerbates the situation of wildfires in the Amazon. When the dry season began in May, the number of observed wildfires increased exponentially. This trend continued into August, in which a peak number of wildfires were observed. By mid-August, the State of Amazonas had declared a state of emergency.
August 26th, 2019	**G7 Summit negotiated emergency aid** During the 45th G7 Summit, presidents from both France and Chile lead the negotiation of a 22 million emergency aid package that will be given to Amazonian countries. Denied to accept the aid at first, Bolsonaro later claims that he accepted the aid on the condition of having autonomy over fund allocation.

September 12th, 2019	**Major funds in an attempt to stop deforestation** As the forest fire season grew increasingly out of hand, the UN General Assembly granted USD $50 million funds for Latin American countries to ameliorate forest fires and deforestation at a meeting in September 2019.
November 2nd, 2021	**World leaders in COP26 promised to end deforestation by 2030** In a major deal produced by the UN Conference on Climate Change 2021 (COP 26), more than 100 countries pledged to end deforestation worldwide by 2030. Among these countries are Brazil, China, Indonesia, and the United States.

Relevant UN Treaties and Events

- UN Declaration on the Rights of Indigenous Peoples **(A/RES/61/295)**
- United Nations Strategic Plan for Forests 2017–2030 **(A/RES/71/285)**
- The Leticia Pact **(6 September 2019)**
- The Amazon Declaration **(A/44/275)**
- Treaty for the Amazonian Cooperation **(3 July 1978)**
- New York Declaration on Forest **(23 September 2014)**

Evaluation of Previous Attempts to Resolve the Issue

In 2019, leaders of the seven Amazonian nations gathered at Leticia to sign a landmark agreement that would later be known as the Leticia Pact. The purpose of such act is to promote sustainable forest management through green innovation, data-sharing through satellite surveillance, and also the protection of indigenous land rights. In addition, the agreement calls for regional coordination through the establishment of the “Amazon Network for Natural Disaster Corporations” that will serve as an emergency response to the natural crisis. Until today, the effectiveness of the Leticia Pact remains controversial. Critics and environmentalists pointed out that despite being ambitious in setting targets, the commitments are largely immeasurable and lacking in scientific details. Moreover, root causes of deforestation such as illegal mining, cattle-ranching, and agribusiness were not being addressed formally in the pact. During its implementation, the plan was unable to garner adequate funding and lacks basic enforcement mechanisms. Changing regimes, political instability, and the newly

evolved pandemic challenges all served as complex obstacles that rolled back the priority of forest conservation.

Prominent non-profit organizations are also learning the way for market-based solutions to deforestation. Establishing certification systems to promote better forest management was put forth by organizations such as Forest Stewardship Council (FSC) and the Rainforest Alliance. The FSC, for instance, is a transnational non-profit organization that provides a voluntary certification program for forest-related products. Cork, natural latex, bamboo, and timber are some of the most common forest products for consumers. Through requesting forest inspection by an FSC-accredited agency and meeting the relevant requirement, producers can enhance product credibility while demonstrating corporate sustainability. Requirements such as but not limited to reducing logging activities, having a long-term conservation plan in place, and protecting indigenous rights are some of the principles embedded in the certification. Producers who meet the requirements will be labeled as an FSC certified product, appealing to its consumer's values while building a positive brand image. Since its establishment in 1994, the FSC has given certification to over 180 million hectares of forest cover, spread across 81 countries globally. Multistakeholder programs such as the FSC help incentivize enterprises to be more sustainability-oriented when evaluating their manufacturing process. Aside from setting certification standards, other organizations provide statistics and evaluations to enhance corporate accountability. Palm Oil Buyers Scorecard, an assessment project by the World Wildlife Fund(WWF), ranks various palm oil-producing companies on a scale of 24 points. Supplier accountability, sustainable palm oil purchasing, and on-the-ground actions are all indicators for the scoring. Through establishing transparency and garnering international attention, reports like this are often effective in creating pressure for corporations to reorient manufacturing practices.

Possible Solutions

Generating market incentives for forest conservation and creating further opportunities to develop sustainable businesses. Most deforestation activities were driven by market incentives; vice versa, the power of the market can also be a solution to drive corporations to put more emphasis on conservation and sustainability. The problem of contemporary deforestation issue can be ultimately traced back to a yearn for quick profit instead of long-term benefits. In particular, land price. Pasture or cleared land is much more valuable than forest, which explains why landholders often prefer their land cleared instead of remaining as a densely forested space. In addition, the market has also been slow in responding to the deforestation crisis: companies that produce palm oil, soybeans, and beef failed to respond to consumer demand of removing illegal suppliers from their supply chain. Although the status quo of production processes might be shown to be the profit-maximizing choice for said firms, the impacts of deforestation produce many negative externalities. By finding ways to force corporations to

"internalize the externalities," governments can regulate the production of firms so that it does not exceed the socially optimal quantity. In addition, further measures should be taken to promote the development of a sustainable forest economy in Amazon countries. The economic potential of the Amazon forest has not been fully harnessed; almost all of the products will be exported to other countries, with over half of them extracted illegally. Delegates could consider ways of transforming the economic activities in Amazon to a sustainable one while

Enforcement of forestry laws in countries such as Brazil. Up to this day, the Brazilian forestry laws lack enforcement power, emboldening illegal activities within conservation areas or indigenous reserves. A recent trend of reduced protected areas under the Brazilian administration also posed severe threats as new lands are exposed to the danger of illegal exploitation every day. In addition, law enforcement should also address illegal land-grabbing of public areas. Up to 24% of deforestation happens on native, public lands with ambiguous ownership. In terms of market regulations, restrictions on products associated with illegal deforestation should also be enforced more strictly; vice versa, government intervention should also support existing sustainable products via legislation. Regarding the already degraded/deforested lands, measures should also be taken to manage such lands sustainably. In Brazil alone, there are up to 20 million hectares of cleared land that used to be forests. In sum, delegates should focus on stopping new deforestation while revitalizing or making use of already deforested lands.

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