



United Nations Environment Programme

Junior Model UN 2018

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Director's Letter

Dear UNEP Delegates,

Welcome to the United Nations Environment Programme at JMUN 2018! My name is Amrutha Srikanth and it is my honor to serve as your Director. Joining me are my two incredibly talented staff members: Sowmya Pratipati as Chair and Alessio Tosolini as Assistant Director. We are very excited to make this committee and this conference the best experience possible.

Deforestation and Biodiversity, our topics, are wide-ranging; while deforestation is more focused on habitat destruction, biodiversity, or rather the growing lack thereof, is more general, looking at not only habitat constraints but also other natural or man-made disruptions. Both deforestation and biodiversity are very important to all nations, developing or developed, and solving them will greatly benefit the shared global environment. We look forward to your fruitful discussion and can't wait to see you all at JMUN 2018!

Sincerely,

Amrutha Srikanth, Director of UNEP

Committee Description

The UNEP (United Nations Environment Programme) is an agency of the United Nations and the leading global authority on environmental issues. It was established in Nairobi, Kenya on June 5th, 1972. The UNEP categorizes their work into seven different themes: climate change, disasters and conflicts, ecosystem management, environmental governance, chemicals and waste, resource efficiency, and environment under review. The UNEP has significantly impacted the environment through the creation of the Montreal Protocol, an agreement to ban chlorofluorocarbons which are destructive in the ozone layer, and the Minamata Convention, a treaty to limit toxic mercury, among others. What distinguishes the UNEP amongst other committees are its 17 sustainable development goals, created to lead the world towards a more eco-friendly future.

This committee's debate at JMUN 2018 will be primary focused on goal number 15: "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss."

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Topic 1: Deforestation

Intro:

Forests cover 31% of the land on our planet. Many species are dependent on them for integral resources, including oxygen, food, and shelter. However, the spread of deforestation threatens the habitats of countless organisms. Deforestation comes in many forms, including fires, clear-cutting, unsustainable logging, and degradation of land due to climate change.

According to the World Wildlife Fund, 18.7 million acres of forest are lost each year worldwide, greatly impacting the lives of the animals which rely on forests for their needs. Forests also help mitigate climate change by scrubbing the atmosphere of carbon dioxide and lowering the amount of greenhouse gases in the air. With the mass cutting of forests, the effects of greenhouse gas emissions are increasing, as 15% of all greenhouse gas emissions can be traced back to deforestation.

The United Nations has attempted to address the issue of deforestation in the past by starting the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD). UN-REDD is a joint programme by the UNEP, the Food and Agriculture Organization, and the United Nations Development Programme to reduce forest emissions and increase carbon scrubbing in forests, while contributing to sustainable national development. However, while deforestation is still a major issue affecting all nations, developing nations have a more difficult time stopping the destruction of deforestation since deforestation carries short-term economic benefits for the country. As a result, when discussing this issue, the economic and environmental impacts of deforestation will both need to be considered to craft the perfect solution.



Topic History:

Today, trees are usually cut down so that the land can be used for something else, such as mining, agriculture, or housing. Additionally, tree-related products, such as paper or construction materials, bring revenue to loggers. This logging is harmful since forests release a lot of carbon when trees are cut down. That effect is compounded by the fact that the forest's carbon-storing ability is eliminated, increasing atmospheric carbon. Atmospheric carbon helps trap infrared radiation radiated back towards the atmosphere which warms up the Earth, further contributing to global warming. Forests are also areas that are home to many different organisms, which become threatened when they lose their habitat.

Before European colonization of the Americas,, what is now the United States of America had around 1 billion acres of forest land. Today, that number has plummeted to only around 270 million acres; around a quarter of the original area. Initially, demand for farmland necessitated by a population boom caused much of the deforestation since back then, the easiest way to gain farmland was to cut down forests. To curb the environmental impact, the US created the National Forestry Service in 1906, which managed forest lands for public use. The establishment of the National Parks Service in 1916 also helped protect more forests.

Similar economic motivations have driven severe deforestation in the Amazon rainforest. While it has declined over the past ten years, deforestation persists. The Amazon is a vital natural habitat; it contains more species of plants and animals than anywhere else on the Earth, and deforestation has already directly caused many species to be classified as endangered, such as tapirs, giant river otters, and pygmy sloths. A lack of funding and the allure of economic opportunities complicate the problem: in 2007, Ecuador faced a money crunch to maintain Yasuní National Park, a part of the Amazon rainforest with lucrative oil reserves underground. Ecuador attempted to raise money to maintain the park but the requisite funds couldn't be raised and. drilling in Yasuni began in 2014.

In Southeast Asia, the introduction of rubber tree plantations caused deforestation as the world's demand for rubber was increased during colonial times. Forests were and are being cleared in Southeast Asia since in Southeast Asia, the rubber was harvested from trees in plantations, instead of being scattered throughout the forest.

It was much cheaper to get raw rubber from Southeast Asia than it was to get raw rubber from Brazil, where the rubber was being collected from the forest. Currently, Southeast Asia supplies roughly 80% of the world's supply of natural rubber. To keep up with the global demand for rubber, more and more forests are being cleared to make space for rubber plantations.

Roughly a quarter of the world's population relies on forests as their source of food or income. Wood as fuel is also something many people rely on, and approximately $\frac{1}{3}$ of the world still relies on biofuels such as wood as a source of energy. This can lead to increased deforestation rates as the population increases, since a larger population requires cleared land for houses and buildings as well as a higher demand for wood and similar resources.

Bloc Positions

Bloc 1: Countries demanding immediate action

Bloc 1 consists of countries whose primary focus is to immediately stop deforestation or to at least take extreme legislative action in order to reduce the most major damaging effects of it. This is common among countries who have suffered the ecological and economic effects of deforestation. One of the places most impacted by deforestation are rainforests. Often exploited for their plentiful amounts of wood and other natural resources, these places are specifically vulnerable to deforestation, despite serving many useful purposes. Rainforests regulate climate and maintain the water cycle. They're also a major source of the world's oxygen. Additionally, forests, and more so rainforests, mitigate the impacts of climate change, as well as natural events such as droughts. Moreover, countries in this bloc are heavily concerned with the great decrease in biodiversity which is caused by deforestation. Along with the decrease of biodiversity comes soil degradation and a plethora of other negative effects, which is why countries in this bloc will fight for legislative action to be implemented.

This bloc will find that there are many reasons to stop deforestation, both in the short-term and the long-term. In the short-term, stopping deforestation and planting trees can drastically decrease the prevalence and damage caused by floods. Although in the short-term the country's economy may be slightly impacted, the countries realize that this transition is essential. In the long-term, it can restore most of the negative impacts that deforestation caused, such as habitat loss and after a bit of time, economies adapt to the decrease in reliance on deforestation.

An example of a country in this bloc would be Brazil. This is primarily due to their reliance on the natural resources coming from the Amazon forest. Another example would be Norway, which banned deforestation in an effort to reverse the negative effects caused by decades of the practice.

Bloc 2: Countries prioritizing economic growth and stability

Countries within Bloc 2 are primarily focused on the economies of their country. It should be noted that these countries in no way are for deforestation, but instead believe that immediate action to reduce deforestation is not a priority. Often, but not always, these countries try to balance the state of the economy with that of the environment, but in all cases the economy is prioritized. The countries in this bloc most likely already heavily rely on the jobs provided by industries connected to deforestation. Not only that, but the viable farmland created from deforestation gives great potential to increase the GDP of a country. Along with agriculture, deforestation gives animals more open space to graze on. This is a valuable resource that increase in importance and in scarcity as time goes on. These countries also recognize that by stripping land bare of trees, much space opens up for urbanization, an increasingly important factor in countries' economies.

Most countries in this bloc, especially the less economically-developed, fear the economic implications of stopping wood gathering. For many nations, deforestation stimulates an often struggling economy, serves as a method to repay debt, and undoubtedly acts as a convenient source of revenue.

An example of this is the United States, which under the most recent delegation has enacted many laws that clearly favor the economic expansion of the rich country over environmental concerns. On the other hand, Liberia is part of the same bloc even though it finds itself in an entirely different situation. Due to a struggling economy, Liberia relies on deforestation to make palm oil and rubber in order to support its developing economy.

Possible Solutions

Case Scenario: Brazil

In the past twenty years, Brazil has increased efforts to reduce deforestation in the Amazon and lower its greenhouse gas emissions as a whole, with remarkable results. In 2005, the United Nations began their international effort to reduce emissions from deforestation and forest degradation, instituting the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD+). Brazil announced its goal to reduce its deforestation rate by 80 percent by 2020.

Brazil's drastic decrease in deforestation was the result of a multi-faceted approach. The country expanded its system of indigenous reserves and protected areas while instituting strict logging laws to ensure the safety of more than half of the Amazon forest. In 2006 and 2009, Brazilian NGOs revealed to the world the role the Brazilian soybean and beef industries had played in deforesting the Amazon, leading to the government pushing said industries to not use deforested land to raise their products.

By 2010, Brazil had almost met its goal, dropping its deforestation rate by 67 percent and reducing Brazil's global warming pollution by nearly one billion tons. As part of UN-REDD+, Norway committed one billion dollars to compensate Brazil for its emission reductions. As a result, the cooperation of Norway and Brazil achieved a reduction in global warming pollution similar to that of the United States or the European Union, both of which had pledged to do so in twice the amount of time. Brazil also achieved this success in protecting its natural lands while increasing agricultural production and reducing hunger and poverty during the world recession. Now, Brazil is slowly moving towards a deforestation rate of 0%, leading the way for other countries to do so.

Guiding Questions/Further Links:

- What has your country done to prevent deforestation?
- How does deforestation affect the global community?
- How do we mitigate the damage from deforestation?
- Should deforested areas be restored? If so, how?
- Do the environmental harms of deforestation outweigh its economic benefits?
- <https://www.worldwildlife.org/threats/deforestation>
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Topic 1: Biodiversity

Topic Intro

One of the unique aspects of the Earth is its diversity of life. As of 2017, 1.5 million species have been formally described and catalogued, yet more exist to be discovered and observed. However, our biodiversity is being threatened by increasing habitat destruction and depletion of natural resources. Scientists estimate that at least 2,000 species go extinct each year. Lack of biodiversity disrupts the homeostasis of ecosystems and damages the global environment. The UN has attempted to combat this issue by instituting the Strategic Plan for Biodiversity 2011-2020. This plan, agreed upon during the tenth meeting of the Convention on Biological Diversity in Nagoya, Japan, provides a framework on biodiversity management and policy development. The Aichi Biodiversity Targets, adopted in conjunction with the Strategic Plan for Biodiversity, set goals for 2020 to easily divide the steps needed to stop habitat and ecosystem destruction. However, these goals require more in-depth planning as the lack of specificity in goal setting lead to no clear procedure on how to implement these steps.



Topic History

Biodiversity throughout the years has been declining as humans destroy wild areas. Humans have caused the extinction of many species throughout history; the most notable species being the dodo bird, the thylacine/Tasmanian tiger, the passenger pigeon, and the Northern White rhino. We are currently in the midst of the 6th Great Extinction, the Holocene extinction. Biodiversity can be discussed on many different levels: genetic variation, species richness, and ecosystem variation

Introduced species (or invasive species) are a huge problem for biodiversity in ecosystems, and Australia is a prime example of this. The cane toad (*Bufo marinus*) was introduced there as a pest control mechanism, but it was able to breed and adapt to its new environment rapidly, which caused its numbers to rise. Cane toads are poisonous, so when ingested by the native predators, the native predators, such as the northern quoll, died. Cane toads are also predatory, and can even eat native frogs while also competing with those frogs for the same resources. Another example of an introduced species decreasing biodiversity is the kudzu vine in the southeastern United States. Kudzu was originally used as an ornamental plant and erosion control, however due to its rapid growth it quickly spread into the wild. Kudzu vines choke native tree species, killing them, which also causes a decline in biodiversity.

Another way that humans have been decreasing biodiversity is through deforestation. When deforestation occurs, many organisms lose their habitat and there is an increase of forest fragments. Forest fragments are not good at maintaining biodiversity because it prevents organisms from moving from one fragment to another which isolates populations and decreases genetic diversity. The loss of genetic diversity causes the populations to become vulnerable and increases the threat of those species going extinct either in that area or worldwide.

Land habitats are not the only place where biodiversity is being lost; marine biodiversity has also been largely impacted by human activities. Fishing mechanisms, such as deep sea trawlers, have destroyed ocean habitats while also increasing the bycatch (unintended, discarded catch) from commercial fishing.

Cultural eutrophication (the addition of nutrients into water due to human actions) also creates dead zones, such as the one caused by the Mississippi River draining into the ocean. Dead zones are areas of low dissolved oxygen which mean that very few, if any, organisms can survive in those areas. Other marine habitats that have been impacted are coral reefs, which are bleaching due to the change in temperature caused by global warming and pollution. Corals are the primary producers in coral reefs and also provide habitat for other organisms. The Great Barrier Reef in Australia for example, lost approximately one half of its corals in 2016 and 2017 due to increased water temperature.

Humans' misuse of resources often results in negative effects in the environment, and industrialized agriculture is a prime example of this. Industrialized agriculture is a very common way of decreasing genetic diversity and species richness. A popular example of this is the Irish Potato Famine which occurred from 1845 to 1849. Since the potatoes grown during this time period were essentially clones of each other, there was very little genetic diversity and therefore very little chance for these potatoes to be resistant to the blight, which killed many of them. Industrialized agriculture only decreases genetic diversity and species richness due to the monocultures of plants such as corn or soy grown for the convenience of the farmer. The monocultures are more vulnerable to pests and diseases in particular since they are all the same variety in the same area making it easy for pests and diseases to spread.

Bloc Positions

Bloc 1: Nations demanding conservation of biodiversity

This bloc's primary focus is to ensure that the world's biodiversity doesn't decrease further. Although conservation of biodiversity can take many forms, each with its own benefits and disadvantages, this bloc is united by the common belief that conserving biodiversity is essential to life and not worth compromising for the sake of economic growth. Conservation of biodiversity takes two main forms, in-situ and ex-situ, where in-situ is the conservation of a species in the original habitat, and ex-situ is the conservation outside of the habitat. Although the countries in this bloc may disagree on the ideal way to do so, they all agree that one way or another this is necessary.

One of the most damaging forms of destruction of biodiversity is monoculture. Monoculture in itself is not explicitly harmful, however, it produces numerous negative effects that influence the environment in the long run. Monoculture causes a great decrease in biodiversity, which renders crops more vulnerable to epidemics as well as dramatically increasing soil loss. A great problem with monoculture is that much of the damage caused isn't short-term, but instead takes many years to emerge, meaning that it is often more logical for companies to ignore the damages and instead focus on the benefits.

An example of a country falling in this bloc is Brazil. Brazil is one of the most biodiverse countries on Earth and they put great effort in conserving that biodiversity. However, due to deforestation, they face a few challenges in maintaining it. Brazil, as well as many other countries, in similar situations are willing to do much to ensure that their country's biodiversity doesn't fade out.

Bloc 2: Nations prioritizing economic growth and stability

Compared to the first bloc, the second bloc has many more internal differences. These primary emerge in the form of how strongly they prioritize their economy. Most of these countries are less economically developed, meaning that for them, making sure that their economy can grow and be sustainable on the world market is essential. However, a few don't believe in the root causes of biodiversity or still believe that this issue isn't important, regardless of their more economically developed state.

The majority of the countries in this bloc are practitioners of monoculture; they widely allow it and make little to no governmental effort to slow down or stop it from occurring. They often claim that the benefits of monoculture greatly outweigh its problems. For the developing world, it is too late to instigate change, and it is likely that for them it would nonetheless lead to some sort of partial economic deterioration.

While the first bloc practices, to the extent that each nation can afford both in-situ and ex-situ conservation, the latter bloc practicing ex-situ conservation much less, as it expends many resources for little material gain. This directly opposes the first bloc's viewpoint on this particular issue, which is that ex-situ conservation has many scientific benefits, as well as potential future benefits.

An example of a wealthy country in this bloc is the United States, who, under recent regime change, has implemented numerous policies that prioritize economic growth over environmental conservation, implying that overall this trend would also continue when it comes to conserving biodiversity. In this sense, the latter blocs of both topics are very similar. An example of an impoverished nation in this bloc, on the other hand, is Haiti, which due to centuries of monoculture faced massive soil erosion, but due to its economically precarious situation, struggles to change its ways.

Possible Solutions

Case Scenario: US

In the past, the biodiversity of the Earth was taken for granted and not deemed a priority in the United States. That perception began to shift in the US with the dramatic decrease in the bald eagle population around the 1940s.

Recognizing this, the United States Congress passed the Endangered Species Conservation Act in 1966, which listed animal species as at risk of endangerment and gave them some protections. The American Departments of Interior, Agriculture, and Defense were given the task of protecting the listed species and preserving their habitats. In 1969, Congress amended the Act to prohibit the importation and sale of species in danger of “worldwide extinction” and called for an international meeting to adopt a convention to protect endangered species.

In 1973, 80 nations signed the Convention on International Trade in Endangered Species (CITIES) in Washington, D.C., which monitored and restricted international commerce in endangered plant and animal species. Later that year, Congress passed the Endangered Species Act (ESA). The ESA provides definitions for “endangered” and “threatened” and implemented CITIES protection in the United States. It also required federal agencies to use their authorities to conserve listed species and prohibited federal agencies from authorizing, funding, or carrying out any action that would jeopardize a listed species or its “critical habitat”. As a result, less than 1 percent of species have gone extinct once granted protection under the ESA and 1,600 species are currently under the protection of the ESA. Among the ESA’s successes is the protection of the Bald Eagle and the Grizzly Bear.

While the ESA has been integral to the United States’ efforts to preserve its biodiversity, in the past year, the fate of the ESA has hung in balance as the United States Government prioritizes more funding towards security and other needs. Another issue with the Endangered Species Act is its feasibility. Developed nations like the United States have the resources to provide funding and land for endangered species. However, developing nations may not have the resources needed and will require aid to protect the biodiversity of their country. It should be noted however that all this American change occurred under a past, more environmentally-oriented era, and it is less likely that such a widespread conservation effort would be deployed today.

Guiding Questions/Further Research Links

- What has your country done to increase or prevent the decrease of biodiversity?
- How will we be able to reach the 2020 Aichi Biodiversity Targets?
- Should developed countries support developing countries in maintaining biodiversity?
- <https://www.usaid.gov/biodiversity>
- <https://conservationtools.org/guides/95-economic-benefits-of-biodiversity>
- <https://www.cbd.int/sp/targets/>

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