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Forum: GC3

Issue: The safeguarding of major rainforests from human damage

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Introduction

Bearing in mind the constant development in technology in various areas from healthcare to artificial intelligence in the last decades, it would not be wrong to say that humankind is connected to technology more than ever. However, this constant interference of technology in people's daily lives has also made them vulnerable in a way that they sought a connection with nature. This brought the term "eco-tourism" which refers to the travels done to destinations that have an environmental value with the aim of conserving and promoting its nature. This trend has enabled many people to capture the essence of the beauty of nature and made many people aware of the issue. However, many people, including the eco-tourists, in today's world admire rainforests merely as a touristic attraction with its captivating shades of green and unusual creatures and not for its environmental importance.

Before trying to understand the importance of rainforests it may be beneficial to get to know the general characteristics of rainforests. Rainforest is a rather wide and general geographical term used in order to describe the areas that are wet throughout the year due to heavy rainfall or also coastal fog. Thus to reach a better understanding rainforests can be divided into two different categories of rainforests which are temperate and tropical rainforests. Tropical rainforests are distributed within 5 degrees of the equator and have the main characteristics of high rainfall and temperature with little difference between seasons. On the other hand, temperate rainforests, which are found more in the coastal areas around the world, have a well-distributed rainfall and have an average temperature below zero.

The frequently used depiction of rainforests as the world's lungs refers to one of the many reasons why rainforests are important for the Earth, which is their impact on the climate. From the beginning of the industrial revolution the world has increasingly started to emit excessive amounts of carbon dioxide and other gases that danger the ecosystem and atmosphere. Rainforests play an important role here because of their ability to absorb an incredible amount of CO₂, which means that these forests can stabilize the climate around the world. To elaborate, the Amazon rainforest alone can absorb approximately two billion tons of carbon dioxide gas each year. However, the damage done to these forests, such as fires, reverses the effect as they start to emit more than they absorb which in the long run threatens the future of every individual.

Rainforests are also essential for the continuity of many species, hence for the resilience of that ecosystem. Species diversity can be estimated by looking at two factors which are richness and evenness. Richness refers to the different species living in that ecosystem whereas evenness refers to the abundance so it can be said that diversity consists of types of species and distribution of species. Keeping this in mind the extinction of a species can affect, other species living in the same ecosystem whether it is done directly or indirectly. This is because an extinction of a species means that the other species that fed on the extinct species will have decreased opportunities in terms of prey which makes the ecosystem more vulnerable. Thus, essentially most of the time a more complex ecosystem means a more resilient one. Even though the rainforests cover only 6%



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of the whole world, it is estimated that rainforests host 50% of all species around the world. However, deforestation and other damages done in the rainforests directly affect this percentage which is essential for biodiversity around the whole world. It is important to note that this biodiversity does not only affect resilience but it also helps in pharmaceutical products. The usage of botanicals for medical purposes is not a new thing in fact, 7,000 prescribed medicines by Western doctors are derived from plants. It was found out that nearly 3000 plants that are thought to have properties to heal cancer are endemic to tropical rainforests, which means that they can only be found in that biome. Furthermore, even though only one percent of the plants in rainforests are being used, it corresponds to more than 25% of the medicines used today. This also means that there are many plants that are yet to be discovered for their possible and proper usage in medicine.

Definition of Key Terms

Deforestation: The action which aims to clear a wide area of trees.

Rainforest: a luxuriant, dense forest which is rich in biodiversity. It is possible to find it typically in tropical areas with consistently heavy rainfall.

Destruction: The action or process of causing too much damage to something that it no longer exists or cannot be repaired.

Eco-tourism: Tourism to the exotic or threatened ecosystems in order to observe the wildlife or preserve nature.

Habitat: The natural place or environment of an animal, plant, or other organisms.

Environment: The natural world, as a whole or in a particular geographical area, which is especially affected by human activities.

Flora: The plant life in ecosystem

Fauna: All the animals in the ecosystem

Species: a group of living organisms which are consisting the similar appearances

Slash and Burn: a method of clearing the forest where vegetation is cut down and burnt.

Background Information

The history of deforestation began in the late 1800s when people started to live in forests. In order to create homes, fire and weapons. Before the deforestation happened there were thousands of forest existing in the earth. Now there is roughly about 30 % rainforest left. The problems with deforestation is the fact that many people use the

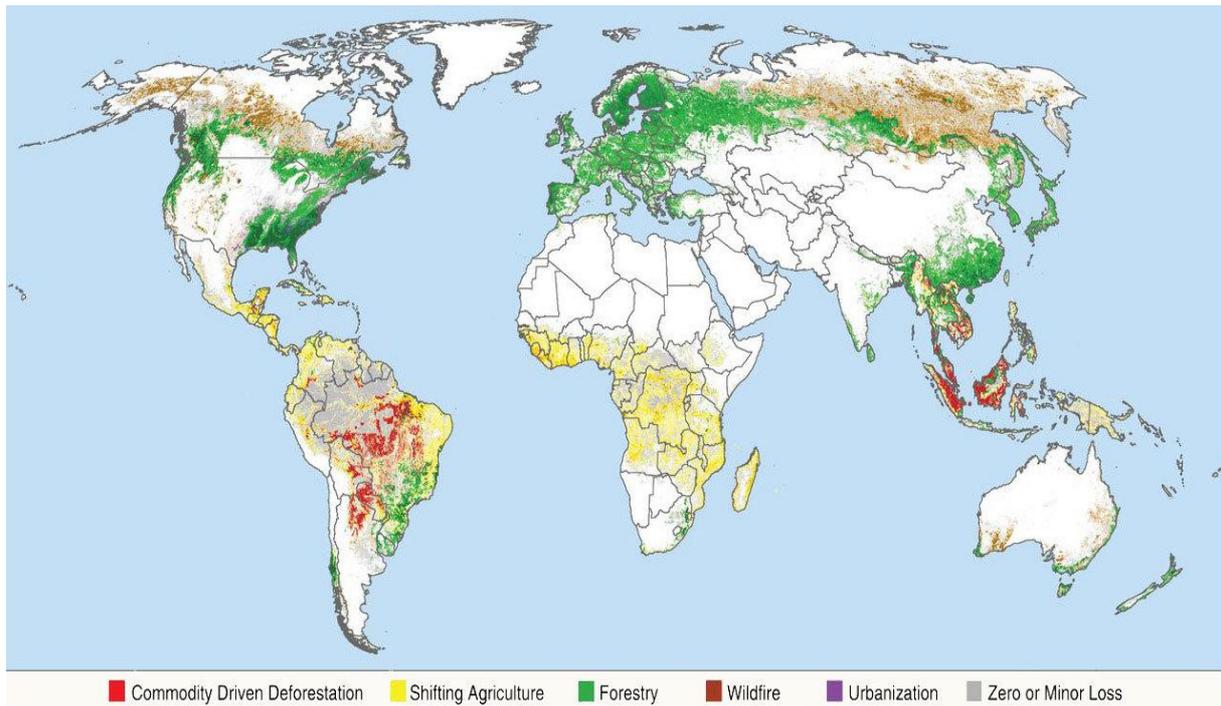


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“Slash and Burn” method in order to create space. Creating a space is becoming more important everyday, since the human population increasing. Usually in spaces where trees were in abundance and usually created in poor communities. As time passed by from having over 75% of rainforest in the world to 30% in about a century, so there is a huge problem about our issue.

In a tropical rainforest, the loss of the forest spot makes the ground sunnier and drier, and also make it more inclined for erosion of nutrients in the soil during rainfall. Within several years, the formerly rich soil becomes claylike and infertile. Loss of temperature is also a fact which increases the soil erosion. The temperate soil is no longer as stabilized by tree roots, and heavy precipitation will increasingly remove the soil.

At least 2 million square km (772,204 square miles) of such forests have been cleared. Deforestation is a particular concern in tropical rain forests because these forests contains much of the world’s biodiversity. For example, in the Amazon around 17% of the forest has been lost in the last 50 years due to human activities. More than half of Earth’s rain forests have also already been lost due to the human demand for wood and arable land. Rain forests grew over 14 percent of the land on Earth before and now they are only covering about 6 percent. If current deforestation rates continue, these critical habitats could disappear from the planet completely within the next hundred years.



The Amazon Rainforest

The forest is estimated to be covered by 390 billion individual trees divided into 16,000 species. Some of the species found in this region includes 2.5 million insects, 2000 mammals and birds, and thousands of plants. The rainforest also contains several species and among the largest are predatory creatures like the jaguar, cougar, and anaconda.



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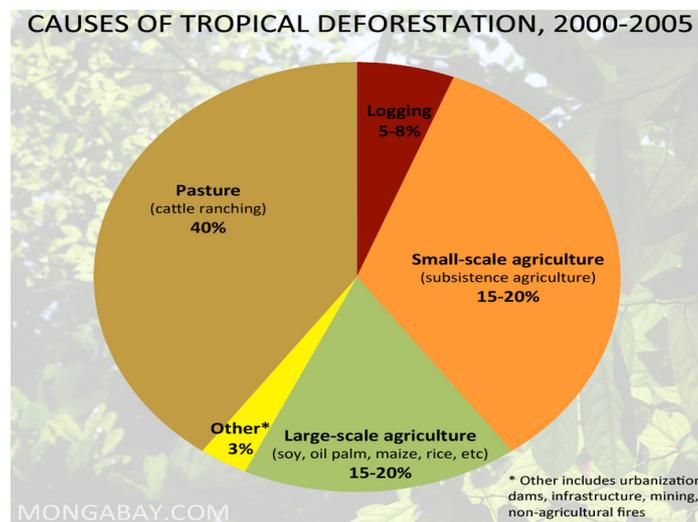
It has taken millions of years to create the Amazon rainforests and the humans have destroyed large parts of it only in few years. Since the 1950s, the Amazon rainforest has lost 18 percent of its original forest cover, and up to 50 percent of the forest has been partially destroyed. Mostly this is because of the need for more space, oil and gas production, mining and logging and variety of infrastructure projects.

The Amazon rainforest has a fragile ecosystem and we don't know how long humans will continue to damaging it. As a result, up to 65 percent of the Amazon is in danger of turning into savannah in the following 50 years. We also know that if all approved and planned industrial and infrastructure projects are carried out, half of the Amazon rainforest will disappear.

The Congo Rainforest

This rainforest is the second largest rainforest in the world and it covers a total area of 1,780,000 km². It is found in Central Africa and has one of the longest rivers running from within it. The Congo rainforest is known for its high levels of biodiversity, which includes more than 600 tree species and 10,000 animal species. Some of its most famous residents include forest elephants, gorillas, chimpanzees, okapi, leopards, hippos, zebras and lions.

In the years between 199-2010, Central Africa's deforestation rate has been the lowest of any major forest region in the world. However there are still a number of threats to the health of the Congo rainforest and its residents. The main causes of the issue are road construction, fuelwood and charcoal collection, Artisanal and industrial logging and the transformation into agricultural land.



Timeline of Major Events

16 June, 1880	Invention of the rubber tire.
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15 October, 1986	Environmentalists gather for a workshop on the rainforest crisis
15 October, 1988	First Major Conference about the rainforest destruction. The first major rainforest conference made and tropical rainforest destruction becomes a hot media topic.
15 October, 1989	SmartWood was founded. The Rainforest Alliance founded its forestry certification program, SmartWood, which aims to improve the forest management by providing economic incentives to businesses.
16 June, 1900	Deforestation started in Brazil
1945-1975	Forest coverage in Thailand decreased from %61 to %34
16 June, 2010	Various modeling efforts have projected clearing patterns in Amazonia and agree that vast areas would be cleared if trends continue and planned infrastructure projects are built.
2012	There had been few years of a decline in deforestation but in 2012 it increased by %28

Major Countries and Organizations Involved

Brazil

Amazon is the largest tropical rainforest, approximately 6,000,000 square km, which means that the rainforest is covering 40% of Brazil's total area. The Amazon River Basin includes different geographical areas other than the rainforest such as floodplain forests, rivers and savannas. Amazon is important not just for Brazil or other occupied countries but for the whole world for various reasons. The water cycle is essential for the continuity of life on Earth and also temperature changes and an important role of the Amazon is maintaining the water cycle. Amazon experiences an intense rainfall of between 1,500 mm and 3,000 mm each year and a big part is because of the transpiration of plants and evaporation from the soil. Another crucial responsibility the Amazon has in terms of cycles is the carbon cycle. With the increasing development, population and consumption, the world is now emitting a horrifying amount of carbon dioxide gas into the atmosphere. Amazon has the ability to contain between 90 to 140 metric tons of carbon. Even though this capacity is helpful to some extent the damage done to these forests results in the emitting of the absorbed carbon. Knowing that during the last half-century the Amazon has lost at least 17% of its forest cover, it is truly worrying to see that we are destroying a vital



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part of stabilization of the climate and reversing its effect when we should be worried about the carbon emissions and try to decrease them. According to the Coordinator of Indigenous Organizations of the Amazon Basin (COICA), 2.7 million of Amazon's population is still made up of indigenous people which means that the activities carried out can disturb the isolated lives of these people.

Brunei, Indonesia, and Malaysia

Borneo is the largest island in Asia and it is divided between the countries Brunei, Indonesia and Malaysia. Borneo has an equatorial climate with an average rainfall of 3,800 mm, it has distinct divisions between two seasons which are monsoonal period with heavy rainfall and summer with drier weather. Because of this climate, Borneo hosts rainforests that have global environmental importance. The three countries which have control over Borneo, are equally responsible for the management of the rainforest and the wildlife in Borneo's rainforests. However, the human activity carried out with different intentions still continue to damage the ecosystem and making it even harder for it to return to its original state. The initiation of road projects in 1950 paved the way for the major problems Borneo is facing today by causing Borneo to be available to more immigration, cutting down trees for the roads and also giving access to the initiation of other projects. Deforestation is one of the major problems in the area as many local people started to cut down trees illegally in order to gain money from it. It was shown by a satellite study that the region Kalimantan which is an Indonesian region has experienced deforestation nearly in the size of Belgium. There are also other factors like land conversion for palm oil production, fires and also hunting and trade of the animals specific to that region for profit.

Amazon Treaty Cooperation Organization

The Amazon Cooperation Treaty Organization (ACTO) is an intergovernmental body aimed formed by eight member states Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. The organization was established for promoting the sustainable development of South America with a special focus on the Amazon region. It emphasizes the impacts and connections between climate change, deforestation and poorly done management strategies on forests. These countries have taken action to monitor the area, strengthen the management strategies, raise awareness among people as well as combatting illegal logging. Their actions and efforts have been appreciated by the UN at the United Nations Forum on Forests because of their ability to take immediate action by maintaining regional cooperation.

WWF

World Wildlife Fund was found in 1961 as a result of the lack of organizations working in the field of environmental conservation. They are focused on six main areas which are climate, food, forests, freshwater, oceans and wildlife and for nearly 60 years they have helped local communities, conservation of many species and their habitats and build strong policies regarding the conservation of the environment. It currently works in 100 countries including Peru, Cameroon and Brazil in order to eliminate the factors behind the destruction of rainforests. They have been working in this field for 35 years by establishing protected areas and promoting the sustainable usage of forest products.

GREENPEACE

Greenpeace is a non-governmental organization which was founded in 1971 by a small group of individuals is now an international organization working in 40 countries. They value independency and for that they refuse to take any funding from political parties, governments and corporation that have connections to on-going situation of the



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nature. Because of this they have the ability to call out the wrong actions done by the governments or individuals and in a way exposing them. They are trying to protect the rainforests by their current project called “Save the Amazon”. This project encourages people to take action by supporting the indigenous people of Amazon, showing the importance of eating more plant-based food on climate change, investigating to eliminate illegal logging.

Previous Attempts to Solve the Issue

Sustainable Development Goals (2015)

Sustainable Development Goals were adopted in 2015 by the United Nations under the name of “2030 Agenda” as the renewal of the previously made Millennium Development goals since the world live up to the expectations of the goals. Since Sustainable Development Goals have the main aim to develop countries in various areas the world is currently struggling with, they are also connected with the issue at hand. To be more specific, goals 9 and 13, which are industry, innovation and infrastructure and climate action respectively, focus especially on deforestation and maintaining the flora and fauna in many areas.

Economic and Social Council Resolution “United Nations strategic plan for forests 2017-2030 and quadrennial program of work of the United Nations Forum on Forests for” the period 2017-2020 (E/RES/2017/4)

Adopted on 20 April 2017, the Economic and Social Council prepared a comprehensive plan for forests in order to have a shared point of view amongst the member states regarding forests. It not only works as a guideline both for and between countries for the protection of forests but also as a framework for both previous and future steps taken regarding the issue.

General Assembly Resolution (A/71/L.63)

This is the resolution in which the General Assembly decided to take into account the aforementioned ECOSOC resolution.

General Assembly Resolution “Non-legally binding instrument on all types of forests” (A/RES/62/98)

Adopted on 17 December 2007 and revised further with other resolutions, this resolution initiated the establishment of a non-legally binding instrument. This instrument was established by the United Nations in order to provide member states with the necessary framework that is needed to sustainably manage forests and to emphasize the importance of forests in achieving the Millennium Development Goals.

The Convention on Biological Diversity (1992)

The Convention on Biological Diversity was established as a result of the Rio Summit which was held in the year 1992. It is the first recognizable step the United Nations has taken regarding biodiversity loss as a result of human activities.



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Possible Solutions

Laws and Regulations: Due to the nature and extent of forest destruction, efforts to stop human activities can be complemented by laws and regulations at governmental and organizational levels. As much as people become more aware of deforestation's consequences, some of the people focus more on the immediate economic gains at the expense of the long-term environmental damage.

Replanting (Reforestation): Basically reforestation means the restoration or replanting of forests that have been reduced by fire or felling. It requires an ongoing process. People, communities, governments, and organizations are all the actors. It involves selecting and dedicating large tracts of land mainly for the purpose of cultivating forests.

Sensitization and Educative Campaigns: Deforestation can also be counteracted through awareness and sensitization. Sensitization and educative campaigns can be a simple but a more workable solution. Initiating awareness creation champagnes makes it easy for people to detect the causes, effects, and ways of counteracting deforestation.

Land Use Planning: Cities and urban centers continue to grow day by day as more people claim their share of living in cities and the urban areas. In response to this threat, creation of proper land and using of planning techniques can offer as ne of the fastest and the most feasible solution to deforestation.

Useful Links For Further Research

- <https://www.livescience.com/27692-deforestation.html>
- https://rainforests.mongabay.com/amazon/amazon_destruction.html
- <https://www.conservationinstitute.org/solutions-for-deforestation/>
- <https://disruptiveenvironmentalist.com/8-innovative-solutions-to-deforestation/>
- <https://www.vox.com/science-and-health/2019/11/18/20970604/amazon-rainforest-2019-brazil-burning-deforestation-bolsonaro>

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