Research Report

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Forum: *Environment Commission*
Issue: *Deforestation in South America*

Position: *Chair*

Introduction

Recently, deforestation in South America has become a severe crisis, in desperate need of a solution. South America holds a high percentage of the earth's ecosystems and contains some of the world's largest rainforests, such as the Amazon rainforest. Deforestation in order to clear space, for agricultural or economical purposes in particular, has been occurring for many years. This issue must be addressed because of its great impact on our planet, considering the fact that trees provide humans and animals with oxygen. Forest loss contributes about 15-20% of all annual greenhouse gas emissions, which means the equilibrate stabilization of the climate will be affected by the intake of carbon dioxide in the atmosphere being greater than oxygen. On top of that, many habitats are being destroyed and this could disturb food chains and food webs in the forests, which could lead to genetic mutation.

Definition of Key Terms

Deforestation
The removal of trees and forests in an area by cutting or burning them down.

South America
The continent bordered by the Pacific Ocean on the west, by the Atlantic Ocean on the north and east, and North America and the Caribbean Sea on the northwest. It includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela, French Guiana, the Falkland Islands, Aruba, Bonaire, Curacao, Trinidad and Tobago.

Terrestrial biodiversity
The variety of life forms within a given ecosystem or biome that refers to species that inhabit the land.

Stumps
The bottom part of a tree left projecting from the ground after most of the trunk has fallen or been cut down.

Commercial logging
The cut down of trees for the purpose of selling the pulp, timber or fuel. The use of heavy machinery is damaging and is one of the biggest causes of tropical deforestation.

Urbanization
The process by which more and more people begin living and working in urban areas, often leading towns and cities to larger. According to the United Nations, 50% of the world's population in 2009 was living in cities.

Globalization
The increase of worldwide integration, often in terms of international trade, economics and culture. A result is the worldwide trade of raw materials, such as wood.

General Overview

South America has one of the highest rates of deforestation in the world. Deforestation takes place for agricultural purposes, and is greatly influenced by urbanization and globalization. Important consequences are the loss of homes for animals and rare species. Rainforests are extremely valuable for human life and used to cover 14% of the Earth, however having been reduced to 7%. Conversely 60% of the world's terrestrial biodiversity can be found in rainforests. In reality, most of the countries with high rates of deforestation are developing countries, which often rely on agriculture as their main source of nutrition and income.

The three main types of deforestation in South America are:

1. Famers cut down several acres of trees for agricultural purpose.
2. 'Slash-and-burn' – An agricultural method meaning that all trees in a certain acre are being cut down, after which the space is cleared by burning it to release nutrients in the soil.
3. The use of chemicals and pesticides.

Major Parties Involved

Brazil
Nearly two-thirds of the Amazon rainforest is located in Brazil. Brazil suffers from the world's highest rate of deforestation, however, it does have one of the most successful anti-deforestation policies.

Mexico
Although Mexico is technically situated in Central America, its Lacandón Forest does suffer from severe over-deforestation, 13.000 square kilometres having been destroyed in the past 15 years.

Peru
Nearly 60% of Peru's territory is covered by the Amazonian rainforest. 250.000 hectares are being cut down annually.

Bolivia
Bolivia's deforestation rate is the extremely large number of 270.400 hectares per year.

Food and Agricultural Organization of the United Nations (FAO)
This organization focuses on sustainable management and utilization of Natural Resources.

United Nations Environment Program (UNP)
The leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment.

Timeline of Events

October 16th - November 1st 1945	The Quebec conference, organized by FAO, took place. Nations formally set guidelines for agriculture, which was the beginning of deforestation restrictions.
5th - 16th June 1972	The Stockholm Conference, led by UNEP, took place in order to discuss the effects of humans on the environment. Decisions to preserve the environment and encounter deforestation were made.
1986	The International Tropical Timber Organisation (ITTO) was created in Geneva, Switzerland with the aim to preserve trees and forests all over the world.
1992	The United Nations Framework Convention on Climate Change (UNFCCC) took place, which acknowledged the derogatory effects of climate change on humans and the fact that deforestation was contributing to this issue, also taking into account that South America had one of the highest deforestation rates at the time.
2008	The UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) was set up.

Previous Attempts to solve the issue

Over the past years, multiple organisations in order to combat deforestation have been established, such as the UNEP, ITTO, FAO, UN-REDD. REDD in particular is very critical and active in creating initiatives to protect forests.

An example of these initiatives is the Noel Kempff Mercado Climate Action Project in Bolivia, launched in 1997. This project was the world's first forest conservation program scientifically verified by a third party to try and lower and reduce carbon emissions in the atmosphere. Protecting 642,184 hectares of forest, the project is expected to prevent 5.8 million tons of carbon dioxide emissions over the next 30 years, which is initially the same as taking away 1 million cars from the United States' highways for a whole year. *(Citation: the Noel Kempff Case Study)*

Another example of these initiatives is The Nature Conservancy in Brazil, which is working with landowners, government officials, businesses and indigenous communities to establish two large-scale forest carbon pilot projects that will cover a combined 19.2 million hectares in the Brazilian Amazon, an area more than double the size of Portugal. *(Citation: the Noel Kempff Case Study)*

Studies show that these programs may prevent deforestation in about 1.8 million hectares of rainforest in the next 10 years and reduce greenhouse gas emissions of approximately 980 million tons of carbon dioxide, which is equivalent to the emissions from the annual energy use of 80 million homes in the United States.

Possible Solutions

Governments could issue laws to limit the annual percentage of the trees in rainforests that are cut down for the production of raw materials, such as wood and paper. Also, one should think about sanctions against those who exceed these limits.

South American nations could cooperate in planting trees in overgrazed areas and turn unused land into forest areas to stimulate reforestation, which is the opposite of 'deforestation'.

Another possible solution could be that every tree that is cut down, should be replaced by planting a new tree. This way, we could achieve a balance in production and consumption. This might be a way to preserve industrial and economic development in South America, while taking care of rainforests and the environment.

Useful documents

https://www.gapyear.com/articles/121053/deforestation-in-south-america

http://cdn.intechopen.com/pdfs-wm/36125.pdf

http://earthobservatory.nasa.gov/Features/Deforestation/deforestation_update3.php

http://www.mapsofworld.com/south-america/information/deforestation-in-south-america.html

http://www.conserve-energy-future.com/causes-effects-solutions-of-deforestation.php

Appendix/Appendices

Introduction and key terms:

https://en.wikipedia.org/wiki/South_America

http://www.answers.com/Q/What_is_terrestrial_biodiversity

http://www.greenpeace.org/usa/6-reasons-stopping-deforestation-still-matters/

General Overview:

http://nif.websitetoolbox.com/post/deforestation-in-south-america-5980163

https://www.gapyear.com/articles/121053/deforestation-in-south-america

Major Parties Involved:

http://www.culturalsurvival.org/ourpublications/csq/article/time-running-out-mexicos-last-tropical-forest

https://www.wmo.int/pages/themes/climate/international_unfccc.php

http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=493&ArticleID=5391

https://en.wikipedia.org/wiki/Reducing_emissions_from_deforestation_and_forest_degradation

http://www.itto.int/about_itto/

Timeline of events:

http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503

https://unfccc.int/resource/docs/convkp/conveng.pdf

http://www.un-redd.org/Portals/15/documents/publications/UN-REDD_FrameworkDocument.pdf

Previous attempts to solve the issue:
http://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/how-we-work/creating-incentives-to-stop-deforestation.xml