Committee: Environmental

Issue: Preserving the biodiversity of the Amazon Rainforest

Student Officer: Evelina Mavropoulou

Position: Co-chair

Introduction

The Amazon rainforest is a moist broadleaf forest situated in the Amazon basin in South America, which includes parts of eight South American countries: Brazil (60%of the rainforest), Peru (13%), Colombia (10%), Ecuador, Bolivia, Venezuela, Guyana and French Guiana. It constitutes the largest rainforest in the world, since its size exceeds half of the entire natural rainforest on the planet. The formation of the rainforest took place during the Eocene era (54-35 million years ago), making it 55 million years old today. The Amazon's fertility is partly due to the high amount of dust transported from the Saharan desert. The dust includes phosphorus, which enables the growth of the plants. In addition, thanks to the tropical temperatures, the rainforest has a great biodiversity. More specifically, it is home to a great number of insects, birds, mammals as well as to several unique species such as anaconda and piranhas.

The amazon rainforest is very important for people's lives, since it converts the carbon dioxide into oxygen and it is considered to produce 20% of the world's oxygen. Additionally, it produces 1/5 of the world's fresh water and provides people with almost 25% of the pharmaceuticals they use. Unfortunately, the majority of people tends to ignore its importance in the 21st century leading to the extinction of some species every day.

Definition of Key- Terms

Moist broadleaf forests

The forests generally found in the area between Tropics of Cancer and Capricorn which are "characterized by low variability in annual temperature and high levels of rainfall" (>200 annually).

Deforestation

Deforestation is the act of cutting down of trees and destroying large areas of tropical, mainly, rainforests. According to WWF (World Wildlife Fund) deforestation appears in many forms including fires, clear-cutting for agriculture, unsustainable logging for timber and degradation due to climate change.

Biodiversity

The variety of plant and animal life in the world or in a particular habitat, the high level of which is usually considered to be important and desirable. (Source: Oxford dictionary)

Background information

Threats to the biodiversity of the Amazon rainforest

The Amazon rainforest plays a crucial role in our lives. Yet, the last 10 years, one third of the rainforest has been destroyed due to the acceleration of deforestation. The growth of the population as well as the increased demand for timber and other natural resources have led to the cutting down of trees and therefore to the destruction of the natural habitat of thousands of species. What is more, other reasons leading to deforestation are: logging, cattle grazing in South America, soya plantations, palm oil plantations, mining and hydroelectric dams in South America.

Logging

Logging companies tend to cut down mature trees because they provide developed countries with timber for furniture, building materials, etc. The loggers support this kind of selective deforestation because they believe that they ensure the replantation of the forest. Nevertheless, the machinery used to cut down the trees and construct roads can have a major impact on the soil and consequently to the forest's regeneration. The logging can leave a hole in the tree's canopy and as a result it requires a hundred years for its complete regeneration. Despite the assistance of the environmental agencies, loggers manage to avoid detection due to the remoteness of the logging locations.

Extensive cattle farming and soy plantations

What is more, the Amazon rainforest is continuously deforested in order for the indigenous farmers to raise crops, develop cattle farming and most importantly sustain themselves. Cattle grazing and the soy plantations constitute a source of income for the farmers, since due to the high rate of meat consumption they have been displaced by the large industries. After the land has been used for soy and cattle farming, the soil has been drained of its nutrients and cannot produce more crops. As a result, farmers are compelled to search for and destroy another part of the rainforest, which leads to extensive deforestation. In fact, "the cattle pastures occupy 80% of the deforested areas in Amazon". (World Wildlife Fund)

It is also important to keep in mind that the dispute between the United States and China concerning trade could boost Brazil's soy exports and consequently intensify the deforestation in the Amazon. The President of the United States of America

Donald Trump has already imposed tariffs on $50 billion worth of Chinese goods. As a result, China would shift its “commodities purchase of soy” from the US to Brazil. Consequently, deforestation will take place so that the production of soy is replaced, and the necessary infrastructure is constructed for the export of soy. In fact, scientists fear that the Amazon deforestation could reach 20-25% and the indigenous people could be affected by the new transportation infrastructure.

Part of the Amazon rainforest converted to soybean farms (Mongabay.com)

Oil development

Additionally, as mentioned above, the oil development is a main cause of deforestation, not to mention its contribution in the biodiversity loss. The oil palms are palm trees which grow certain crops that produce this kind of oil. According to WWF, 33% of all the products that we use in our everyday life contain palm oil, such as shampoo, bread etc. Therefore, deforestation takes place in the Amazon rainforest so that crops, such as the oil palm plant are grown. The oil plants play a vital role on the oil industry, since the oil that they produce can be used as a biofuel instead of petrol and diesel. As a result, a number of trees are cut down and burnt in order to enable the farming of palm oil. Through this way farmers pose a great threat to a number of species living in the rainforest. More specifically, the orangutan is on the brink of becoming extinct because of the palm oil plantations and it has been listed as “critically endangered”. What is more, according to the International Union for conservation of nature (IUCN), 5000 orangutans are killed each year.

Mining

As you know, rainforests are usually rich in natural resources such as gold, nickel, copper and other minerals. This has encouraged the investment of 27$ billion in Amazon mining projects and a lot of people have been involved in gold mining. Unfortunately, the extraction of gold can affect negatively the local environment. This is mainly because the extraction of gold requires the use of high concentrations of mercury which can result in the poisoning of the indigenous people as well as the wildlife. Despite the fact that the use of mercury has been banned, such as in the case of Indonesia, individuals continue to purchase it. As a result, there has been noticed a great amount of pollution on the river systems and thus the emergence of health issues. According to new laws, mining is prohibited in protected areas. Nevertheless, miners continue to ignore the law.

Hydroelectric dams

Apart from the Amazon mining projects, the construction of hydroelectric dams in South America leads to a great amount of forest loss. This is mainly because large companies and international organizations, such as the World Bank, fund the construction of hydroelectric projects in the Amazon. In addition, the dams in the Amazon are ecologically ineffective since large tracts of the rainforest are flooded due to the flatness of the Amazon basin. As a result, the dams destroy the natural habitats and especially the aquatic ones and cause the displacement of the indigenous people. In fact, more 150 new dams are to be constructed until 2019 in the Amazon basin affecting the ecological connectivity of the Amazon River to the Andes, which is a source of nutrients for the river. Also, the fish species in the Amazon will be affected, since the Amazon and its tributaries are "critical highways for migratory fish that move to headwaters areas to spawn".

Belo monte dam in the Amazon basin (photo by Greenpeace)

(Source: Mongabay.com) It is very important to acknowledge the fact that there is no policy assessment of the potential ecological and social impacts of the dam projects. In the Amazon has already been built the "Tucuri" dam and, given the fact that the Amazon River is the 2nd longest in the world, it constitutes a great source of energy which could be harnessed. Unfortunately, the hydroelectric dams cause major flooding which can harm the wildlife. Last but not least, the wood rotting underwater (which happens after the floods) releases carbon dioxide and contributes to climate change.

Apart from the aforementioned causes, the biodiversity of the Amazon rainforest is also threatened because of the overfishing, illegal poaching and smuggling of plants and animals.

<u>Overfishing & Poaching</u>

First of all, fish is the main source of food for the indigenous people in the Amazon. However, due to the major growth of the population, more and more people hunt fish leading to overfishing. To make matters worse, the industries willing to harvest and export fish to foreign markets use large nets to scoop up a great amount of fish. As a result, some fish-species become extinct.

In addition, a lot of people hunt animals illegally with a view to selling them in the foreign markets. This action is called illegal poaching and poses a great threat to the Amazon's biodiversity. For instance, the Amazon River turtle, "Paiche" and the Amazon manatee have become extinct in the last few years. Additionally, every year in the Brazilian Amazon alone 9.6 to 23.5 million mammals, birds, and reptiles are harvested.

Amazon River turtle (photo by WWF & Lifesea.blogspot)

Smuggling

Lastly, smuggling refers to the abduction of animals and plants by people, who either trade these animals or sell them abroad. Smuggling can also refer to illegal wildlife trade, which has led to the decline of wild populations. According to US Fish and Wildlife trade, the illegal trade is estimated to be a multibillion-dollar business.

The parrot “Macaw” under the threat of the illegal pet trade/ smuggling in the Amazon rainforest.

Major Countries and Organizations Involved

World wildlife fund(WWF)

The World Wildlife Fund has been working in the Amazon for 40 years with the aim of protecting the rainforest and its species. It has engaged to collaborate with the local communities and governments so as to enable both the economic development and the conservation of the Amazon rainforest. In addition, WWF addresses the threats to the biodiversity of the Amazon. More specifically, it works closely with the Soy roundtable —a committee consisted of soy producers and exporters— in order to enhance the sustainability of their practices and lessen their impact on the Amazon's wildlife. What is more, WWF collaborates with beef industries in order to educate ranchers on why it is unnecessary to cut down more trees. Also the organization is interested in creating certain criteria which will increase the productivity of existing cattle ranches and prevent the establishment of new ones in protected areas. As far as the dam-projects are concerned, WWF provides Brazil with scientific support to help find dam locations that will do the least harm. What is more, the organization is trying to create market conditions, which will conserve the rainforest and simultaneously provide businesses with economic benefits. Last but not least, WWF participates in the planning and construction of more environmentally friendly infrastructure, which will not disrupt people's lives.

Brazil

Over the last decades, Brazil has managed to halt deforestation, one of the main causes leading to the loss of biodiversity in the Amazon. Brazil's national government and local communities have collaborated and established new techniques, one of which is allowing clear-cut down of trees. Since 2004 the country has managed to decline the annual forest loss by 80%. This is due to a number of factors, such as the increase of law enforcement concerning illegal logging, satellite monitoring, pressure from scientists and environmentalists and the creation of protected areas. Additionally, the government of Brazil works closely with organizations such as World Wildlife Fund (WWF) and Conservation International achieving in 2010 low rates of deforestation. In fact, along with WWF and the Amazon Region Protected Areas Program (ARPA) Brazil has created a network of parks covering 150 million acres of forest that are protected. The Amazon Region Areas Program started in 2002 and has contributed to the creation of almost 25 hectares of new protected areas and maintenance of 35 million hectares of existing ones. The program has already created 114 protected areas and protected 150 endangered species One of the major donors for the continuation of this Program is the Global Environment Facility which has pledged financial support since 1998.

Timeline of events

Date	Description of events
1992	The Earth Summit occurred in Rio de Janeiro.

1993	The First Convention on Biological Diversity was entered into force by 193 parties.
2006	The 61st session of the United Nations General Assembly declared that 2010 is the International Year of Biodiversity (IYB).
2012	The International Day of Forests is established on the 21st day of March.
2014	A United Nations conference in the Republic of Korea in which governments agreed to double biodiversity-related international financial aid to developing countries.
2016	The 13th meeting of the Conference of the Parties to Convention on Biological Diversity in Mexico (CBD), where the integration of the biodiversity into policies relevant to agriculture, fisheries and tourism sectors are discussed.
2016	Countries attending the United Nations Biodiversity Conference in Mexico reached agreements on actions to integrate biodiversity in forestry, fisheries, agriculture, and tourism sectors and to achieve the 2030 Agenda on Sustainable Development.
2017	Peruvian indigenous activists at the United Nations Climate Conference in Germany made a strong call for indigenous peoples to be part of the solution to tackling loss of biodiversity.

Relevant UN treaties, Resolutions and Events

A Convention by United Nations Environment Program (UNEP)

On October 10, 2013, the Minamata Convention on Mercury, an international treaty for the protection of human health and the environment from releases of mercury, is adopted and signed in Geneva by 140 countries.

Event1

On September 23, 2014, Brazil refused to endorse a United Nations global anti-deforestation initiative, because it didn't participate in the consultation process.

United nations General Assembly Resolution

On December 19, 2016, in the 13th Conference of the Parties to the Convention on Biological Diversity (CBD) governments from 167 countries agreed upon a range of measures that are expected to accelerate the implementation of the Aichi Biodiversity Targets by 2020.

Event2

On March 1, 2018, Brazil's top court approved a controversial forestry law which provided an amnesty program that cancels penalties for landowners who have cut trees down illegally in the past (A revision of 2012 law).

Previous attempts to solve the issue

The last decades, environmentalists along with the indigenous people and NGOs have tried to preserve the biodiversity of the Amazon rainforest by creating certain parks. In addition, they have established certain laws concerning the illegal logging. However, this hasn't prohibited the loggers from cutting down trees, since no penalties for the illegal landowners exist. Moreover, governments have managed to create protected areas. Nevertheless, they still need to be provided with economic benefits, in order to continue maintain the forests. Lastly, in 2005 a mechanism called "reducing emissions from deforestation and degradation" (REDD) promoted the idea that developing countries should be compensated for reducing emissions from deforestation. The issue is that the development of policy mechanisms like REDD will involve problems such as traditional land rights and how compensation will be structured and what measures will effectively conserve forests without people being driven into poverty. Also, voluntary funding has been established mainly by Brazil, which rewards reductions in emissions from deforestation.

Possible solutions

The first step to preserve biodiversity is creating an international framework to sanction the REDD mechanism, so that credits are not restricted to voluntary markets but also address the indigenous people as well as the underlying drivers of deforestation. The second step is establishing of a voluntary fund through which developed countries, companies, and other entities would finance a program to reduce emissions from deforestation. Let us keep in mind that we need to address

who will be responsible for controlling the program and ensure that the funds are used only for the protection of the forests.

In addition, the delegates could propose that the governments send troops, implement fines and penalties on the landowners who purchase, or trade soy, beef, and other products produced on illegally deforested lands. It is also important to enforce the already existing laws and deal with corruption, so that the military forces don't ignore the statements of the indigenous.

What is more, improving the currently existing agricultural projects and providing poor farmers with alternative cultivation techniques is another solution. For instance, you could propose the cultivation of permaculture, which maintains the forest systems, soils, and biological diversity. Additionally, the creation of credit facilities for the indigenous farmers is crucial since micro-credit facilities can provide significant economic benefits to the local economy while promoting entrepreneurship among local people. Also, another incentive for farmers could be market access. Namely if the agricultural producers abide by certain standards that reduce carbon emissions —like avoiding deforestation— could be provided with higher prices for their products or receive preferential market access, like reduced tariffs.

Another solution could be the expansion of protected areas and the increase of surveillance of those areas through satellites or advanced military staff in the existing parks that will report any damage to the forests. In addition, new techniques need to be found and applied in the extraction of gold, so that people's health and the biodiversity are not threatened.

Based on the fact that a number of people are often displaced from the protected areas, their compensation is important. They could be provided with ways to ensure their income. For example, they could be trained in agricultural techniques and alternative crops. Involve indigenous people, where they still exist, in park management.

Last but not least, it is important to raise awareness concerning the products people use, in order to reduce the market derived from illegal logging.

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