United Nations Environment Programme (UNEP)

MUNUC 33

ONLINE

TABLE OF CONTENTS

CHAIR LETTER

Dear Delegates,

I would like to welcome all of you to the United Nations Environment Programme at MUNUC 33 Online. My name is Gabe Rodriguez, and I will be serving as your Committee Chair for this year's conference. I am very excited to meet and work with all of you during this MUNUC.

I am currently a second-year undergraduate student at the University of Chicago, majoring in Global Studies and Cinema and Media Studies. Last year, I served as a Moderator for the UN Development Programme of MUNUC 32. I am interested in government policy, international human rights, and social justice, especially when dealing with immigration policy and poverty. At the University of Chicago - aside from MUNUC - I am involved in ChoMUN and am planning on joining other clubs and organizations in the future.

I hope that you are all excited about the two topics this year for our committee: extractives and deforestation. While you may know information on these two topics, there are many cases where these two situations are often overlooked and moved to the side. Both of these topics have serious effects on not only the environment, but the people and animals living within it. As delegates of the UNEP, it will be essential that you take every effect on the environment and those living within it into account. The extractive industry can lead to oil spills, and deforestation can lead to flooding. Both can increase air pollution and the average annual temperature of the world.

Over the next few months, you will be learning about both of these topics, hopefully opening your eyes to many global problems that you were not previously aware of. I hope you enjoy this process, and please reach out to me if you have any questions about MUNUC, the University of Chicago, or even something global studies or film related.

I look forward to seeing you all for MUNUC 33 Online!

Warm regards,

Gabe Rodriguez

COMMITTEE HISTORY

In June 1972, the Stockholm Conference on the Human Environment founded the United Nations Environment Programme (UNEP). The first UNEP Governing Council was held a year later in Palais de Nations, Geneva from June 12-22 of 1973.[1] On October 2nd of 1973, the main office of the UNEP moved to Kenya. The headquarters of the UNEP are still located in Nairobi, Kenya today.[2] The first executive director of the UNEP was Maurice Strong of Canada and the current executive director is Inger Anderson of Denmark.[3]

Throughout the time of the UNEP, the committee has focused on many goals including sustainable development goals. On June 6 of 2012, during the International Conference on Sustainable Development (ICSD), the UNEP issued their fifth edition of the Global Environment Outlook (GEO-5) that assessed over 90 of the world's main environmental goals.[4] Their most recent version of the Global Environment Outlook is GEO-6 which was made on March 4 of 2019.[5]

The UNEP is now divided into multiple sections that each cover a different goal, including the Science division, Policy and Programme division, Law division, and Ecosystems division. The UNEP has been successful in their efforts against certain environmental issues. Progress has been made in climate change, the quality of seas, education, eco-friendly vehicles, and more; however, the committee understands that there is still work needed to be done.

[1] "SIEG Model United Nations 2019 Background Guide," accessed September 10, 2020, https://mymun.com/uploads/c5d841d6ac70d41495330575e8b1e8ac423d49b5.pdf.
[2] "United Nations Environmental Programme (UNEP) Established," United Nations Environmental Programme (UNEP) established | Environment & Society Portal, accessed September 10, 2020, http://www.environmentandsociety.org/tools/keywords/united-nations-environmental-programme-unep-established.
[3] "UN Secretary-General Appoints Inger Andersen of Denmark as Executive Director of the UN Environment," UNEP - UN Environment Programme, accessed September 10, 2020, https://www.unenvironment.org/news-and-stories/press-release/un-secretary-general-appoints-inger-andersen-denmark-executive.
[4] "SIEG Model United Nations 2019 Background Guide," accessed September 10, 2020, https://mymun.com/uploads/c5d841d6ac70d41495330575e8b1e8ac423d49b5.pdf.
[5] UN Environment, "Global Environment Outlook 6," UNEP - UN Environment Programme, accessed September 10, 2020, https://www.unenvironment.org/resources/global-environment-outlook-6.

TOPIC A: EXTRACTIVES

Statement of the Problem

Introduction to the Problem

During the extractive process, companies remove resources from the earth for economic gain. **Extractives** are often overlooked as a serious problem because many people do not understand the negative impacts that these processes have on the environment, people, and economy in which they occur. Oil, gas, and minerals are heavily extracted, as there is a demand for them in manufacturing everyday products like plastic, gasoline, and deodorant. While these natural resources are heavily relied upon, their extraction poses environmental and safety hazards. The extractive process increases pollution, road traffic, and labor risks for workers because of the dangerous environments they operate in. They also disrupt the communities surrounding the sites, and the indigenous people living there usually suffer the consequences.[6] The lives of workers and indigenous people affected, the environmental impacts, and the economic repercussions of extractives need to be at the forefront of delegates' minds. Working towards extracting these important resources in the safest way possible is of the utmost importance. The UNEP is working to find solutions where every issue resulting from the extractive process is taken into account.[7]

The **extractive industry** is defined as "any processes that involve the extraction of raw materials from the earth to be used by consumers".[8] The most important and sought after extractives in the industry are gas, oil, and minerals. The need for these resources have grown over the years as demand for their byproducts grows, and the industry has presented opportunities for companies to enter and reap generous profits. The extraction of resources has posed major threats to the environment, exacerbating global warming, pollution, and other serious issues. The extractives

[6] "Why does extractives matter? | UNEP - UN Environment ....," accessed June 15, 2020, https://www.unenvironment.org/explore-topics/extractives/why-does-extractives-matter.
[7] "Extractives | UNEP - UN Environment Programme," accessed June 15, 2020, https://www.unenvironment.org/explore-topics/extractives.
[8] "What is extractive industry? - Business Dictionary," accessed June 15, 2020, http://www.businessdictionary.com/definition/extractive-industry.html.

industry also harms local communities in multiple ways, including through environmental degradation and forcing families to vacate their land. As both an environmental and human rights issue, the extractive process can no longer be overlooked. If only minimal action is taken to improve the extractive industry, the world will face irreversible damage.

Current Situation

The Extractive Industry and the Environment

The extraction industry poses threats to the environment beyond the local area where oil, gas, and minerals are extracted. It results in increased road traffic and air pollution that impact surrounding areas, generated by the need for workers and transportation infrastructure at extractive sites. Air pollution is created by the added traffic and transportation use, but this pales in comparison to the quantity of pollutants released by the industrial and chemical methods of extraction itself.[9] Extraction releases harmful gases such as sulfur dioxide, carbon monoxide, and methane. The extractive industry has become responsible for more than a quarter of the carbon emissions in the world, and thus it is a major contributor to global warming.[10]

Another clear issue is the destruction of the physical land. Mining activity can leach hazardous chemicals into the environment which contaminate and sometimes destroy soil. This can permanently damage plants and groundwater in the land, making it unusable for future generations or wildlife. It has lasting repercussions on the food chain, beginning with the wildlife who depend on these plants for their primary food source.[11] Not only are certain animals being killed, but many lose their homes and natural habitats. For gorillas in particular, only 17% of the gorilla population has

[9] "About extractives | UNEP - UN Environment Programme," accessed June 16, 2020, https://www.unenvironment.org/explore-topics/extractives/about-extractives.
[10] Watts, Jonathan. "Resource extraction responsible for half world's carbon emissions," The Guardian, accessed March 12, 2019, https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss.
[11] "7 Effects of Mining and Processing of Mineral Resources on Environment," accessed June 16, 2020, https://www.yourarticlelibrary.com/environment/7-effects-of-mining-and-processing-of-mineral-resources-on-environment/28189.

been protected and put in safe habitats.[12] Gorillas have been heavily affected by the oil and gas industry, losing their habitats due to the logging required to build pipelines and roads. Drilling can also affect marine life and bird habitats, as the air guns used to extract the oil and gas create sounds that can be deafening for whales and fish alike.[13] These sounds interfere with how marine mammals locate food, navigate, and find mates. These air gun bursts are audible from up to 2,500 miles away, reaching a quite large radius of marine life and birds.[14] Drilling kills an average of 200,000 birds a year. Additionally, oil and other substances often leak into the water, polluting the habitats of marine life.[15] Another problem that arises is the air pollution associated with the vast amount of energy that these processes require. Burning a resource like coal releases carbon dioxide into the air, which traps heat in the atmosphere and contributes to global warming.[16] **Acid rain** is yet another consequence of atmospheric pollution released during the extractive process.

A big reason that these problems are so severe is that extractive resources are **non-renewable,** or finite. These resources are scarce, and will likely be exhausted soon: there is a serious possibility that future generations may not have these resources and may suffer without them. In the last 20 years, the demand for minerals has increased tremendously and many companies have decided to take advantage of that increase.

A solution to this situation would be to create a more sustainable process and use a lower-waste approach when dealing with these resources. This process means that there would be a big emphasis on the ideas of recycling and reusing as opposed to burning, dumping, and burying.[17] There is also an approach very similar to a low-waste approach which is a zero-waste approach. A zero-waste approach does not mean that there will be no waste by the end of the process, but the goal is to

---

[12] "Oil and Gas Development | Threats | WWF - World Wildlife Fund," accessed June 16, 2020, https://www.worldwildlife.org/threats/oil-and-gas-development.
[13] Ibid.
[14] "Drilling Is Tragic For Marine Life - Environment America," accessed September 6, 2020, http://environmentamerica.org/sites/environment/files/AME_offshoretwopager_2015_print-1.pdf?_ga=1.208961042.1894223792.1455642902.
[15] Ibid.
[16] "Nonrenewable Resources | National Geographic Society," accessed June 16, 2020, https://www.nationalgeographic.org/encyclopedia/nonrenewable-resources/.
[17] ""7 Effects of Mining and Processing of Mineral Resources on Environment," accessed June 16, 2020, https://www.yourarticlelibrary.com/environment/7-effects-of-mining-and-processing-of-mineral-resources-on-environment/28189.

minimize the waste as much as possible through the use of recycling and technology by the name of anaerobic digestion. Anaerobic digestion is a biological process that breaks down biodegradable materials into biogas which can be used as energy or processed into renewable gas.[18] However, many companies are either too comfortable with their current methods or do not care enough to change, so it has become difficult for either of these methods to expand significantly within the industry.

The Extractive Industry and the People

The extractive industry is very hazardous, and although deaths have gone down over time, there are still health risks involving these extraction sites. Harmful chemicals and dangerous machinery has caused some workers to either become severely injured or lose their lives. Policies must be put in place and laws must be created to ensure that there is no possibility that companies are able to abuse the human rights of workers so they can profit. On top of the health risks that come along with workers there is also a fair amount of discrimination. The extractive industry is a male dominated industry that has created a tough environment for women to pursue and find success in. Within the extractive industry, less than 30% of workers are women and less than 2% of the CEOs are women.[19] An equal opportunity should be given to both the men and women in the workplace and more action needs to be taken to make sure this change is made.[20]

The communities and economies involved are heavily affected by the extractive industry as well and it is almost never a positive outcome. There is a possibility of **gentrification** in many of the areas around where extraction takes place. An increased income for the workers may lead to an increase in prices of food, housing and essential commodities that the local community would no longer be able to afford.[21] The poor and elderly may suffer from a situation like this that they would not be able to recover from without the decision to relocate. Farming land, free land in general, and more can be

[18] "Zero Waste - Eco-Cycle," accessed June 16, 2020, https://www.ecocycle.org/zerowaste.
[19] "Women in Energy - Gas, Mining, and Oil: Quick ... - Catalyst.org," accessed September 6, 2020, https://www.catalyst.org/research/women-in-energy-gas-mining-oil/.
[20] Ibid.
[21] "10 Human Rights Priorities for the Extractives Sector | BSR," accessed September 6, 2020, https://www.bsr.org/en/our-insights/primers/10-human-rights-priorities-for-the-extractives-sector.

stripped away from the community without any of their inputs. [22] Indigenous peoples are particularly susceptible to these corporate land-grabs.

There is also a great deal of corruption and bribery within these enterprises. There is the possibility that communities may be at risk as those in charge have the final word at what goes where and those in charge may have the wrong intentions with no one to stop them. Funds could be misdirected towards what benefits the corrupt individuals while public goods, healthcare, and education suffer the consequences.[23] In some cases, funds have been directed towards armies and violent conflicts by those with the power to do so which creates more trouble than peace. Much of this is able to happen due to the lack of sufficient legal frameworks in many countries. Therefore, the country is not always able to adequately restrain a corporation's land usage. The extractive industry has been overlooked for some time and there is not much outside control or legal action that can be currently used to stop problematic processes.[24]

[22] Ibid.
[23] Ibid.
[24] "Extractive Industries and Conflict - UNEP," accessed June 16, 2020, http://postconflict.unep.ch/publications/GN_Extractive_Consultation_ES.pdf.

Placing a higher importance on these issues is crucial to making sure that laws and regulations are put in place to create a safe, respectful, and honest environment for everyone involved. Organizations like the UNEP have focused on advocating strengthened laws and governance, but this is not the only step the world needs to take.[25] Raising awareness by informing the public about data, science, and technology is important to making this issue heard. There are solutions to the problems the industry creates, but those solutions will not be put in place if no one is informed.[26] While there needs to be information spread on the science that can benefit this industry, there also needs to be awareness about the suffering of multiple different societies. Many communities do not have the strength to fight back and many extractive companies hide the truth.

The extractive industry poses major threats to the environment and the people both on a local and global level and it is often overlooked. Efficient and environmentally safe methods must be put in place to ensure that future generations do not suffer the consequences while not relying so heavily on non-renewable resources. Laws and stricter regulations must be put in place to ensure that people, communities and countries are not abused by the system.

[25] "Strengthening laws and governance | UNEP - UN ....," accessed June 16, 2020, https://www.unenvironment.org/explore-topics/extractives/what-we-do/strengthening-laws-and-governance.
[26] "Informing policy with science | UNEP - UN Environment ....," accessed June 16, 2020, https://www.unenvironment.org/explore-topics/extractives/what-we-do/informing-policy-science.

History of the Problem

The extractive industry has had a long history of using and abusing the people and environments which surround it. However, in many cases, they are able to do so because of the powerful role they play in the economies and governments of nations. In 2010, just the oil component of the extractive industry accounted for 74% of Nigeria's government revenue.[27] This makes government regulation of oil companies extremely difficult, as most of the government's funding is predicated on the success of this industry. Tampering with it in any way could have severe consequences for the whole country, and this fact allows companies' worst practices to go unchallenged.

History of Health Effects

One of the most harmful sub-industries to come out of the extractive industry is the mining industry. Mining has occurred in places all over the world and has had some drastic effects on both the environment and the people. In the 1990s, the coal mining industry was growing immensely within Africa. Thousands of lives were lost due to dangerous machinery, toxins, and construction accidents.[28] If a worker did not have a fatal accident during the job, they may still be at risk for **tuberculosis** or some other medical condition, from exposure to hazardous sites. This has been caused by poor ventilation in shafts and the harmful gases, toxins, and dust that get released.[29] The uranium mining industry has also been shown to have lasting effects on one's health and even can even cause birth defects in the children of workers. These harmful side effects are still being felt today. For example, poorly constructed mines from the Soviet era remain in use.[30]

A 2003 study showed that gold miners in different locations, including North America, Africa, and Australia, have had a decrease in their average life expectancies.[31] They have also been shown to have an increased chance of many forms of cancer, including lung and trachea cancer.[32] While

[27] "Extractive Industries - Unctad," accessed June 28, 2020, https://unctad.org/en/PublicationsLibrary/suc2012d1_en.pdf.
[28] Case study on Extractive Industries prepared for the Lancet ....," accessed June 28, 2020, https://www.med.uio.no/helsam/english/research/global-governance-health/background-papers/extrac-indus.pdf.
[29] Ibid.
[30] Ibid.
[31] Ibid.
[32] Ibid.

miners have also been shown to have a higher consumption of alcohol and tobacco products than the average individual,[33] the cancer can partly be attributed to unhealthy mining conditions.

History of the Effect on Nations

Health implications of workers are not the only issues to arise from the extractive industry. The past actions of both industries and nations have created harmful effects on the nations themselves. In Indonesia, the government transitioned from authoritarian to a democracy in the 1990s.[34] This transition was beneficial for many, and it was especially beneficial for the mining industry. The country went from having less than 1,000 active mining sites to having close to 10,000, in just ten years (from 2000 and 2010). Those involved in the extraction process now thrive off of this mining and gain political power as well as substantial profit. These activities have even occurred in the government protected forests of certain countries because of the lack of control.[35]

The extractive industry has also created a type of colonialism called **extractive colonialism**. The colonizers who enter the land acquire the customs of the village only to better understand the land and people, so that they can use them to their advantage.[36] While extractive colonialism was a much more harmful system in the early 1900s and before, it has still been occurring in recent years. Myanmar is a country that suffered heavily from the effect of colonial rule because of the strain on local resources. This was due to the decision of those in power to export mass amounts of extractives for profit. Other countries in Europe and Asia suffer the same consequences, making billions from the nations while the countries themselves still remain in poverty.[37]

Extractive industry land use has also led to increases in criminalization, riots, and violent disputes.[38] Many countries in Latin America and Asia have had these violent incidents arise from extractive

---

[33] Ibid.
[34] Ibid.
[35] "ICMM • Where and how does mining take place?," accessed June 28, 2020, https://www.icmm.com/en-gb/metals-and-minerals/producing-metals/where-and-how-does-mining-take-place.
[36] "Extractive Industries - Unctad," accessed June 28, 2020, https://unctad.org/en/PublicationsLibrary/suc2012d1_en.pdf.
[37] Case study on Extractive Industries prepared for the Lancet ....," accessed June 28, 2020, https://www.med.uio.no/helsam/english/research/global-governance-health/background-papers/extrac-indus.pdf.
[38] "Extractive Industries - Unctad," accessed June 28, 2020,

industries, especially mining.[39] The **OCMAL** organization within Latin America is dedicated to keeping track of this kind of conflict in Latin American countries, and it has observed hundreds of conflicts in recent years. Some of these conflicts can even result in murder, and they usually stem from disputes over land. In certain cases, these disputes have been transnational.[40]

The Democratic Republic of Congo has also experienced the dangerous and violent effects the extractive industry can have on a nation. From 1997 to 2006, 3.9 million deaths were caused by local and international companies fighting for the control of diamond, gold, and coltan deposits.[41] Without proper steps taken to prevent similar situations, this violence could arise again in the future.[42]

The History of Environmental Effects

One of the main issues with extractives that is often ignored is waste removal. In recent years, Brazil has become a leading producer of gold. With gold comes the extraction of mercury, as mercury must first be removed in order to remove gold. Mercury toxins have seeped into the soil and water, polluting the ground and affecting the fish. These fish not only suffer from toxins released, but can now be potentially harmful to consume.[43] The transfer of mercury not only affects humans and fish, but other species as well. Feathers in fish-eating birds in areas of mercury release have shown slowly increasing concentrations of mercury over the last century. In North America, sediment cores of areas where companies have worked have shown up to five times more of mercury concentrations than previously recorded cores.[44]

---

https://unctad.org/en/PublicationsLibrary/suc2012d1_en.pdf.
[39] "Extractive Industries - Unctad," accessed June 28, 2020, https://unctad.org/en/PublicationsLibrary/suc2012d1_en.pdf.
[40] Ibid.
[41] Ibid.
[42] Ibid.
[43] "The Impact of Metal Extraction to the Environment, Economy ....," accessed June 28, 2020, https://greenerideal.com/news/business/0617-metal-extraction/.
[44] "Mercury in the Environment - USGS," accessed June 28, 2020, https://www2.usgs.gov/themes/factsheet/146-00/.

Extraction processes have also left behind acres of open sites, which has allowed metals and toxins to seep into the soil and rivers, causing destruction of forests and elimination of certain wildlife.[45] An additional consequence is that vegetation is having trouble thriving near extraction sites because the soil has become too acidic. Those that do not follow eco-friendly practices often do not feel the need to help restore plant life. The process of restoration and ensuring that the land is left intact takes both time and money, and many companies do not prioritize the environment enough to invest these resources.[46]

Radioactive waste has also become a more pressing issue in recent years due to the extraction of earth elements. When elements like uranium are extracted from rock, radioactive wastes and hazardous chemicals are left behind from the milling process. Uranium, in particular, decays to radium, which decays to release a dangerous, odorless, colorless, radioactive gas called radon. The waste is often poorly managed by the companies who extract these elements, leaving behind radiation and harming the organisms inhabiting the nearby environment.[47]

In 2010, the infamous oil spill and drilling explosion in the Gulf of Mexico caused extensive damage to marine life, wildlife, and the fishing and tourism industries in the area. Other oil spills in the past have destroyed the soil and have led to explosions and fires which have proven to have long-lasting environmental impacts. The oil extraction process in the US and other areas has used **hydraulic fracturing (**fracking**)** to increase the gain of oil. However, this process uses large amounts of water, which has caused a decrease in the availability of water for other uses. Oil extraction creates a hefty amount of wastewater - which is typically injected into deepwells - and the injection can potentially lead to earthquakes or disruptions within the earth.[48]

---

[45] "Case study on Extractive Industries prepared for the Lancet." accessed June 28, 2020, https://www.med.uio.no/helsam/english/research/global-governance-health/background-papers/extrac-indus.pdf.
[46] "Case study on Extractive Industries prepared for the Lancet." accessed June 28, 2020, https://www.med.uio.no/helsam/english/research/global-governance-health/background-papers/extrac-indus.pdf.
[47] "Where's The Harm – From Materials Extraction? – Electronics," accessed June 28, 2020, http://www.electronicstakeback.com/toxics-in-electronics/wheres-the-harm-extraction/.
[48] "Oil and petroleum products explained Oil and the … - EIA," accessed June 28, 2020, https://www.eia.gov/energyexplained/oil-and-petroleum-products/oil-and-the-environment.php.

Past Actions

There is much work remaining to be done in resolving the environmental and societal impacts caused by the extractive industry, but several steps have already been taken towards this end.

The UNEP

The UNEP has done a substantial amount of work to push for change within the extraction process, also ensuring the sustainability of the solutions it has implemented.

Environmental Assessments

The UNEP has retrieved data from different regions occupied by the extractives industry to assess the extent to which each region has been impacted. In 2011, the UNEP conducted an assessment of over 200 extraction sites in Ogoniland and came to the conclusion that the oil operations had had alarming impacts on both the environment and safety of the local residents. Much of the drinking water had been contaminated, and this led to Nigeria to create a $1 billion clean-up programme that went into effect in 2016.[49]

A similar situation occurred in Mongolia. The UNEP helped conduct a study that retrieved information on the environmental, economic, and social impacts left by the local extractives industry. By the conclusion of the study in 2015, a database was created to collect data on water quality, air pollution, migration, and employment revenues. This helped to determine the true impacts of the mining events within Mongolia.

Innovation and Improvement to Business Practices

PAGE, or Partnership for Action on Green Economy, aims to change economic policies of nations to ensure economic growth, while creating jobs, reducing poverty, and strengthening the ecological foundations. There are currently 20 countries partnered with PAGE, and the organization has helped

[49] Ibid.

over 90 countries within the last 5 years.[50] The UNEP has also worked with several smaller companies to provide methods for eco-innovation and sustainable business practices.

The **OGMP** focuses on the reduction of methane emissions - that have proven to be even more severe than CO_2 - when comparing warming gases.[51] This partnership has connected with many companies including Equinor, Pemex, and Shell. Companies involved have to report their methane emissions from both operated and non-operated assets. They must also create and reach targets of reduction.[52]

In Indonesia, the UNEP helped industries create a method where mercury vapor is removed as a product of gold ore processing. The process condenses it to be reused for later, which protects the health of workers and the environment. This situation was able to reduce mercury emissions by 3000 kilograms in one year.[53]

Improving Planning

Proteus has become a leading organization in providing companies with the information needed to take into consideration - the biodiversity and ecological systems within the areas they work.[54] The **EEC**, or Environmental Emergencies Centre, is another leading organization that provides information and assistance on safer practices to both nations and companies if needed. The EEC also prepares these companies and nations for disaster situations and helps them focus on creating eco-friendly methods.[55] The UNEP **APELL** has also provided information to over 40 countries.[56]

---

[50] "Partnership for Action on Green Economy | PAGE," accessed July 4, 2020, https://www.un-page.org/.
[51] "The CCAC Oil & Gas Methane Partnership | Climate & Clean," accessed July 4, 2020, https://ccacoalition.org/en/activity/ccac-oil-gas-methane-partnership.
[52] Ibid.
[53] "Promoting innovation and better business practices | UNEP," accessed July 4, 2020, https://www.unenvironment.org/explore-topics/extractives/what-we-do/promoting-innovation-and-better-business-practices.
[54] "Proteus Partners," accessed July 4, 2020, https://www.proteuspartners.org/.
[55] "Home - EECentre," accessed July 4, 2020, https://www.eecentre.org/.
[56] "Promoting innovation and better business practices | UNEP," accessed July 4, 2020, https://www.unenvironment.org/explore-topics/extractives/what-we-do/promoting-innovation-and-better-business-practices.

Strengthening Laws and Governance

The **IRP**, **OfD Programme**, and **Nairobi Convention** are organizations that have advised countries and companies to create policies and processes that take into account the natural resources available. Many resources are finite; therefore, these organizations often push for the concept of reduce, reuse and recycle in Africa, Norway, and other countries.[57]

The **Global Mercury Partnership** has helped reduce the amounts of mercury by implementing the **Minamata Convention,** which has banned new mercury mines from forming.[58] The **Poverty-Environment Initiative** works to ensure that both poverty and the environment are taken into account with countries' policies and budgets. [59]

The World Bank

The World Bank advocates for change by focusing on three main forms of stability within the extractive industry: financial stability, social stability, and environmental stability.[60] The organization has pushed for governments to strengthen fiscal regimes, improve tax administration, remove subsidies, and improve revenue transparency to protect economies from problems created by the extractive industry.[61] This also reinforces the use of public-private partnerships. Furthermore, the World Bank has helped create policies and legal frameworks for oil, gas, and mining regulations.[62]

The World Bank has also pushed for social sustainability by spreading awareness of the issues created by the extractives industry. The Bank promotes inclusive growth by advising diverse groups to be associated with the companies, so that accountability is ensured. This means that a higher percentage of local communities and indigenous groups are given a role throughout the process.[63]

---

[57] "Proteus Partners," accessed July 4, 2020, https://www.proteuspartners.org/.
[58] "Minamata Convention on Mercury > Home," accessed July 4, 2020, http://www.mercuryconvention.org/.
[59] "Strengthening laws and governance | UNEP - UN," accessed July 4, 2020, https://www.unenvironment.org/explore-topics/extractives/what-we-do/strengthening-laws-and-governance.
[60] "Extractive Industries Overview - World Bank Group," accessed July 4, 2020, https://www.worldbank.org/en/topic/extractiveindustries/overview.
[61] Ibid.
[62] Ibid.
[63] "Extractives Global Programmatic Support (EGPS) - World Bank," accessed July 4, 2020, https://www.worldbank.org/en/programs/egps.

The World Bank also pushes for the local communities to become familiar with the companies and their plans - from the beginning - to make sure that everyone being affected is aware of the situation.[64]

Lastly, the World Bank has implemented programs to protect the environment for present and future generations. Under the **MDTF**, the World Bank has been able to put forth different organizations including the **GGFR** and the **EGPS** organizations.[65] The EGPS focuses on government transparency and economic diversification, as well as environmental sustainability and strengthening institutions.[66] The GGFR is a collection of companies, governments, and institutions that aim to end routine gas flaring. It monitors gas flaring and spreads awareness locally and globally, to eventually increase energy access and mitigate climate change.[67]

The Efforts of Nations

Countries over the past years have done their own work in trying to make a change within the industry. Policies have taken into account environmental and health effects, as well as their relationship with the people and animals of the areas. Regulations and limitations have also been implemented in certain countries, to limit the extent of the extractive industry's impact.[68] Some countries have joined the **EITI**, or Extractive Industries Transparency Initiative, which has allowed them to keep track of much of what is occurring in the extractive industries that reside within their areas. The EITI has over 50 countries who provide information on their tax and legal frameworks, production, and revenues within the industry.[69] The EITI annually checks these areas to see which countries have met their goals, which are making changes, and which are struggling to do either. Each country involved then understands and works towards their next goals.[70]

---

[64] Ibid.
[65] Ibid.
[66] Ibid.
[67] "Global Gas Flaring Reduction Partnership (GGFR)," accessed July 4, 2020, https://www.worldbank.org/en/programs/gasflaringreduction.
[68] "Countries - Extractive Industries Transparency Initiative," accessed September 10, 2020, https://eiti.org/countries.
[69] Ibid.
[70] Ibid.

Possible Solutions

Raising Awareness

While there are companies and nations that have done a significant amount to help lessen this problem, many others have chosen not to act on it. Raising awareness is a great solution that will help gather more support to continue making substantial changes that better the environment and promote safety. More companies should align themselves with the programs previously mentioned, such as EITI. They should work towards educating themselves, their workers and their followers. This may present a challenge, as certain companies are educated on the situation but choose not to shift their methods of extraction. However, if more companies begin to actively change their policies while informing others, it will push the greater majority of society to hold companies refusing to participate accountable.

One of the biggest obstacles is that many people do not know the effects of the current extractive processes. People with power are not typically the ones most impacted by the extractive industry, and as a result, they do not work to educate others about the harms caused by the industry. This means that it is essential not only for companies to raise awareness, but other individuals and groups with power must help out as well. Social media, environmental and workers' rights organizations, and local and federal governments can help spread accurate information to uniformed groups and individuals. Thus, raising awareness across the globe will ensure that every country and person understands the harmful impacts of the current extractive industry. [71]

Strengthening Laws

Continuing to strengthen the laws and regulations within these areas of extraction is arguably the most important step in permanent solutions. A higher level of transparency is needed to determine if companies are abusing the environment, country, workers, and people. Laws must be improved so that no foreign or domestic companies have the power to control what occurs within the area of

[71] "About extractives | UNEP - UN Environment Programme," accessed September 2, 2020, https://www.unenvironment.org/explore-topics/extractives/about-extractives.

desired extraction. This is also important to prevent corruption within these companies, as many of them receive the majority of the extraction's benefits while the local communities are negatively impacted. Laws regarding the health of workers are extremely important as well, to protect workers from the safety risks associated with the extraction process.[72]

Many companies have an excessive amount of power which allows them to take control of the smaller, local businesses near the extraction sites. To combat this, community residents should be incentivized to invest in local businesses, and licensing applications must stipulate a higher level of transparency.[73] Since materials being extracted are mostly finite resources, greater transparency on the specific items companies are extracting will help preserve these vital resources. As local businesses grow stronger, they will be better equipped to stand up to larger companies who seek to gain control in a community. Community councils for decision-making with high inclusivity of community voices will also help improve the situation.[74]

Improvement and Innovation

As shown repeatedly, the extractive industry can be intentionally harmful towards the environment, but in some cases companies may use harmful practices because they are the only options available or the only ones known to them. One area for improvement and innovation is expanding the options for energy usage, including wind and solar energy. These create substantially fewer environmental issues than fossil fuel emissions.

Strengthening organizations like Proteus will build upon existing information and resources to provide more protection for the environment. Therefore, this is a vital step towards promoting the environment. Companies should also remain consciously aware of their environmental footprints; the better the information on each company's impact, the less harm they will do.[75] Other

[72] "10 Human Rights Priorities for the Extractives Sector - BSR," accessed July 12, 2020, https://www.bsr.org/en/our-insights/primers/10-human-rights-priorities-for-the-extractives-sector.
[73] Ibid.
[74] Ibid.
[75] "Proteus Partners," accessed July 12, 2020, https://www.proteuspartners.org/.

components of the innovation and improvement process including the eliminating waste, extraction sites, and noise caused by the extractive industry.

Bloc Positions

Asia

Asia has become a center for the extractive industry, with many different companies choosing their extraction sites in the continent. Not only is the environment suffering heavily from some of the poor practices of these companies, but the indigenous people in Asia have suffered greatly as well. Many regions of land in Asia are being given to extractive companies while simultaneously being taken from the local communities.[76] These communities are being forced off their land, with harsh consequences if they try to retaliate. In places such as the Philippines, Cambodia, and India, environmental and land rights activists are treated violently to ensure that they do not continue to fight the extraction efforts.[77]

As a result of extraction efforts, air and water pollution in Asian countries have been severely exacerbated.[78] This not only affects the physical environment, but it also affects the lives of the people living close to the extraction sites: clean water becomes difficult to find and family members may fall sick due to the pollution created during extraction.[79] These situations have led to the creation of organizations like **Oxfam,** which aims to help those affected by poverty and injustice, including those impacted by environmental issues.[80]

One of the underlying factors allowing for this environmental degradation is the lack of power that local communities and organizations have when dealing with these extractive industries.[81] With stronger laws and more powerful community organizations to regulate extraction, Asia will see a reduction in the environmental issues caused by resource extraction.

---

[76] "Mekong Extractive Industry Programme | Oxfam in Asia," accessed July 27, 2020, https://asia.oxfam.org/what-we-do/mekong-extractive-industry-programme.
[77] Ibid.
[78] "Mekong Extractive Industry Programme | Oxfam in Asia," accessed July 27, 2020, https://asia.oxfam.org/what-we-do/mekong-extractive-industry-programme.
[79] Ibid.
[80] "Take Action - Oxfam in Asia - Oxfam International," accessed September 2, 2020, https://asia.oxfam.org/take-action.
[81] "Rights-based claims and extractive industries in Asia: an ....," 12 Mar, 2020, accessed July 27, 2020, https://www.sei.org/publications/rights-claims-extractive-industries-asia-assessment/.

Latin America

In recent years, the extractive industry has grown exponentially in Latin America. Many Latin American countries regarded the industry as an economic opportunity; however, the major growth of the industry has caused more environmental and social problems to arise within the various regions. Latin American communities within the target areas of extraction are dealing with similar issues faced in Asia. There is less attention and concern given towards the local environment and citizens because many of the countries have relieved the extractive companies of heavy taxes, harsh regulations and other inhibitors in order to benefit their economies.[82] Latin America organizations such as **OCMAL** are improving the situation, but these groups require more power and awareness to make a more beneficial change.

Europe

The extractive industry has created job opportunities for European countries and has helped to improve the economy. European companies also help provide different types of extractives that have become important for products, including metals and coal. For this reason, organizations like Euromines have acknowledged the need for extractive industries while pushing for their processes to be improved. Some countries have partnered with Euromines to push for the creation of stricter policies and legislation regarding how materials can be extracted.[83] Meanwhile, the European Commission has also worked to prioritize the safety of the workers as well as the environment. The Commission aims to limit the amount of toxins and greenhouse gas emissions released during extractive processes.[84]

Some European organizations are focusing on the exploitation of small-scale businesses, local communities, and poor economies. The **Open Society** is a European organization that helps aid African countries that have suffered heavily from the extractive industry, including the Democratic

---

[82] "Extractive Industries in Latin America | American University ....," accessed 27 Jul. 2020, https://www.american.edu/centers/latin-american-latino-studies/extractive-industries.cfm.
[83] "Shape the future of the extractive induStry in ... - Euromines," accessed August 28, 2020, http://www.euromines.org/files/news/media/euromines-profile-brochure-web.pdf.
[84] "Sectoral social dialogue - European Commission - Europa.eu," accessed August 28, 2020, https://ec.europa.eu/social/main.jsp?catId=480&langId=en&intPageId=1833.

Republic of Congo, Ghana, and Zimbabwe.[85] While there is still work to be done when it comes to passing certain policies and decreasing the amount of extraction that occurs within the European extractive sites, there are numerous ways that European countries are using their power to make a change.[86]

Africa

Africa is home to an abundance of valuable natural resources, such as diamonds, oil, and bauxite, that have become very desirable to countries and companies globally.[87] One of the main extraction-related issues facing the continent is the corruption and lack of transparency within the industry. The

[85] "Extractive Industries Transparency: The Benefits of EU ....," accessed August 28, 2020, https://www.opensocietyfoundations.org/publications/extractives-industries-transparency-benefits-eu-legislation-african-citizens.
[86] Ibid.
[87] "Using extractive industry data to fight inequality & strengthen ...." 19 Nov, 2019, accessed August 28, 2020, https://www.brookings.edu/blog/africa-in-focus/2019/11/19/using-extractive-industry-data-to-fight-inequality-strengthen-accountability-victories-lessons-future-directions-for-africa/.

EITI has helped African countries place a greater emphasis on accountability and anti-corruption efforts.[88]

Local communities and the biodiversity in African countries are also being affected by the excessive amounts of extraction. This has caused organizations such as **BirdLife** to push for eco friendly improvements in the extraction process.[89] African countries have been affected greatly by this industry, but with proper organizations and awareness in place, there is hope for the environment and communities to return to a healthy state.

Canada and the United States

The United States is a large producer of extractive products. The United States has created programs and laws over the years to help regulate the processes of the extraction industry.[90] However, the country has, at times, lessened its attention to care for the environment. While the United States joined the EITI in 2014, they left the organization in 2017. However, during that time they were one of the biggest supporters of the movement towards more environmentally friendly practices.[91]

Canada has been an avid supporter of finding solutions and safe practices for the extractive industry. Through their **CSR** agenda, Canada aims to focus on transparency and take the environment into consideration when considering extraction.[92] They are also dedicated to creating plans to reduce poverty and improve social sustainability. Canada has other programs under the CSR that retain the economic benefits of extraction and help extraction companies, while ensuring to not hurt local communities.[93]

---

[88] Ibid.
[89] "Extractives industries in Africa: Blessing or Curse? | BirdLife," 12 Jun, 2015, accessed August 28, 2020, https://www.birdlife.org/africa/news/extractives-industries-africa-blessing-or-curse..
[90] "United States of America | Extractive Industries Transparency ....," accessed September 3, 2020, https://eiti.org/united-states-of-america.
[91] Ibid.
[92] "Extractive Industries: The Canadian Advantage at ... - Canada.ca." 18 Nov, 2014, accessed September 10, 2020, https://www.canada.ca/en/news/archive/2014/11/extractive-industries-canadian-advantage-home-abroad.html.
[93] Ibid.

Middle East

The transparency within the Middle East as well as the consideration for the environment has increased during recent years. The shift in the attention to the extractive industry within the Middle East has caused countries like Egypt and Tunisia to join the EITI. These countries are taking a more active role in pushing for transparency and accountability within the extractive industries.[94]

[94] "Extractive Industries: The Canadian Advantage at ... - Canada.ca," 18 Nov, 2014, accessed September 10, 2020, https://www.canada.ca/en/news/archive/2014/11/extractive-industries-canadian-advantage-home-abroad.html.

Glossary

Acid Rain: rainfall made sufficiently acidic by atmospheric pollution that it causes environmental harm, typically to forests and lakes[95]

APELL: Awareness and Preparedness for Emergencies at Local Level

BirdLife: partnership of global organizations that aims on conserving species of birds

CSR: Corporate Social Responsibility

EEC: Environmental Emergency Centre

EGPS: Extractives Global Programmatic Support

EITI: Extractive Industry Transparency Initiative

Extractive Colonialism: when industries enter the land and take control of the scene to strip the land

Extractives: natural resources that must be removed from the environment through processes in order to be used for and as products

Gentrification: the process of renovating and improving a house or district so that it conforms to middle-class taste

GGFR: Global Gas Flaring Reduction Partnership

Global Mercury Partnership: UNEP's programme to protect human health and the environment when dealing with mercury

[95] "Effects of Acid Rain | Acid Rain | US EPA," 4 May, 2020, accessed September 10, 2020, https://www.epa.gov/acidrain/effects-acid-rain.

Hydraulic Fracturing: "fracking," is an oil and gas well development process that typically involves injecting water, sand, and chemicals under high pressure into a bedrock formation via the well[96]

IRP: International Resource Panel

MDTF: Multi-Donor Trust Funds

Minamata Convention: created in 2017 with multiple countries associated with the convention

Nairobi Convention: Signed in 1985 and in effect in 1996, this is a partnership between different groups under the UNEP's Regional Seas Programme

Non-Renewable: substance that is being used up more quickly than it can replace itself. Its supply is finite

OCMAL: Observatorio de Conflictos Mineros de América Latina

OfD Programme: Oil for Development

OGMP: Oil and Gas Methane Partnership

Open Society: donates thousands of grants annually to groups and individuals that support their efforts

Oxfam: created in 1970 to help reduce the amount of poverty in different countries

PAGE: Partnership for Action on Green Economy

Poverty-Environment Initiative: core partnership of the UNDP and UNEP

[96] "What is hydraulic fracturing? - USGS," accessed September 10, 2020, https://www.usgs.gov/faqs/what-hydraulic-fracturing.

Proteus: initiated in 2003 through the partnership of the UNEP and WCMC

Tuberculosis: an infectious bacterial disease that causes nodules (tubercles) in tissue to grow, mainly in the lungs

Bibliography

"UN Secretary-General Appoints Inger Andersen of Denmark as Executive Director of the UN Environment." UNEP - UN Environment Programme. accessed September 10, 2020. https://www.unenvironment.org/news-and-stories/press-release/un-secretary-general-appoints-inger-andersen-denmark-executive.

America, Environment. "Drilling Is Tragic For Marine Life." AME OffShore, 2015. https://environmentamerica.org/sites/environment/files/AME_offshoretwopager_2015_print-1.pdf.

APELL. "APELL for Mining Guidance for the Mining Industry in Raising Awareness and Preparedness for Emergencies at Local Level." United Nations Environment Programme, 2020. http://www.unep.fr/shared/publications/pdf/WEBx0055xPA-APELLminingEN.pdf.

Bambas-Nolen, Lexi. "Case Study on Extractive Industries Prepared for the Lancet Commission on Global Governance." Extractive Industry Final for Lancet Commission, 2015. https://www.med.uio.no/helsam/english/research/centres/global-health/global-governance-health/background-papers/extrac-indus.pdf.

Bank, World. "Overview." World Bank, 2020. https://www.worldbank.org/en/topic/extractiveindustries/overview.

Bank, World. "Overview." World Bank, 2020. https://www.worldbank.org/en/topic/extractiveindustries/overview.

Chen, James. "What Are Nonrenewable Resources?" Investopedia. Investopedia, August 28, 2020. https://www.investopedia.com/terms/n/nonrenewableresource.asp.

Commission, European. "Employment, Social Affairs & Inclusion." Sectoral social dialogue - Employment, Social Affairs & Inclusion - European Commission, 2015. https://ec.europa.eu/social/main.jsp?catId=480.

Dictionary, Business. "What Is Extractive Industry? Definition and Meaning." BusinessDictionary.com, 2020. http://www.businessdictionary.com/definition/extractive-industry.html.

EITI, US. "The United States." Extractive Industries Transparency Initiative, March 16, 2020. https://eiti.org/supporter/united-states.

EITI, US. "United States of America." Extractive Industries Transparency Initiative, 2020. https://eiti.org/united-states-of-america.

EITI. "Countries." Extractive Industries Transparency Initiative, 2020. https://eiti.org/countries.

EITI. "The Arab Spring Represents a Huge Opportunity for EITI." Extractive Industries Transparency Initiative, June 15, 2019. https://eiti.org/blog/arab-spring-represents-huge-opportunity-for-eiti.

Environment Programme, UN. "About Extractives." UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/extractives/about-extractives.

Environment Programme, UN. "Why Does Extractives Matter? | UNEP - UN Environment Programme." UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/extractives/why-does-extractives-matter.

Environment, UN. "Global Environment Outlook 6." UNEP - UN Environment Programme. accessed September 10, 2020. https://www.unenvironment.org/resources/global-environment-outlook-6.

Environment, UN. "Informing Policy with Science." UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/extractives/what-we-do/informing-policy-science.

Environment, UN. "Promoting Innovation and Better Business Practices." UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/extractives/what-we-do/promoting-innovation-and-better-business-practices.

Environment, UN. "Strengthening Laws and Governance." UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/extractives/what-we-do/strengthening-laws-and-governance.

EPA. "What Is Acid Rain?" EPA. Environmental Protection Agency, May 12, 2020. https://www.epa.gov/acidrain/what-acid-rain.

EuroMines. "Shape the Future of the Extractive Industry in Europe." Euromines Portfolio Brochure , 2020. http://www.euromines.org/files/news/media/euromines-profile-brochure-web.pdf.

Foeeurope, Foe. "Extractive Industries - in Depth." Friends of the Earth Europe, 2014. http://www.foeeurope.org/extractive-industries-in-depth.

Foundation, Wikimedia. "Gentrification." Wikipedia. Wikimedia Foundation, September 10, 2020. https://en.wikipedia.org/wiki/Gentrification.

Foundations, Open Society. "Extractive Industries Transparency: The Benefits of EU Legislation to African Citizens." Open Society Foundations, 2012. https://www.opensocietyfoundations.org/publications/extractives-industries-transparency-benefits-eu-legislation-african-citizens.

Geographic Society, National. "Nonrenewable Resources." National Geographic Society, September 5, 2019. https://www.nationalgeographic.org/encyclopedia/nonrenewable-resources/.

Group, PAPREC. "Paprec Group Raw Material Producer of the 21st Century." Recycling plastic : extracting raw material to make plastic, 2015. https://www.paprec.com/en/understanding-recycling/recycling-plastic/making-plastic-extracting-raw-material.

https://owl.purdue.edu/owl/research_and_citation/chicago_manual_17th_edition/cmos_formatting_and_style_guide/chicago_manual_of_style_17th_edition.html.

Information, Energy Administration. "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." Oil and the environment - U.S. Energy Information Administration (EIA), 2020. https://www.eia.gov/energyexplained/oil-and-petroleum-products/oil-and-the-environment.php.

International, EarthRights. "Extractive Industries." EarthRights International, 2019. https://earthrights.org/what-we-do/extractive-industries/.

Ives, Mike. "Indonesian Coal Mining Boom Is Leaving Trail of Destruction." Yale E360, 2015. https://e360.yale.edu/features/indonesian_coal_mining_boom_is_leaving_trail_of_destruction.

Kinematics, Genera. "Brief History of Mining & Advancement of Mining Technology." General Kinematics. General Kinematics, May 23, 2019. https://www.generalkinematics.com/blog/a-brief-history-of-mining-and-the-advancement-of-mining-technology/.

LLC, Talascend. "European Mining Jobs." Talascend worldwide technical staffing and resources website, 2020. https://www.talascend.com/community/european-mining-jobs.

McQuade SSHRC Postdoctoral Fellow, Joseph. "Earth Day: Colonialism's Role in the Overexploitation of Natural Resources." The Conversation, August 12, 2020. https://theconversation.com/earth-day-colonialisms-role-in-the-overexploitation-of-natural-resources-113995.

Mercury, Minamata Convention on. Minamata Convention on Mercury > Home, 2020. http://mercuryconvention.org/.

Mondal, Puja. "7 Effects of Mining and Processing of Mineral Resources on Environment." Your Article Library, February 27, 2014. https://www.yourarticlelibrary.com/environment/7-effects-of-mining-and-processing-of-mineral-resources-on-environment/28189.

PAGE, UN. "XXX." PAGE, 2020. https://www.un-page.org/.

R, BS. "10 Human Rights Priorities for the Extractives Sector: Blog." BSR, 2011. https://www.bsr.org/en/our-insights/primers/10-human-rights-priorities-for-the-extractives-sector.

Shoemaker, Nancy. "A Typology of Colonialism: Perspectives on History: AHA." A Typology of Colonialism | Perspectives on History | AHA, 2015. https://www.historians.org/publications-and-directories/perspectives-on-history/october-2015/a-typology-of-colonialism.

Solutions, Eco-Cycle. "What Zero Waste Is Not: Eco-Cycle Solutions Hub." Eco, 2020. https://www.ecocyclesolutionshub.org/about-zero-waste/what-zero-waste-isnt/.

Staff, Greener Ideal. "The Impact of Metal Extraction to the Environment, Economy, and Society." greener ideal, September 5, 2020. https://greenerideal.com/news/business/0617-metal-extraction/.

UN, Conference on Trade and Development. "Extractive Industries: Optimizing Value Retention in Host Countries." United Nations Conference on Trade and Development , 2012. https://unctad.org/en/PublicationsLibrary/suc2012d1_en.pdf.

United Nations Environment Programme. "The CCAC Oil & Gas Methane Partnership." Climate & Clean Air Coalition, January 1, 1970. https://www.ccacoalition.org/en/activity/ccac-oil-gas-methane-partnership.

USGS. Mercury in the Environment, 2009. https://www2.usgs.gov/themes/factsheet/146-00/.

USGS. What is hydraulic fracturing?, 2020. https://www.usgs.gov/faqs/what-hydraulic-fracturing?qt-news_science_products=0.

Watts, Jonathan. "Resource extraction responsible for half world's carbon emissions." The Guardian. March 12, 2019. https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss.

WildLife, World. "Oil and Gas Development." WWF. World Wildlife Fund, 2020. https://www.worldwildlife.org/threats/oil-and-gas-development.

Writing Lab, Purdue. "Chicago Manual of Style 17th Edition // Purdue Writing Lab." Purdue Writing Lab, 2014.

TOPIC B: DEFORESTATION

Statement of the Problem

Introduction to the Problem

Over the past years, deforestation has harmed many animals, communities and countries and has presented great environmental and economic obstacles. Forests currently cover around 31% of the land area on Earth, but businesses and countries risk reducing that amount if deforestation continues at its current pace.[97] Deforestation is the mass decrease in the forests around the world due to urbanization, mining activities, and more. However, the biggest cause of deforestation has been the expansion of agricultural areas.[98] Deforestation has become one of the leading problems across many countries, and it is a main focus of the UNEP. The solutions to these environmental setbacks, however, are not so simple to reach.

Trees are valuable in multiple ways: their wood, sap, and leaves are essential components for making numerous products such as paper, shelter, and medicine.[99] However, the excessive destruction of forests has led to numerous problems including climate change, flooding, and an increase in greenhouse gases.[100] To avoid further harm to the environment, more eco friendly methods must be created to produce everyday products. The UNEP must focus its efforts on retaining the benefits of deforestation while mitigating the negative impacts associated with it.

Deforestation has become a leading cause of climate change. It is probable that, with the current rate of deforestation, the average global temperature will increase by at least 1.5 degrees Celsius.[101]

---

[97] "Deforestation and Forest Degradation | Threats | WWF", accessed August 17, 2020, https://www.worldwildlife.org/threats/deforestation-and-forest-degradation.
[98] "What Is Deforestation? Definition, Causes, Effects ... - Youmatter" 13 May 2020, accessed August 17, 2020,https://youmatter.world/en/definition/definitions-what-is-definition-deforestation-causes-effects/.
[99] "What Do We Get From Trees," accessed August 17, 2020, http://gatrees.net/resources/publications/WhatDoWeGetFromTrees.pdf.
[100] "Why do forests matter? | UNEP - UN Environment Programme," accessed August 17, 2020, https://www.unenvironment.org/explore-topics/forests/why-do-forests-matter.
[101]Ibid.

Trees and forests provide habitats for numerous species, and the continuation of rapid deforestation will lead to a significant decrease in biodiversity - as it has been over the past years. The number of trees cut over the years have remained consistently high, with approximately 12 million hectares of trees being removed each year. This is mainly due to the benefits that companies gain from this process.[102] Half of the deforestation that occurs in the world is under the supervision of big corporations that use deforestation mainly for monetary profit.[103] While companies benefit from deforestation, other individuals, local businesses, communities, and wildlife suffer. This exacerbates existing issues such as global warming and carbon emissions.

Current Situation

The Impacts of Deforestation on the Environment

The effects of deforestation on the environment are extensive. The destruction of biodiversity has become one of the more serious impacts of deforestation. Approximately 80% of land animals use tropical, temperate and boreal forests as their homes.[104] While one may assume that the destruction of these homes bears little impact on humans, humans depend on animals for resources and for population control of other species. A disturbance within the forests means that an entire ecosystem can be affected through a series of domino effects. As a result, the loss of biodiversity has severe implications for humans as well.[105]

Humans not only are harmed indirectly from the destruction of habitats for other animals, but their homes and health conditions are also affected by the deforestation process. Forests account for 80% of the homes that animals claim, and they also account for the homes of approximately 1.6 billion humans across the globe.[106] These forests are places where people reside, and they provide

[102] "Why do forests matter? | UNEP - UN Environment Programme", accessed August 17, 2020, https://www.unenvironment.org/explore-topics/forests/why-do-forests-matter.
[103] "Deforestation now driven by profit, not poverty - CIFOR Forests ....", accessed October 21, 2020, https://forestsnews.cifor.org/10382/deforestation-now-driven-by-profit-not-poverty?fnl=.
[104] "What Is Deforestation? Definition, Causes, Effects ... - Youmatter" 13 May 2020, accessed August 17, 2020, https://youmatter.world/en/definition/definitions-what-is-definition-deforestation-causes-effects/.
[105] Ibid.
[106] Ibid.

resources and protection for the locals that are vital for survival. The lack of power the local communities have in comparison to the strength of major corporations controlling deforestation means that local individuals struggle to voice their concerns.[107] This issue is magnified in developing countries, where communities are often taken advantage of and exploited for their resources.[108]

Another severe issue associated with deforestation is soil erosion. Soil erosion is a natural process, but it is accelerated to an unhealthy rate when deforestation is involved.[109] Trees are essential to preventing surface water runoff, but with the removal of trees, less water is absorbed by the soil and increases the chances for flooding.[110] Plants, which are heavily affected by deforestation, play a role in slowing the process of soil erosion as well.[111] The roots help keep the soil together, while the vegetation on the ground helps protect the soil and keep it healthy. When the soil is overwhelmed with water, it becomes harder for future plants to thrive in the area.[112]

Soil erosion can harm farming by leading to a reduction in the number and quality of crops.[113] Severe soil erosion can decrease the number of crops by up to 50% and potentially more when a higher amount of deforestation is involved.[114] This not only affects small farming businesses and their crops, but it also harms local communities and animals in need of food and resources. Local farmers struggle with soil erosion, but because of the power large corporations have, farmers have found it difficult to bring about change.[115]

The Impact of Deforestation on Climate Change

[107] "What Is Deforestation? Definition, Causes, Effects ... - Youmatter," 13 May 2020, accessed August 17, 2020, https://youmatter.world/en/definition/definitions-what-is-definition-deforestation-causes-effects/.
[108] Ibid.
[109] "How Deforestation Works - Science | HowStuffWorks", accessed August 17, 2020, https://science.howstuffworks.com/environmental/green-science/deforestation.htm.
[110] Ibid.
[111] Ibid.
[112] Ibid.
[113] "Let's #StopSoilErosion to ensure a food secure future | FAO ...." 15 May 2019, accessed August 17, 2020, http://www.fao.org/fao-stories/article/en/c/1192794/.
[114] Ibid.
[115] Ibid.

Deforestation has a major impact on climate change. Climate change is the change in the average weather patterns a certain area experiences whether it be the average annual rain or the change in temperature.[116] While in some cases the change in the weather of a particular area may be natural, deforestation creates changes in the climate that are unnatural and extremely harmful to the environment.

The average maximum temperature of days throughout the year have increased due to the excessive amount of deforestation. Trees play a critical role in taking in carbon dioxide and releasing oxygen, preventing high levels of carbon dioxide from remaining in the atmosphere. Deforestation inhibits this process, increasing CO_2 levels in the atmosphere, which subsequently trap heat and allow for global warming.[117] The process of evapotranspiration is also heavily altered when there is a high amount of deforestation within a region.[118] Evapotranspiration occurs when trees and plant life absorb water from the soil and eventually release it, allowing moisture to build up and cool the atmosphere.[119] The removal of trees and plants means that this process is greatly lessened, preventing the atmosphere from cooling.[120]

[116] "What Is Climate Change? | NASA," 14 May 2014, accessed August 17, 2020, https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html.
[117] "Deforestation has driven up hottest day temperatures, study ...." 23 April 2018, accessed August 28, 2020, https://www.carbonbrief.org/deforestation-has-driven-up-hottest-day-temperatures.
[118] Ibid.
[119] Ibid.
[120] Ibid.

The Future of Deforestation

If the current rate of deforestation is unchanged, the annual temperature increase, precipitation, destruction of biodiversity will be affected at even greater levels. It is possible that some regions will gradually become inhabitable for plants, animals, and humans, such as rising coastal waters forcing humans to move further inland.[121] However, with reforestation, stricter regulations regarding deforestation, and improvements to the deforestation process, these impacts may be avoidable. Improving and expanding on organizations fighting deforestation will also help spread awareness and push for change.[122]

[121] "Why do forests matter? | UNEP - UN Environment Programme," accessed October 21, 2020, https://www.unenvironment.org/explore-topics/forests/why-do-forests-matter.
[122] Ibid.

History of the Problem

The Beginnings of Deforestation

Many of the croplands used over time have come from deforestation, meaning that much of the current cropland was previously forested land. The current amount of the cropland within the world is approximately 49 million square kilometers, including soy and corn crops.[123] By either natural progression or man-made processes, grazing lands also account for land previously home to forests. While the rest of the world does not have as much, both the United States and Europe are home to numerous square kilometers of grazing lands.[124] Both of these countries now have a decreased amount of forest land due to the inclusion of grazing lands.[125]

Throughout the history of deforestation, there have been several moments where a majority of the forested area was cut down to increase space. In the 1870s, the eastern portion of North America lost a little over half of its forests due to population increase and a desire for expansion.[126] For this reason, there was a need to repopulate the forests, and the level of forested land once again increased. As a result, much of that area is home to younger trees, with very few areas consisting of original trees.[127] Deforestation for space still occurs because of road expansion, urbanization, building of mining sites, and dam construction.[128]

More recently, people began using the "slash and burn" process on forests, which proved to be harmful to the environment. This was used for agriculture, as the soil would become fertilized by the ashes of the forest after local farmers would burn it.[129] However, slashing and burning does not fertilize the soil permanently, so once the soil is no longer usable, the area is abandoned and the farmers move to a new location. This leaves the forest destroyed and uninhabitable for humans,

[123] "deforestation | Definition, History ....", accessed August 27, 2020, https://www.britannica.com/science/deforestation.
[124] Ibid.
[125] Ibid.
[126] Ibid.
[127] Ibid.
[128] Ibid.
[129] "deforestation | Definition, History ....", accessed August 28, 2020, https://www.britannica.com/science/deforestation.

animals, and plants alike.[130] There have also been instances of illegal **logging** and mining that have happened due to the lack of regulations and rules prohibiting this activity.[131]

The more recent history of deforestation is somewhat different from its previous state, but it remains a situation that needs to be addressed.

The Recent History of Deforestation

The current estimated rate of deforestation per year has exceeded the healthy rate. The estimated rate of deforestation per decade according to **FAO** is approximately 1.3 million square kilometers.[132] However, the rate of deforestation has actually decreased in recent years. This is due to stricter policies and regulations implemented by governments when dealing with both local and global companies to ensure that the processes do not get out of control.[133] However, due to geological differences, each area affected by deforestation must be met with unique solutions.

The areas with the most amount of forest land include Russia, the United States, Brazil, Canada, China, and Australia. Excluding Australia, these five countries account for more than half of the amount of forests in the world. This is also the reason these countries have become the most desired when it comes to deforestation processes.[134] In particular, the forests in Brazil have become a popular location for deforestation. According to data from the World Research Institute, Brazil has a significantly higher rate of annual deforestation than most other countries. Indonesia, the Democratic Republic of Congo, and Bolivia also have high annual rates of deforestation that are still much greater than the average country.[135]

---

[130] Ibid.
[131] Ibid.
[132] Ibid.
[133] Ibid.
[134] "State of the World's Forests 2020", accessed August 27, 2020, http://www.fao.org/state-of-forests/en/.
[135] "How Much Forest Did the World Lose in 2019? | World ...." 2 Jun. 2020, accessed August 27, 2020, https://www.wri.org/blog/2020/06/global-tree-cover-loss-data-2019.

These areas also experience relatively high levels of poverty, which has been shown throughout the years to have a connection with deforestation. Those living below the poverty line often rely heavily on resources from forested areas. Approximately 90% of those in poverty have become dependent on their surrounding forests.[136] Indigenous peoples also rely heavily on the forests that surround them. Indigenous peoples take excellent care of the trees, the biodiversity, and the resources available.[137] However, other areas that are highly affected by deforestation and not solely controlled by the local communities have seen massive reductions in their biodiversity.[138] Indigenous people have suffered from a lack of protection from their own governments. Countries like Brazil have yet to officially demarcate specific areas for indigenous groups, allowing for deforestation to further invade indigenous areas. Without proper regulation, there is no protection for people and their land.[139]

Over the years, deforestation has led to a decrease in plant, fungi, and animal life, with some species already extinct and others critically endangered. As of 2019, there are a total of 20,334 tree species that are considered to be in a vulnerable position. Close to half of those species are considered at risk on a global level. Over one thousand species have been marked as endangered and at severe risk.

Different Forests and Deforestation

The effects of deforestation within certain types of forests can be much more severe than others. The size of the Amazon as well as the type of forest is the reason Brazil has experienced severe amounts of deforestation. The Amazon helps store more than 100 billion metric tons of carbon which helps the climate and the health of the environment and people as previously mentioned.[140] Through the process of deforestation, the size of the Amazon has decreased about 18% within the last 40 years.[141] Even with regulations in place, there is still an unsafe amount of deforestation that occurs each year within Brazil. There have also been harmful forest fires that have destroyed a

[136] "Brazil and the Amazon Forest - Greenpeace USA", accessed August 30, 2020, https://www.greenpeace.org/usa/issues/brazil-and-the-amazon-forest/.
[137] "State of the World's Forests 2020", accessed August 28, 2020, http://www.fao.org/state-of-forests/en/.
[138] "Brazil and the Amazon Forest - Greenpeace USA", accessed August 30, 2020, https://www.greenpeace.org/usa/issues/brazil-and-the-amazon-forest/.
[139] Ibid.
[140] Ibid.
[141] Ibid.

significant amount of forested land. In recent years, the amount of fires have actually increased causing more destruction to occur to the Amazon at a faster rate.[142]

The boreal forest in Canada is another area that is facing a rise in deforestation. This forest has come to be a sacred center for indigenous people as well as a safe haven for animals that have come close to extinction. The caribou, lynx, and wolverine have all been able to call the boreal forest a home and rebuild their population over time.[143] However, in recent years the demand for trees has stayed at a continuously high level and with the mass removal of trees from other areas like the Amazon, deforestation processes have spread to other areas. The boreal forest has become the center of discussion when discussing new, usable areas. The boreal forest has become a valuable center for local communities and a place for biodiversity to thrive. If deforestation processes continue to take advantage of the area, the boreal forest will likely no longer be able to support the communities of both humans and animals that rely on it. [144]

The Congo Basin is the second largest forest in the world and resides in Central Africa. The Congo Basin is home to many species of plants and animals only found within that area. The Basin is also a great source of resources for different indigenous groups that reside nearby. Similar to the Amazon Forest, this massive forest also holds tons of carbon that help keep the environment in a healthy state.[145] However, in recent years the Congo Basin has become another target of deforestation due to its size and resources contained within the forest. Many corporations operating within the Congo Basin area have participated in a system that has been named "land-grabbing". Land-grabbing is the process of buying or leasing large amounts of land for extraction.[146] Africa has suffered from this system of land-grabbing and the Congo Basin is a one of the main sections within Africa where this process occurs. The Basin contains resources such as rubber and **palm oil** which have become highly desirable for cosmetics, soaps and more.[147] Within recent years, there have also been situations of

[142] Ibid.
[143] "Canadian Boreal Forest - Greenpeace USA - Greenpeace.org", accessed August 30, 2020, https://www.greenpeace.org/usa/issues/canadian-boreal-forest/.
[144] Ibid.
[145] "Congo Basin Forests - Greenpeace USA - Greenpeace.org", accessed August 30, 2020, https://www.greenpeace.org/usa/forests/congo-basin/.
[146] Ibid.
[147] Ibid.

illegal logging in the Congo Basin.[148] This has allowed groups to take advantage of the resources within the forest without proper restrictions and regulations. . The Congo Basin is a beneficial resource of Africa that needs to be protected in the future.[149]

As mentioned before, Indonesia is home to plants, animals, and forests which have recently become desirable resources for corporations. Many of these plants and animals are specifically unique to these Indonesian forests and certain animals like the orangutans and Sumatran tigers found in Indonesia have become increasingly at risk of extinction. The risk of extinction of these animals has increased due to extensive levels of deforestation.[150] Indonesian forests are another great source of palm oil, which is highly desired and has continuously been extracted from these forests. Pulp has also become a product in high demand that can be attained from the forested areas within Indonesia.[151]

The main areas of forested land within Indonesia that are targeted are the **peatland** forests. The peatland forests are also areas that assist in the storing of carbon which is then affected by deforestation. Through this process, they once again allow carbon to be released into the environment. Deforestation is also harmful to the neighboring areas of forested land as draining these peatland forests causes them to become flammable.[152] In 2015, fires from peatland forests spread across Indonesia and destroyed parts of nearby forested lands as well. The smoke was also presumed to be the cause of many premature deaths of people who lived nearby.[153] This has led Indonesia to become one of the countries with the largest levels of greenhouse gas emissions.[154] Changes in regulations for deforestation in Indonesia must be made to ensure that these problems do not continue.[155]

---

[148] Ibid.
[149] Ibid.
[150] "Indonesian Forests & Palm Oil - Greenpeace USA", accessed August 30, 2020, https://www.greenpeace.org/usa/issues/indonesian-forests-palm-oil/.
[151] "Indonesian Forests & Palm Oil - Greenpeace USA", accessed August 30, 2020, https://www.greenpeace.org/usa/issues/indonesian-forests-palm-oil/.
[152] Ibid.
[153] Ibid.
[154] Ibid.
[155] Ibid.

Past Actions

As people over time began to realize the issues of deforestation, they began to create plans and form groups to help make changes. However, while there have been positive actions made, there is still significant work to be done. Expanding on these beneficial past actions while also understanding the other issues that may arise will help decrease annual deforestation to a point where it is controllable.

Organizations and Groups

As stated before, the Great Bear Rainforest was mistreated for many years and while there is still deforestation that occurs there, the amount has greatly decreased to a much more manageable level. The **Greenpeace Canada** and **Greenpeace USA** organizations were major contributors to this change.[156] The Great Bear Rainforest had only 5% of its land protected by the government as of 1990. There is currently 85% of the forest that is protected. The average annual deforestation of the forest has gone down 40% since the two organizations have been involved.[157] This has allowed the heavily damaged areas of the forest to take the time to return to a healthy state. The Green Bear Rainforest is also having regulations passed to create limits on the processes of logging to ensure that companies are not allowed to abuse the environment.[158]

The **UN-REDD** program is another major organization that has helped different countries and forests throughout the years. There are over 30 countries that have followed the regulations and goals of the REDD program and the amount has been steadily increasing.[159] Many other countries in need of aid have submitted their emission levels from their forests over the years and have received support from the REDD program. UN-REDD was involved in the improvement of some areas of forests within Indonesia including certain areas of peatland. The government of Indonesia passed a regulation that has decreased the amount of fires caused by these peatlands since 2015. This is

[156] "After 20 Years, Canada's Great Bear Rainforest Gets the ....," accessed August 30, 2020, https://www.greenpeace.org/usa/victories/20-years-canadas-great-bear-rainforest-gets-protection-needs/.
[157] Ibid.
[158] Ibid.
[159] "Our Impact - UN-REDD Programme," accessed August 30, 2020, https://www.un-redd.org/ourimpact.

because of the changes in processes that this regulation made for companies. Since 2017, much more mineral has been burned than actual peat which is a better outcome.[160] The organization has also gathered workers and volunteers to assist in their goals.[161] This includes policy makers as well as firefighters that assist greatly in putting out the possible forest fires that arise.[162] The REDD program also focuses on the specifics of transparency, accountability, and efficiency in companies. The laws and policies of forestry, agriculture, and climate have also been pushed towards improvement by the organization.[163] UN-REDD is also focused on protecting the ownership of land of indigenous people and local communities because of the unbalanced nature of power between the larger companies and smaller groups and individuals.[164] Through these measures, the UN-REDD organization has become a leading group in the fight against deforestation.

Another group that has done a substantial amount of work towards fighting deforestation are the indigenous groups and communities within these areas, specifically Brazil. Brazil is a main target for deforestation with companies taking advantage of both the land and people. However, in 2003, Marina Silva became the Minister of the Environment in Brazil and focused on the protection, sustainable development, and justice of the Amazon. This allowed more policies to be put for to protect the communities, animals, and trees with Brazil. More and more of Brazil area is becoming legally protected thanks to leaders like Silva and the push from communities. Norway has also partnered with Brazil through REDD to assist in the decrease in deforestation and it is currently the largest REDD program.[165]

Norway has also partnered with Guyana to help keep the rate of deforestation consistently low. Guyana has been given a certain amount of money each year to help with their low annual rate of

---

[160] "Forests: A natural solution to climate change, crucial for a ...." 3 Oct. 2018, accessed August 30, 2020, https://www.un-redd.org/post/2018/10/03/forests-a-natural-solution-to-climate-change-crucial-for-a-sustainable-future.
[161] "Our Impact - UN-REDD Programme," accessed August 30, 2020, https://www.un-redd.org/ourimpact. accessed 30 Aug. 2020.
[162] "Forests: A natural solution to climate change, crucial for a ...." 3 Oct. 2018, accessed August 31, 2020, https://www.un-redd.org/post/2018/10/03/forests-a-natural-solution-to-climate-change-crucial-for-a-sustainable-future.
[163] "Forest Governance - UN-REDD Programme Collaborative ....," accessed August 30, 2020, https://www.unredd.net/knowledge/redd-plus-technical-issues/redd-plus-governance.html.
[164] "Tenure Security - UN-REDD Programme Collaborative Online ....," accessed August 31, 2020, https://www.unredd.net/knowledge/redd-plus-technical-issues/tenure-security.html.
[165] "Deforestation Success Stories - Union of Concerned Scientists," accessed August 31, 2020, https://www.ucsusa.org/sites/default/files/2019-10/deforestation-success-stories-2014.pdf.

deforestation. The money goes towards processes like low-carbon development projects and also projects that help assist the local communities within the areas. Similar situations have occurred in other countries such as India and Mexico. India's Land Use, Land Use Change, and Forestry sector has made it possible for India to contain much of the carbon that can potentially be released into and harm the environment. Mexico has also become a leader in reducing climate change and protecting its environment through policy and partnership. Many other organizations have been formed within countries to help create a better future.[166]

The **WWF** is another organization that has focused on different solutions to deforestation. The Global Forest & Trade Network is a subprogram of the WWF which focuses on giving attention to those companies, trade associations, and institutions that continue to use more eco-friendly processes while respecting the requests of others that use forests and the land surrounding them. The WWF is also committed to ensuring that the expansion of infrastructure takes into account the forests of the surrounding area and how ecologically beneficial it is to expand in certain areas.[167] The WWF has also completed two **PFP** projects which aim to maintain the quality and protection of

[166] Ibid.
[167] "Deforestation and Forest Degradation | Threats | WWF," accessed August 31, 2020, https://www.worldwildlife.org/threats/deforestation-and-forest-degradation.

conservation areas so that they are truly kept intact. The money comes from both public and private sectors and the WWF is planning on completing more PFP projects in the near future.[168] The WWF has also focused on creating more sustainable bioenergy to use instead of wood. Oils and fats, starch crops, and algae have come across the WWF to potentially use as main sources of energy instead of having to remove forests for wood.[169]

The **FSC** is another organization that works with other groups and countries to help protect the environment with a specific focus on the forests. The FSC has helped many over the years with the fight against deforestation. Recently, the FSC has helped Namibia produce good charcoal while also ensuring that the forests around the extraction sites are not affected meaning that both parties benefit from this situation.[170] The FSC has consistently strived for improvements across the world and will continue to do so in the future.

[168] "Earth for Life | Initiatives | WWF," accessed August 31, 2020, https://www.worldwildlife.org/initiatives/earth-for-life.
[169] "Deforestation and Forest Degradation | Threats | WWF," accessed August 31, 2020, https://www.worldwildlife.org/threats/deforestation-and-forest-degradation.
[170] "From Bush to Charcoal: the Greenest Charcoal Comes from ...." 17 Mar, 2020, accessed August 31, 2020, https://fsc.org/en/newsfeed/from-bush-to-charcoal-the-greenest-charcoal-comes-from-namibia.

Possible Solutions

The best plan to mitigate deforestation is to increase the strength of organizations like the WWF and UN-REDD, who have dedicated their efforts to protecting forests. Combined with other solutions, including spreading awareness, improved environmental practices, and financial support, countries can implement a multipronged approach to reduce the harmful impacts of deforestation.

Spreading awareness

It is vital to spread awareness of both the negative effects of deforestation as well as the socio-economic benefits of forests, through tourism and job creation. Educating individuals about deforestation will help them reduce their environmental footprint and encourage them to actively push for more environmental protection laws. This spread of information can happen in a number of ways. One powerful method is to disseminate information in schools, the workplace, and the media.

Education and awareness can also spur daily lifestyle changes, encouraging people to eat a few more vegetarian meals a week, reduce, reuse, and recycle, and opt for eco-friendly methods of transportation than automobiles, such as biking and walking. Eating vegetarian meals, in particular, will help reduce the need for cattle farming, a process that typically results in deforestation.[171]

Simply knowing that almost every forest is vital to certain communities is not enough; understanding the exact extent to which forests help our world will be more impactful. Around 2 billion people rely directly on forests whether it be for shelter, food, livelihoods, or fuel security. While certain resources like fruits and wood are obviously from frees, it is not so clear to most people that cosmetics, detergents, and other products also use materials from trees. Lack of care for these forests will hinder production of these essential products.[172] Consumers are also unaware of the poorly crafted tactics that companies use to maximize profit, while continuing to harm the

[171] "Raising Awareness of Deforestation | Young Citizens," 17 Sep, 2019, accessed September 2, 2020, https://www.youngcitizens.org/raising-awareness-of-deforestation.
[172] "Importance of Forests | WWF," accessed September 2020, https://wwf.panda.org/our_work/our_focus/forests_practice/importance_forests/.

environment. Spreading awareness on which companies consumers should support will incentivize companies to use environmentally safe practices during production.[173]

Spreading information can also bolster donations to the WWF fund and other organizations who actively combat deforestation. WWF uses the donations to fund conservation plans, the protection of biodiversity, and the state of the environment in general.[174] Garnering public support monetarily will also give people another pathway through which they can help the environment.

Better Practices and Processes

The use and normalization of more eco-friendly practices will help reverse some of the negative effects of deforestation. Companies, communities, and individuals must take action to implement processes like reforestation and urban agriculture, which help the ecosystem heal.

Reforestation will also be beneficial in areas near local markets, community parks and areas within wildlife reserves, providing clean air and shade, as well as habitats for animals. Consistently incorporating methods of reforestation will help populate communities with trees.[175]

Environmentally friendly practices are vitally important in urban locations in particular. When urbanization is rapidly occurring, trees are likely to be cut down in the process, so two key steps must be taken here. First, it must be ensured that as many trees are saved as possible, and second, the trees that remain should be monitored to see if they are healthy. Urban agriculture, or cultivating food in urban areas that often have little green space, is a positive process that can lessen the need for deforestation.[176] Another issue is creating the space for plant strips. Usually, plant strips within

[173] "ADP's Deforestation-Free Awareness Campaign - adpartners ...." 1 Jan, 2012, accessed September 2, 2020, https://adpartners.org/news/deforestation-free-awareness-campaign/.
[174] "Donate | WWF," accessed September 2, 2020, https://lp.panda.org/donate.
[175] "8 Fantastic Solutions to Deforestation ....," accessed September 2, 2020, https://www.eartheclipse.com/environment/fantastic-solutions-to-deforestation.html.
[176] "What is Urban Farming? - Greensgrow Farms," accessed September 2, 2020, https://www.greensgrow.org/urban-farm/what-is-urban-farming/.

urban areas are around 4 feet in width, which is not a healthy amount of space for soil. Increasing the strips to 6 feet in width will allow for more space, thus improving tree health as well.[177]

Using and investing in FAO's system, **SEPAL**, will also help countries, companies, and communities see what occurs to the forests and how to deal with the issues that arise in a more efficient manner. SEPAL is an open source project that provides geospatial analyses, allows for observations of the Earth, and assists land monitoring. Pushing for more companies and countries to pay attention to the recording of SEPAL will mean that there will be an overall increase in the attention paid to the state of each forest around the world. This will allow problems to be solved before they become too severe and also keep track of which companies are abusing the land and which are respecting it.[178]

Financial Support

Gathering financial support from private and public groups, as well as gaining the support of countries will ensure that policies like reforestation, urban agriculture, and SEPAL are implemented efficiently. This can be done through fundraisers, social media campaigns, special events, or using other methods.[179]

Supporting indigenous communities in their fight against abusive companies and corrupt governments - who often take control of and destroy forests vital to these communities - is another important step to take. Much of the land is used heavily by these individuals yet, in many cases, they have no rights to it. Providing these communities with greater financial and political support will help eliminate environmentally abusive corporate practices. The communities also take good care of these areas, so preventing companies from taking over their rightful lands and protecting them again powerful corruption will, as an added benefit, help keep the environment and forests intact.[180]

---

[177] "Forest-Friendly Development - Center for Watershed Protection" 22 Sep, 2017, accessed September 2, 2020, https://www.cwp.org/forest-friendly-development/.
[178] "Open Foris and SEPAL - Food and Agriculture Organization of ....," accessed September 2, 2020, http://www.fao.org/3/CA1085EN/ca1085en.pdf.
[179] "What we do | UNEP - UN Environment Programme," accessed September 2, 2020, https://www.unenvironment.org/explore-topics/forests/what-we-do.
[180] "Deforestation: A Few Solutions That Can Change The Future ...." 18 Sep, 2019, accessed September 2, 2020, https://biofriendlyplanet.com/environment-issues/deforestation-a-few-solutions-that-can-change-the-future/.

Law and Regulation

Finally, another possible solution is to push governments and companies to implement stronger regulations and laws towards the protection of forests. Governments and companies also need to begin using more modern and eco-friendly processes, cutting back on paper, transitioning to solar energy, and eliminating their carbon footprint. Previous laws like the **Endangered Species Act**, the **Lacey Act**, and the **Wilderness Act** passed in the United States have aided greatly in the protection of forests and also help those living within and around those areas.[181] Continuing to create these laws throughout the world that prevent land abuse, illegal logging, the extinction of animals, and more will create a powerful defense against deforestation. Powerful groups, including countries, have the power to make environmentally friendly changes and must do so with haste.

While there are other potential methods to be explored, the solutions listed above are essential steps in combating deforestation. Spreading awareness, implementing eco-friendly processes, increasing financial support, and pushing for stronger laws and regulations against corporations will go a long way towards helping the environment heal.

[181] "Solutions to Deforestation - Greenpeace ...." accessed September 2, 2020, https://www.greenpeace.org/usa/forests/solutions-to-deforestation/.

Bloc Positions

It is useful to think about the types of threats and pressures that different varieties of forests may face. However, not all countries respond to these threats in the same ways. Some countries are eager to protect their natural resources, some are willing to do so if given help by the international community, and some lean towards exploitation. Delegates should explore the policies of their own countries in detail but categorizing by region and climate is a helpful place to start.

Tropical Rainforests

The three main regions of tropical rainforests include the areas of Myanmar to Fiji and in between including Indonesia, the Philippines, Papua New Guinea, and more; West and Central Africa; and South and Central America.[182] These forests provide foods and other resources for animals and local communities alike. Many countries that contain tropical forests are also developing countries so those who need these forests rely heavily on them.[183] In some cases, there is also a lack of strong regulation on the process of deforestation within these countries making it easy for companies to take advantage of the land.

Tropical rainforests have experienced a massive cut in area coverage over the last couple of years due to the excessive amount of deforestation occurring in those areas. This has caused a problem for the biodiversity within these forests which are very important to the world. The biodiversity within tropical rainforests covers approximately half of the world's different plant and animal species. Rainforests are also a crucial part of water storage, filtration, and production They also help protect against erosion and droughts. Destroying these forests creates significant problems both locally and globally.[184]

[182] "tropical rainforest | Climate, Animals ...." accessed September 3, 2020, https://www.britannica.com/science/tropical-rainforest.
[183] "Tropical Deforestation and Global Warming | Union of ...." accessed September 3, 2020, https://www.ucsusa.org/resources/tropical-deforestation-and-global-warming.
[184] "Rainforest and Amazon facts and information," 15 May, 2019, accessed September 3, 2020, https://www.nationalgeographic.com/environment/habitats/rain-forests/.

Tropical rainforests are also home to resources that have gotten the attention of companies across the world adding to this issue. Plants within these forests are sought after by companies for their use in medicine as well as certain beauty products. These forests also contain animals that are currently in sensitive positions because of their lack in population. Jaguars and orangutans are some of the few animals within rainforests that need to be protected to ensure the survival of their species.[185]

The tropical rainforests are the most targeted of the types of forests and must be protected so that deforestation is not able to grow.

Temperate Forests

There are two main types of temperate forests: temperate deciduous forests and temperate evergreen forests. Temperate deciduous forests are ones that have leaves that fall during a certain season and these forests also experience all four seasons. Their main regions are the east of the United States and Canada as well as much of Europe and certain parts of Japan and China.[186] Temperate deciduous forests are home to a wide variety of wildlife as well and provide resources for local communities. While these forests do not receive as much precipitation they still store and preserve water. The reason these forests are experiencing a great amount of deforestation as well is due to their soil being very fertile which attracts farmers and companies to create agricultural areas within or near them. However, most of the damage is being done within the regions of Japan and China while the other main regions have remained relatively healthy.[187]

Temperate evergreen forests are mainly found in coastal regions that have drier climates with less severe winters. The main areas where these forests are located are within Siberia, New Zealand, South Africa, South America, and Australia. Like the tropical forests, the temperate evergreen forests have relatively high amounts of annual rainfall.[188] Logging and mining are some of the

[185] "Rainforest and Amazon facts and information," 15 May, 2019, accessed September 3, 2020, https://www.nationalgeographic.com/environment/habitats/rain-forests/.
[186] "Temperate Deciduous Forests - NatureWorks," accessed September 3, 2020, https://nhpbs.org/natureworks/nwep8c.htm.
[187] "Deforestation Within Forest Biomes," accessed September 3, 2020, https://www.arcgis.com/apps/MapJournal/index.html?appid=8e4bb4039065405bb0882635b4d4926b.
[188] "Temperate Evergreen Forests," accessed September 3, 2020, https://www.arcgis.com/apps/MapJournal/index.html?appid=5fdfc69c3b854c44a0ae4de39e33b59.

reasons why deforestation occurs within these areas, and while the problem is still an issue, it is once again not as detrimental to the processes occurring within the tropical rainforests.[189] However, these forests still need proper care and protection to keep the environment in a healthy state.

Boreal Forests

The boreal forests are the northern most forests within the world. For this reason, most of the boreal forests are located within Alaska, the Scandinavian countries, Russia, and Canada. These are cold areas that were previously covered with glaciated soils, so the forests are home to plants and animals that are able to withstand the cold temperatures and conditions. As time has gone on, discoveries have been made about how important boreal forests are when it comes to the storage of carbon.[190] However, due to the excessive amounts of logging for the kinds of wood available within these forests, there has been a surge of carbon emissions into the atmosphere from these areas. Canada, specifically, has suffered from deforestation within these areas more than what was initially presumed. Ontario has 2 million acres of wasteland that was previously a boreal forest area. Other countries with boreal forests have suffered and continue to suffer from the effects of the logging industry and the extent to which deforestation has occurred in the regions.[191]

Another issue that has plagued boreal forests is that of forest fires. In Siberia, forest fires have become the main cause of deforestation especially when there is a lack of attention towards them. This has caused carbon emission to be released into the environment at extremely unhealthy rates. Encouraging and improving the WWF Russian Forest Programme will help reverse the course of forest fires in the future to ensure a healthier region. However, these different ways of deforestation have also led to an increase in annual temperature within these areas which, if continued, will have fatal effects to the different species living within and around them.[192]

---

[189] "Human Influences on the Temperate Rainforest - Sciencing," accessed September 3, 2020, https://sciencing.com/human-influences-temperate-rainforest-8480768.html.
[190] "Boreal Zone - Global Forest Atlas - Yale University," accessed September 3, 2020, https://globalforestatlas.yale.edu/boreal-zone.
[191] "Study Shows Boreal Deforestation Is Far Higher than ... - NRDC," accessed September 3, 2020, https://www.nrdc.org/experts/anthony-swift/new-study-shows-canada-underreporting-deforestation-rates.
[192] "Boreal deforestation of Far Eastern Siberia | LCLUC," accessed September 3, 2020, https://lcluc.umd.edu/hotspot/boreal-deforestation-far-eastern-siberia.

Glossary

Endangered Species Act: an Act implemented in 1973 in the US that strives to protect both endangered and threatened species on both the domestic and international areas[193]

FAO: Food and Agriculture Organization

FSC: Forest Stewardship Council

Great Bear Forest: located on the Pacific coast of British Columbia, Canada comprising 6.4 million hectares

Greenpeace Canada: founded in 1971, Greenpeace Canada is the Canadian affiliate of Greenpeace, an international environmental nonprofit organization

Greenpeace USA: founded in 1975, Greenpeace USA is the United States affiliate of Greenpeace, an international environmental nonprofit organization

Lacey Act: a 1900 United States law that bans trafficking in illegal wildlife; the Act was amended to include plants and plant products such as timber and paper[194]

Logging: the process of cutting trees, processing them, and moving them to a location for transport[195]

Palm Oil: an edible vegetable oil derived from the fruit of the oil palm trees[196]

---

[193] "Endangered Species Act - US Fish and Wildlife Service," accessed September 10, 2020, https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/endangered-species-act.html.
[194] "U.S. Lacey Act | Forest Legality," accessed September 10, 2020, https://forestlegality.org/policy/us-lacey-act.
[195] "Logging - Wikipedia," accessed September 10, 2020, https://en.wikipedia.org/wiki/Logging.
[196] "8 things to know about palm oil | WWF," 17 Jan, 2020, accessed September 10, 2020, https://www.wwf.org.uk/updates/8-things-know-about-palm-oil.

Peatland: also known as a mire or quagmire, peatland is a wetland type, dominated by living peat-forming plants[197]

PFP: Project Finance for Permanence

SEPAL: System for Earth Observation Data Access, Processing and Analysis for Land Monitoring

UN-REDD: United Nations-Reducing Emissions from Deforestation and forest Degradation

Wilderness Act: an act passed in 1964 that established the National Wilderness Preservation System and instructed federal land management agencies, including the National Park Service, to manage wilderness areas and preserve wilderness character[198]

WWF: World Wildlife Fund

[197] "Peatlands and climate change | IUCN," accessed September 10, 2020, https://www.iucn.org/resources/issues-briefs/peatlands-and-climate-change.
[198] "Law & Policy - Wilderness (U.S. National Park Service)," 13 May, 2020, accessed September 10, 2020, https://www.nps.gov/subjects/wilderness/law-and-policy.htm.

Bibliography

"Deforestation - Causes, Effects and Solutions To Clearing of Forests." Conserve Energy Future, June 12, 2020. https://www.conserve-energy-future.com/causes-effects-solutions-of-deforestation.php.

"Forest Governance." UN, June 20, 2018. https://www.unredd.net/knowledge/redd-plus-technical-issues/redd-plus-governance.html.

"REDD 10 Year • Indonesia Peatlands." UN, 2020. https://www.10year.un-redd.org/indonesia-peatlands.

"Solutions to Deforestation." Greenpeace USA, May 19, 2020. https://www.greenpeace.org/usa/forests/solutions-to-deforestation/.

"Tenure Security." UN, May 22, 2018. https://www.unredd.net/knowledge/redd-plus-technical-issues/tenure-security.html.

Alliance, Pachamama. "Effects of Deforestation: The Pachamama Alliance." Pachamama Alliance, 2019. https://www.pachamama.org/effects-of-deforestation.

Brief, Carbon. "Deforestation Has Driven up Hottest Day Temperatures, Study Says." Carbon Brief, April 23, 2018. https://www.carbonbrief.org/deforestation-has-driven-up-hottest-day-temperatures.

Citizens, Young. "Raising Awareness of Deforestation." Young Citizens, 2019. https://www.youngcitizens.org/raising-awareness-of-deforestation.

Commission, George Forestry. What Do We Get From Trees?, 2020. http://gatrees.net/resources/publications/WhatDoWeGetFromTrees.pdf.

Concerned Scientists, Union of. "Tropical Deforestation and Global Warming." Union of Concerned Scientists, 2012. https://www.ucsusa.org/resources/tropical-deforestation-and-global-warming.

Council, Forest Stewardship. "From Bush to Charcoal: the Greenest Charcoal Comes from Namibia." Forest Stewardship Council, March 17, 2020. https://fsc.org/en/newsfeed/from-bush-to-charcoal-the-greenest-charcoal-comes-from-namibia.

December 05, 2019 Anthony Swift. "Study Shows Boreal Deforestation Is Far Higher than Reported." NRDC, December 5, 2019. https://www.nrdc.org/experts/anthony-swift/new-study-shows-canada-underreporting-deforestation-rates.

Dictionary, Biology. "Story Map Journal." arcgis.com, 2020. https://www.arcgis.com/apps/MapJournal/index.html?appid=5fdfc69c3b854c44a0ae4de39e33b59.

Dunbar, Brian. "What Is Climate Change?" NASA. NASA, May 13, 2015. https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html.

Dunne, Daisy. "Deforestation Has Driven up Hottest Day Temperatures, Study Says." Carbon Brief, April 23, 2018. https://www.carbonbrief.org/deforestation-has-driven-up-hottest-day-temperatures.

Environment, Energy. "The Causes of Deforestation." Eniscuola, 2020. http://www.eniscuola.net/en/argomento/rain-forest/deforestation/the-causes-of-deforestation/.

Environment, UN. "What We Do." UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/forests/what-we-do.

Environment, UN. "Why Do Forests Matter?" UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/forests/why-do-forests-matter.

EP, UN. "Why Do Forests Matter?" UNEP - UN Environment Programme, 2020. https://www.unenvironment.org/explore-topics/forests/why-do-forests-matter.

ESRI. "Story Map Journal." arcgis.com, 2020. https://www.arcgis.com/apps/MapJournal/index.html?appid=8e4bb4039065405bb0882635b4d4926b.

F, WW. "Deforestation and Forest Degradation." WWF. World Wildlife Fund, 2015. https://www.worldwildlife.org/threats/deforestation-and-forest-degradation.

F, WW. "Over 80% of Future Deforestation Confined to Just 11 Places." WWF, April 28, 2015. https://wwf.panda.org/wwf_news/?245370.

FAO, UN. "Let's #StopSoilErosion to Ensure a Food Secure Future." Food and Agriculture Organization of the United Nations, 2020. http://www.fao.org/fao-stories/article/en/c/1192794/.

FAO, UN. "The State of the World's Forests 2020." www.fao.org, 2020. http://www.fao.org/state-of-forests/en/.

Fish and Wildlife Service, US. "Endangered Species Act." Official Web page of the US Fish and Wildlife Service, 2020. https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/endangered-species-act.html.

Grow, Greens. "What Is Urban Farming?" Greensgrow, 2020. https://www.greensgrow.org/urban-farm/what-is-urban-farming/.

Higgins, Jenny. "Heritage." Forest Industries and the Environment, 2020. https://www.heritage.nf.ca/articles/economy/forestry-environment.php.

Initiative, Forest Legality. "U.S. Lacey Act: Forest Legality." U.S. Lacey Act | Forest Legality, 2020. https://forestlegality.org/policy/us-lacey-act.

International, BirdLife. "Extractives Industries in Africa: Blessing or Curse?" BirdLife, 2020. https://www.birdlife.org/africa/news/extractives-industries-africa-blessing-or-curse.

International, WWF. "Donate." WWF, 2020. https://lp.panda.org/donate.

IUCN. "Peatlands and Climate Change." IUCN, September 10, 2019. https://www.iucn.org/resources/issues-briefs/peatlands-and-climate-change.

January 1, 2012. "ADP's Deforestation-Free Awareness Campaign." adpartners.org, May 1, 2013. https://adpartners.org/news/deforestation-free-awareness-campaign/.

Land-Use Change Program, Land-Cover. "Boreal Deforestation of Far Eastern Siberia." LCLUC, 2009. https://lcluc.umd.edu/hotspot/boreal-deforestation-far-eastern-siberia.

Levy, Robert. "Tropical Deforestation." NASA. NASA, 2007. https://earthobservatory.nasa.gov/features/Deforestation/deforestation_update3.php.

Madaan, Sonia. "8 Fantastic Solutions to Deforestation." Earth Eclipse, September 11, 2017. https://www.eartheclipse.com/environment/fantastic-solutions-to-deforestation.html.

Matter, You. "What Is Deforestation? Definition, Causes, Effects and Solutions to Stop It." Youmatter, May 13, 2020. https://youmatter.world/en/definition/definitions-what-is-definition-deforestation-causes-effects/.

Moas, Amy, Jason Schwartz, and Marie-Josée Beliveau. "Solutions to Deforestation." Greenpeace USA, May 19, 2020. https://www.greenpeace.org/usa/forests/solutions-to-deforestation/.

Nunez, Christina. "Explore Our Rainforests." Rainforest and Amazon facts and information, May 15, 2019. https://www.nationalgeographic.com/environment/habitats/rain-forests/.

Organisation for Economic Co-operation and Development. "Green Growth and Sustainable Development." OECD, 2020. https://www.oecd.org/greengrowth/.

Oxfam. "Take Action." Oxfam in Asia, 2020. https://asia.oxfam.org/take-action.

Peace, Green. "After 20 Years, Canada's Great Bear Rainforest Gets the Protection It Needs." Greenpeace USA, 2020. https://www.greenpeace.org/usa/victories/20-years-canadas-great-bear-rainforest-gets-protection-needs/.

Pimm, Stuart L. "Deforestation." Encyclopædia Britannica. Encyclopædia Britannica, inc., March 24, 2020. https://www.britannica.com/science/deforestation.

REDD, UN. "OUR WORK: Un-Redd-Website." un, 2019. https://www.un-redd.org/how-we-work-1.

REDD, UN. "REDD Programme: Our Impact." un, 2019. https://www.un-redd.org/ourimpact.

Rinkesh. "Is It Possible to Reverse Climate Change? 15 Feasible Solutions That Can Alter the Impact." Conserve Energy Future, May 20, 2020. https://www.conserve-energy-future.com/reverse-climate-change.php.

Ronca, Debra. "How Deforestation Works." HowStuffWorks Science. HowStuffWorks, June 30, 2020. https://science.howstuffworks.com/environmental/green-science/deforestation.htm.

Service, National Park. "Law & Policy." National Parks Service. U.S. Department of the Interior, 2020. https://www.nps.gov/subjects/wilderness/law-and-policy.htm.

Smith, Jeremy M.B. "Tropical Rainforest." Encyclopædia Britannica. Encyclopædia Britannica, inc., December 26, 2019. https://www.britannica.com/science/tropical-rainforest.

Society, Open. "Extractive Industries Transparency: The Benefits of EU Legislation to African Citizens." Open Society Foundations, 2012.

https://www.opensocietyfoundations.org/publications/extractives-industries-transparency-benefits-eu-legislation-african-citizens.

UN, Food and Agriculture Organization. "Open FORIS and SEPAL." FAO Digital Services Portfolio, 2018. http://www.fao.org/3/CA1085EN/ca1085en.pdf.

Union of, Concerned Scientists. "Deforestation Success Stories: Tropical Nations Where Forest Protection and Reforestation Policies Have Worked." Deforestation Success Stories, 2014. https://www.ucsusa.org/sites/default/files/2019-10/deforestation-success-stories-2014.pdf.

University, Yale. "Yale University." Boreal Zone | Global Forest Atlas, 2020. https://globalforestatlas.yale.edu/boreal-zone.

Watershed Protection, Center for. "Forest-Friendly Development." cwp.org, 2020. https://www.cwp.org/forest-friendly-development/.

Weisse, Mikaela, and Elizabeth Dow Goldman. "We Lost a Football Pitch of Primary Rainforest Every 6 Seconds in 2019." World Resources Institute, June 2, 2020. https://www.wri.org/blog/2020/06/global-tree-cover-loss-data-2019.

WildLife, World. "8 Things to Know about Palm Oil." WWF, 2020. https://www.wwf.org.uk/updates/8-things-know-about-palm-oil.

WildLife, World. "Deforestation and Forest Degradation." WWF. World Wildlife Fund, 2020. https://www.worldwildlife.org/threats/deforestation-and-forest-degradation.

WildLife, World. "The Importance of Forests." WWF, 2020. https://wwf.panda.org/our_work/our_focus/forests_practice/importance_forests/.

William, John. "Deforestation: A Few Solutions That Can Change The Future." Biofriendly Planet Magazine, September 25, 2019. https://biofriendlyplanet.com/environment-issues/deforestation-a-few-solutions-that-can-change-the-future/.

Williams, Michael. "The History of Deforestation." History Today, 2001. https://www.historytoday.com/archive/history-deforestation.

Works, Nature. "Temperate Deciduous Forests - NatureWorks." New Hampshire PBS, 2020. https://nhpbs.org/natureworks/nwep8c.htm.

Zinni, Yasmin. "Human Influences on the Temperate Rainforest." Sciencing, March 2, 2019. https://sciencing.com/human-influences-temperate-rainforest-8480768.html.