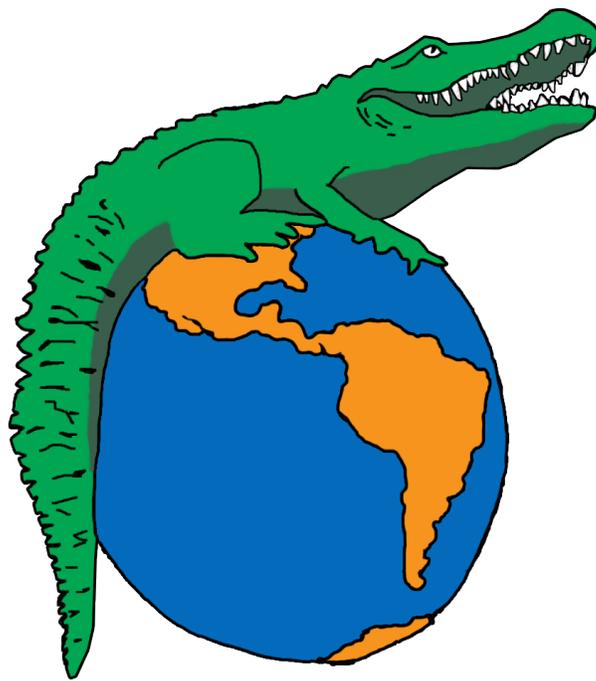


GatorMUN XVI

Background Guide



United Nations
Environmental
Programme

Esteemed Delegates,

My name is Renee Hancock and I will be your director for the United Nations Environmental Programme (UNEP) for GatorMUN XVI. I am in my second year at the University of Florida, pursuing a dual-degree in public relations and political science. This is my second year participating in Model United Nations, and, although the time has been short, I have found a home within this wonderful organization. I've spent the past two years traveling to a variety of conferences, one of them across the northern border in Montreal, QC., staffing as both a crisis staffer and the assistant director for the Human Rights Council at GatorMUN XV, and serving as the Undersecretary-General of Finance for the Florida Crisis Simulation. In my free time, I contribute to UF's Florida Political Review, work as a manager at Bento Café, and binge watch Criminal Minds.

This committee will be a dual-delegation committee, meaning that there are two delegates per represented country as a member of the UNEP. It is imperative that you and your dual-delegate partner work collaboratively with an open mindset to ensure that your research, ideas, solutions, and debates held with other delegates are creative and well-thought out.

The United Nations Environmental Programme is an agency of the United Nations that serves as the international authority of promoting environmental initiatives, creating and implementing an agenda of environmental preservation and conservation, and continuously advocating for environmentally sound practices and global policies. Founded in 1972, UNEP has grown from being the result of the Stockholm Conference to be an ever-growing UN body that consists of seven international divisions with a yearly budget of nearly 45 million USD.¹

For this UNEP committee, there will be two topics to discuss. The first topic is preventing and addressing plastic and pathogenic pollution in global waterways. The goal of this topic is for dual-delegate partners to debate the alarming issues of ongoing plastic and pathogenic contamination within all global waterways.; it is important to focus on waterways other than oceans. Aquifer depletion, river contamination due to lack of infrastructure, and sanitization for drinking water are all areas of focus that the UNEP works on through their divisions. Feasibility and affordability are incredibly important for the solutions associated with topic one. The second topic is environmental sustainability in active and post-conflict zones. During a time of conflict or in the recovery of one, environmental sustainability and preservation should not be an afterthought. Natural resource exploitation, food and water shortages, and a collapsed agricultural infrastructure of a country can spark a conflict relapse. With long-term intervention and funded educational outreaches, "green" economies and environmentally safe practices can offset the fragility of a nation recovering from internal or external conflict.² With these two topics, this UNEP committee will collaboratively work to create innovative resolutions that pursue education, sustainable infrastructure, and factual advocacy.

Position papers will be expected from all delegations within this committee. If you have any questions, please feel free to email me at gatormun@gmail.com. I am so excited to meet all of you and take part in an educational, fair, and new committee experience. Best of luck in your research!

Sincerely,
Renee Hancock
Director, UNEP

1 Regular Budget. (n.d.). Retrieved from <https://www.unenvironment.org/about-un-environment/funding/funding-facts/regular-budget>

2 About green economy. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/green-economy/about-green-economy>

Rules of Procedure

Quorum

A majority of voting members answering to the roll at each session shall constitute a quorum for that session. This means that half plus one of all voting members are present. Quorum will be assumed consistent unless questioned through a Point of Order. Delegates may request to be noted as “Present” or “Present and Voting.”

Motion to Open Debate

This opens the floor for debate, allowing other points or motions.

Motion to Set the Agenda

This motion determines the order in which the topics of a committee will be debated. Permission to speak will be accorded to one speaker for and one speaker against, and a two-thirds majority is required for the motion to pass.

Motion to Open the Speaker’s List

Opening the Speaker’s List requires a simple majority to pass. A delegate may only be present on the Speaker’s List once, but may re-enter after he/she has spoken. If the Speaker’s List expires, debate then closes.

Motion to Set Speaking Time

Speaking Time must be indicated by this motion from the floor before any members of the body may speak on the Speaker’s List. This motion must also accompany any motion for a Moderated Caucus. In a Motion to Set Speaking Time for the formal Speaker’s List, a delegate may also specify a number of questions or comments to automatically affix to the Speaking Time. These designated questions or comments may also have Speaking Time or Response Time (in the case of a question) limits, but these are not required. The Director may rule any Motion to Set Speaking Time dilatory. This motion requires a simple majority. Any delegate may make this motion between formal speakers in an effort to change the Speaking Time.

Motion to Close the Speaker’s List

The Speaker’s List may be closed upon a motion from the floor. Permission to speak will be accorded to one speaker for and one speaker against, and a two-thirds majority is required for the motion to pass.

Motion to Suspend the Rules for the Purpose of a Moderated Caucus

This motion must include three specifications:

- a. Length of the Caucus
- b. Speaking time, and
- c. Reason for the Caucus.

During a moderated caucus, delegates will be called on to speak by the Committee Director. Delegates will raise their placards to be recognized. Delegates must maintain the same degree of decorum throughout a Moderated Caucus as in formal debate. This motion requires a simple majority to pass.

Motion to Suspend the Rules for the Purpose of an Unmoderated Caucus

This motion must include the length of the Caucus. During an unmoderated caucus, delegates may get up from their seats and talk amongst themselves. This motion requires a simple majority to pass. The length of an unmoderated caucus should never exceed twenty minutes.

Motion to Suspend the Meeting

This motion is in order if there is a scheduled break in debate to be observed. (ie. Lunch!) This motion requires a simple majority vote. The Committee Director may refuse to entertain this motion at their discretion.

Motion to Adjourn the Meeting

This motion is in order at the end of the last committee session. It signifies the closing of the committee until next year's conference.

Motion to Table the Topic

If a delegate believes that the flow of debate has become stagnant, he/she may make this motion. To Table the Topic is to halt debate on the present Topic, save the speakers' list and all draft resolutions, and move on to the next Topic on the Agenda. The delegate making this motion may also choose to specify a previously tabled Topic. This motion requires a two-thirds vote to pass. The Topic may be returned to at any time by tabling the present Topic and adding the phrase "for the purpose of returning to Tabled Topic ____," to this motion. If no Topics have been previously tabled, debate must follow the established Agenda. This motion is to be used sparingly.

Points of Order

Points of Order will only be recognized for the following items:

- a) To recognize errors in voting, tabulation, or procedure,
- b) To question relevance of debate to the current Topic or
- c) To question a quorum.

A Point of Order may interrupt a speaker if necessary and it is to be used sparingly.

Points of Inquiry

When there is no discussion on the floor, a delegate may direct a question to the Committee Director. Any question directed to another delegate may only be asked immediately after the delegate has finished speaking on a substantive matter. A delegate that declines to respond to a question after a formal speech forfeits any further questioning time. The question must conform to the following format:

Delegate from Country A raises placard to be recognized by the Committee Director.

Committee Director: "To what point do you rise?"

Country A: "Point of Inquiry."

Committee Director: "State your Point."

Country A: "Will the delegate from Country B (who must have just concluded a substantive speech) yield to a question?"

Committee Director: "Will the Delegate Yield?"

Country B: "I will" or "I will not" (if not, return to the next business item)

Country A asks their question (it must not be a rhetorical question.)

Country B may choose to respond or to decline.

If the Delegate from Country B does not yield to or chooses not to answer a question from Country A, then he/she yields all remaining questioning time to the Committee Director.

Points of Personal Privilege

Points of personal privilege are used to request information or clarification and conduct all other business of the body except Motions or Points specifically mentioned in the Rules of Procedure.

Please note: The Director may refuse to recognize Points of Order, Points of Inquiry or Points of Personal Privilege if the Committee Director believes the decorum and restraint inherent in the exercise has been violated, or if the point is deemed dilatory in nature.

Rights of Reply

At the Committee Director's discretion, any member nation or observer may be granted a Right of Reply to answer serious insults directed at the dignity of the delegate present. The Director has the ABSOLUTE AUTHORITY to accept or reject Rights of Reply, and the decision IS NOT SUBJECT TO APPEAL. Delegates who feel they are being treated unfairly may take their complaint to any member of the Secretariat.

Working Papers and Draft Resolutions

Once a Working Paper has been submitted, approved, distributed, and formally introduced to the body, it can and will be referred to as a "Draft Resolution." In order for a Working Paper to be submitted to the Committee Director, it must be in correct format and bear the names of a combination of a number of Sponsors and Signatories necessary to introduce, as determined by the Committee Director.

Sponsors are the writers of the Working Paper, and agree with it in its entirety. They should be able to vote 'yes' for the paper during voting procedure. Signatories are those delegates interested in bringing the Working Paper to the floor for debate, but do not necessarily agree with its contents.

A delegate can motion to discuss the working paper during a moderated caucus or unmoderated caucus. A delegate can also motion for an author's panel, which is essentially a moderated caucus moderated by the authors. It is the chair's discretion on the maximum amount of authors allowed on the author's panel.

Friendly Amendments

Friendly Amendments are any changes to a formally introduced Directive that *all* Sponsors agree to in writing. The Committee Director must approve the Friendly Amendment and confirm each Sponsor's agreement both verbally and in writing.

Unfriendly Amendments

Unfriendly Amendments are any substantive changes to a formally introduced Directive that are not agreed to by all of the Sponsors of the Directive. In order to introduce an Unfriendly Amendment, the Unfriendly Amendment must have the number equivalent to 1/3 of Quorum confirmed signatories. The Committee Director has the authority to discern between substantive and nonsubstantive Unfriendly amendment proposals.

Plagiarism

GatorMUN maintains a zero-tolerance policy in regards to plagiarism. Delegates found to have used the ideas of others without properly citing those individuals, organizations, or documents will have their credentials revoked for the duration of the GatorMUN conference. This is a very serious offense.

Motion to Close Debate and Voting Procedures

A motion to close debate may only pass with a two-thirds majority. Once this motion passes, and the committee enters Voting Procedure, no occupants of the committee room may exit the Committee Room, and no individual may enter the Committee Room from the outside. A member of the Dias will secure all doors. No talking, passing notes, or communicating of any kind will be tolerated during voting procedures.

Once moving into voting procedures chair can only accept these motions:

- A point of order to correct an error in procedure
- An appeal of the decision of the chair
- A motion for division
- A motion for roll call vote
- A motion for adoption by acclamation

Each Draft Resolution will be read to the body and voted upon in the order which they were introduced. Any Proposed Unfriendly Amendments to each Draft Resolution will be read to the body and voted upon before the main body of the Draft Resolution as a whole is put to a vote. The Committee will adopt Directives and Unfriendly Amendments to Directives if these documents pass with a simple majority. Specialized committees should refer to their background guides or Committee Directors for information concerning specific voting procedures. Unless otherwise specified by the Secretariat, each Committee may pass as many resolutions as it agrees are necessary to efficiently address the Topic

Delegates who requested to be noted as “Present and Voting” are unable to abstain during voting procedure. Abstentions will not be counted in the tallying of a majority. For example, 5 yes votes, 4 no votes, and 7 abstentions means that the Directive passes.

Roll Call Voting

A counted placard vote will be considered sufficient unless any delegate to the committee motions for a Roll Call Vote. If a Roll Call Vote is requested, the committee must comply. All delegates must vote: “For,” “Against,” “Abstain,” or “Pass.”

During a Roll Call vote, any delegate who answers, “Pass,” reserves his/her vote until the Committee Director has exhausted the Roll. However, once the Committee Director returns to “Passing” Delegates, they must vote: “For” or “Against.”

Voting with Rights

During a Roll Call vote delegates may vote “For with Rights” or “Against with Rights.” Delegates will be granted 30 seconds to explain their reasons for voting for or against a draft resolution. This time will come after the tabulation of votes.

Delegates should use this option sparingly. It is meant for delegates who feel that their vote may seem off policy, despite it being correct. The acceptance of rights is up to the director’s discretion. If a speaker goes off topic during their allotted time the director will rule their speech dilatory and move to the next in order.

Accepting by Acclamation

This motion may be stated when the Committee Director asks for points or motions. If a Roll Call Vote is requested, the motion to Accept by Acclamation is voided. If a delegate believes a Directive will pass without opposition, he or she may move to accept the Directive by acclamation. The motion passes unless a single delegate shows opposition. An abstention is not considered opposition. Should the motion fail, the committee will move directly into a Roll Call Vote.

Committee History

Introduction

The United Nations Environmental Programme (UNEP) was established in Nairobi, Kenya, in 1972.¹ UNEP “is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.”² Its goals are to encourage international partnership in environmental projects, provide information and education about environmental sustainability, and promote global advocacy and leadership. From its formation after the Stockholm Conference, UNEP has had an important role in the creation of many international conventions that serve to educate and provide information on current environmental issues, with many resulting in international agreements such as the Montreal Protocol. Aside from these informational conventions, UNEP also continues to have great influence in helping national governments and regional bodies implement environmental policies within their current or developing legislation. In partnership with other UN organizations, UNEP has contributed to the creation of multiple intergovernmental bodies. For example, the International Panel on Climate Change (IPCC) was created in 1988 by UNEP and the World Meteorological Organization (WMO).³

Historical Conventions

UNEP works in facilitating intergovernmental platforms by creating accepted environmental agreements, principles, and policies that can be seen admirably through its various successful conventions and secretariats. As of present day, there are 11 conventions, six regional seas conventions, action plan secretariats, and the Ozone Secretariat.⁴

2030 Agenda and Sustainable Development Goals

In 2015, the United Nations accepted the 17 Sustainable Development Goals (SDGs). Through the collaborative work of multiple UN agencies, such as the United Nations Development Programme (UNDP) and the UNEP, 17 SDGs and 169 targets were adopted by the UN, formally named the “2030 Agenda.”⁵ The creation of the 2030 Agenda spurred from both the end date approaching and from the global community recognizing the outdated language and statistics of the prior acclaimed Millennium Development Goals (MDGs). The MDGs used comparative language by labeling nations as “developed” or “developing,” and did not set targets for country or region-specific issues as needed. Expanding from only eight goals and roughly 21 targets, the creation of the SDGs aimed to follow four principles set out by the Agenda: universality, integration, innovation, and human rights and equality.⁶ Listed below are 4 of the 17 SDGs that closely align with the two topics of our committee.⁷

1 Petsonk, C.A. “The Role of the United Nations Environment Programme (UNEP) in the Development of International Environmental Law.” *American University International Law Review* 5, no. 2 (1990): 351-391.

2 Why does UN Environment matter? (n.d.). Retrieved from <https://www.unenvironment.org/about-un-environment/why-does-un-environment-matter>

3 “IPCC Factsheet: What is the IPCC?” (n.d.). Retrieved from http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf.

4 Secretariats and Conventions. (n.d.). Retrieved from <http://web.unep.org/about/structure/organizational-structure/secretariats-and-conventions>

5 Transforming our world: The 2030 Agenda for Sustainable Development. Sustainable Development Knowledge Platform. (n.d.). Retrieved from <https://sustainabledevelopment.un.org/post2015/transformingourworld>

6 About the Sustainable Development Goals. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/about-sustainable-development-goals>

7 About the Sustainable Development Goals. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/about-sustainable-development-goals>

- Goal 6: Clean Water and Sanitation – With seven targets associated to this goal, the increase of natural water resource management and assurance to clean drinking water are being sought out as this goal is essential to stabilizing agriculture, promoting economic growth, and the prolonged development of growing communities.
- Goal 9: Industry, Innovation, and Infrastructure – Prioritizing and investing in green infrastructure and renewable energy industries will help lessen global environmental impacts and can bring stability to regions recovering from conflict through “green” industry-based economies.
- Goal 12: Sustainable Production and Consumption – Transitioning societies to be more environmentally sustainable has been an incredibly difficult process as populations rise. We are faced with the problem of having to do more with a lot less. This goal focuses on the responsibility of individuals, corporations, and national governments, to reduce their consumption rates in food, energy, and water. Beyond decreasing consumption, the amount of production and what is being produced specifically must change from single-use, environmentally harmful materials to safe, reusable ones.
- Goal 14: Life Below Water – The diverse oceanic ecosystems provide a global source of economic growth, food, and climate control. As average global temperatures continue to rise, these ecosystems are faced with increased pollution, which leads to the continued decrease in coral and fish populations. The economic and environmental value of the oceans is threatened until there are global efforts that focus on cleaning up the ocean, finding more renewable energy sources, and decreasing overfishing.

Topic I: Preventing and Addressing Plastic and Pathogenic Pollution in Global Waterways

Introduction

Water is one of the most important natural resources on earth. It makes up approximately 70% of the earth's surface. The biological, ecological, and economic benefits of clean and accessible water are undeniable and should be prioritized by all national governments. Water contamination has been an increasing threat to all life sources. The World Health Organization estimates that safe water could eliminate roughly 1.4 million child deaths each year.⁸ Aside from worrying levels of contamination, the demand for water cannot be met by its natural supply. Reports suggest that by the year 2030, the demand for water will exceed its current supply by more than 50%.⁹ Due to the scarcity of water and the limited amount that is safe for drinking, it is imperative to preserve the resource.

This topic is to highlight the dangerous levels of current pollution in waterways, create a variety of reactive and proactive long-term solutions, and make efforts towards the creation of sturdy and affordable infrastructure to combat pollution. To ensure that the earth can support the increasing global population and the increased resource demand that will follow, there must be drastic efforts in place to conserve the current water sources we have. Currently, more than 80% of wastewater resulting from human activities is discharged into the sea or rivers without any pollution removal.¹⁰ By the year 2050, the weight of plastic in the ocean will outweigh the amount of fish.¹¹ With many social media platforms taking on the trends of eliminating single-use plastic, such as the growing bans on plastic straws throughout the U.S., it is necessary to also address the realities of pathogenic pollution. Nearly 3.4 million people die annually from water-related diseases.¹² A variety of disease outbreaks, such as cholera or dysentery, begin from contaminated water sources. Addressing and preventing the continual pollution of global waterways will take short- and long-term international commitment with funded focuses on education, infrastructure, and regulation. The finite natural resource can be preserved, but it has to be a combined effort from everyone.

History

The United Nations has a long-standing history of addressing the global concerns of water scarcity, accessibility, and pollution. Beginning with the 1977 United Nations Water Conference, the United Nations has pursued continuous measures to assess global water quality, determine the economic supply needed, and increase water efficiency and sanitation.¹³ Both the 1992 International Conference on Water and the Environment and the 1992 Earth Summit followed the same agenda of assessment and increased water management. There have been two decades that the United Nations have declared for action and awareness for water quality and accessibility – the International Drinking Water Supply and Sanitation Decade (1981-

8 How does safe water impact global health? (2010, December 01). Retrieved from <http://www.who.int/features/qa/70/en/>
9 https://web.archive.org/web/20100705072816/http://www.mckinsey.com/App_Media/Reports/Water/Charting_Our_Water_Future_Full_Report_001.pdf

10 GOAL 6: Clean water and sanitation. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-6>

11 Hornak, L. (2016, February 15). Will there be more fish or plastic in the sea in 2050? Retrieved from <https://www.bbc.com/news/magazine-35562253>

12 Pandey, P. K., Kass, P. H., Soupir, M. L., Biswas, S., & Singh, V. P. (2014). Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4077002/>

13 How does safe water impact global health? (2010, December 01). Retrieved from <http://www.who.int/features/qa/70/en/>

1990) and the ‘Water for Life’ International Decade for Action (2005-2015). In March of 2018, the UN began the International Decade for Action ‘Water for Sustainable Development’ and it will conclude in 2028.¹⁴

In July 2010, the UN declared that water is a human right, a milestone in the fight for safe and accessible water. Water is not just for commercial and agricultural use; communities across the globe have a right to safe water and working sanitation. Water being characterized as a human right holds a connection with gender and economic equality; for women and girls, sanitation facilities are needed for menstruation. As a human right, water should be guaranteed for everyone and the state should be responsible for the development of water infrastructure.

The 2030 Agenda set 17 Sustainable Development Goals (SDGs), and SDG 6 focuses on clean water and sanitation. Through investments on health and education, better physical infrastructure, and increased water management and regulation, the SDG is a part of the global effort to ensure equal access to clean water and prevent mismanagement and pollution.¹⁵

Key Issues

Sanitation Infrastructure

Sanitation infrastructure, for the purpose of this committee, will correlate to environmental, ecological, and disaster-related sanitation. Solid waste management is essential to improving quality of life in rural areas where plumbing is not adequate. Additionally, industrial waste disproportionately affects poorer populations and can deny their right to clean water. Ecological sanitation, or ecosan, focuses on a principled approach to recycle resources and minimize the need for nonrenewable resources. Disaster-related sanitation is seen for refugees and after natural or conflict-related disasters for Internally-Displaced Persons (IDPs). This type of sanitation infrastructure develops from immediate, to short-term, to long-term.¹⁶ Disease can spread rapidly in camp conditions or in the aftermaths of natural disasters, so it is imperative to have access to clean water and waste disposal. Methods for on-site sanitation, including septic tanks and pit latrines, to create accessible wells are examples of the infrastructure seen in such circumstances.

Marine Debris

Solid waste and trash that has not been properly recycled can find its way into sewers and storm drains. This waste will eventually make its way into oceans or rivers, threatening the ecosystem’s life. Straws, plastic wrapping, and aluminum can suffocate, cut, or get stuck on marine animals. Aside from non-recycled items, fishing gear, trash from cruise ships, and discarded materials from freight ships are direct ways that debris ends up in waterways.¹⁷ This debris makes up a large portion of the millions of tons of plastic waste that is dumped into the ocean annually. Plastics break down over time, thus creating microplastic. Microplastic has become a serious threat to water quality, ocean restoration, and fish meat contamination.

Water-related Diseases

Every year, millions are sickened or die from water-related diseases. Feces contamination, accidental farm runoffs, and illegal hazardous waste dumping have contributed to the spread bacterial and virus water pathogens. Some water diseases include: gastrointestinal illness (GI), typhoid, cholera, and diarrhea. “Unsafe hygiene practices are widespread, compounding the effects on people’s health. The impact on child mortality

14 Water. (n.d.). Retrieved from <http://www.un.org/en/sections/issues-depth/water/>

15 GOAL 6: Clean water and sanitation. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-6>

16 Sanitation. (2018, May 06). Retrieved from https://en.wikipedia.org/wiki/Sanitation#Environmental_sanitation

17 Denchak, M. (2018, June 08). Water Pollution: Everything You Need to Know. Retrieved from <https://www.nrdc.org/stories/water-pollution-everything-you-need-know#effects>

rates is devastating with more than 340 000 children under five who die annually from diarrheal diseases due to poor sanitation, poor hygiene, or unsafe drinking water – that is almost 1000 per day.”¹⁸ UN initiated programs, such as the Water, Sanitation, and Hygiene (WASH) for All Initiative, have made international efforts to teach people about hygienic practices and water sanitation to areas where the infrastructure is lacking.

Ocean Acidification

Along with forests, oceans are one of the earth’s main carbon dioxide consumers. Oceans absorb about 30 percent of carbon dioxide produced by humans, which serves as a buffer for the impacts of global warming.¹⁹ However, with over 200 years of burning fossil fuels at an increasingly alarming rate, carbon dioxide levels are higher than what oceans can sustainably absorb. Combined with the negative effects of deforestation, earth’s ecosystems are being suffocated by greenhouse gases. As the ocean absorbs excess carbon dioxide, it will acidify and alter the ecosystem that coral and marine life live in. Ocean acidification interferes with natural chemical reactions and decreases the amount of carbonate ions – the building blocks for corals and shells. Additionally, increased acidification can have drastic effects on the health of marine life by deteriorating the nervous systems of sharks, whales, and turtles.²⁰

Regional Context

The Americas

The Americas, while taking some varying approaches between North, South, and Central America, have collectively been reactive to more recent calls to limit plastic pollution. Throughout Latin America, multiple nations have either banned plastic bags, implemented large tax increases on the sale of single-use plastic items, or created governmental campaigns with overall goals to decrease plastic production. However, roughly a quarter of rivers throughout Latin America experience severe levels of pathogenic pollution.²¹ Central America has diverse coastal ecosystems and economic sectors that depend on tourism, marine life, and the popularity of their beaches. To counteract the harmful effects of plastic pollution, multiple nations have placed production restrictions or bans on plastic and styrofoam. North America has governments that allow states or provinces to create their own laws. Even with this governmental variety, there have been recent movements to ban single-use plastic items. However, large corporations have not been held accountable for their pollution in the same social light that individuals have.²²

Asia and the Pacific Islands

Approximately eight million tons of plastic waste are dumped into oceans every year. Of those eight tons, 60% of that waste is coming from five Asian countries -- China, Indonesia, the Philippines, Thailand, and Vietnam.²³ Many nations in this region are undergoing quick rates of industrialization and urbanization, and plastic production and consumption have become ubiquitous throughout these societies. In this decade, multiple nations within the region have begun to set national goals for reducing plastic production. Unlike the social trends seen in Europe and the Americas, the problem of plastic is seen to be at the fault of major corporations and urbanizing culture of many nations. Additionally, many regions within Asia are facing

18 Water, Sanitation and Hygiene. (n.d.). Retrieved from <http://www.unwater.org/water-facts/water-sanitation-and-hygiene/>

19 GOAL 14: Life below water. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-14>

20 Ocean acidification. (n.d.). Retrieved from <http://www.noaa.gov/resource-collections/ocean-acidification>

21 Executive summary. (n.d.). Retrieved from http://www.wwqa-documentation.info/assets/executive_summary_en_unep_waterreport2.pdf.

22 Herrera, C. (2018, June 20). Latin American Countries Act to Protect Oceans from Plastics. Retrieved from <https://www.nrdc.org/experts/carolina-herrera/latin-american-countries-act-protect-oceans-plastics>

23 Tanakasempipat, P. (2018, June 06). Southeast Asia’s plastic ‘addiction’ blights world’s oceans. Retrieved from <https://www.reuters.com/article/us-environment-day-plastic/southeast-asias-plastic-addiction-blights-worlds-oceans-idUSKCN1J10LM>

severe threats from pathogenic pollution. Regions in Southeast Asia experience extreme flooding during the monsoon season, and the annual natural disasters cause chemical, material, and pathogenic contamination of waterways. The Pacific Islands experience both forms of pollution from the ocean currents and natural disasters. These islands are sitting in the middle of oceanic currents that pull and push trash together, creating massive patches of non-recycled materials. These islands also experience severe storms that disrupt sewage and sanitation systems.

Africa

Over the continent, pathogenic pollution is an ever-growing threat to many of the rivers and sources of freshwater. Regions with little to no water sanitation facilities face threats of disease from unsafe drinking water. In the past 50 years, Africa has seen its cities quickly industrialize. With any region undergoing industrialization, the management of chemical waste and the implementation of sustainable water practices can be severely neglected. Roughly 25% of rivers throughout Africa experience severe levels of pathogenic pollution.²⁴

Europe and the Middle East

Members of the European Union have united together in the fight against plastic pollution. “The first-ever European Strategy for Plastics in a Circular Economy adopted on January 2018 will transform the way plastic products are designed, used, produced, and recycled in the EU.”²⁵ The EU is making the beginning strides in the global effort of addressing plastic and microplastics in waterways. However, the Middle East is also facing extreme water scarcity and desertification. With rapid urbanization and luxury commercialization, the already scarce water sources are being contaminated with pesticides, fertilizers, and condensed salt from salinization plants.²⁶ For this region, efficiently built water distribution infrastructure can help the mismanagement of water greatly.

Case Study: Training in Eco-Sanitation for Communities in Pacific Island Countries²⁷

Different from how many national governments organize sanitation systems through states, provinces, or under city councils, over 90% of sanitation systems in the Pacific Islands are maintained by individual households. For many of these households, there are not efficient sanitation systems. Many of the households use low-grade septic tanks, latrines, or the outdoors for waste and toiletry disposal. This case study focuses on increased efforts for eco-sanitation in four Pacific island countries – Tonga, Kiribati, Tuvalu, and Vanuatu.

TONGA: Composting Toilet Trial and Groundwater Pollution Study 1997 - 1999

In the Kingdom of Tonga, there were no reticulated sewage systems. With initial funding from AUSAid, a trial of 13 waterless composting toilets (CTs) was initiated in select homes. Information regarding CTs was distributed in local village meetings, through the churches, and over the radio. However, the information had to be delivered in a metaphorical manner as the discussion of waste was strictly taboo. With town leaders seeing CTs as a positive change to their communities, the educational value of the trial spread throughout Tonga and can be seen in newly built schools and public offices that have flushable toilets.

VANUATU: Eco-Sanitation Workshop, Port Vila, 2004

24 Executive summary. (n.d.). Retrieved from http://www.wwqa-documentation.info/assets/executive_summary_en_unep_waterreport2.pdf.

25 European strategy for plastics. (n.d.). Retrieved from http://ec.europa.eu/environment/waste/plastic_waste.htm

26 Dale | Middle East Water Problems. (n.d.). Retrieved from http://www.unc.edu/depts/diplomat/archives_roll/2001_07-09/dale_water/dale_water.html

27 Sharing experiences: Sustainable sanitation in South East Asia and the Pacific. (March 2008). Retrieved from <https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/sustainable%20sanitation%20south%20east%20asia%20pacific.pdf>.

“The organization and aims of the Port Vila Eco-sanitation workshop involved a combined effort to address sanitation issues in the Tagabe River area in Vanuatu, and to introduce ecologically sustainable sanitation to the wider community through The Vanuatu Island Bungalows Association (VIBA).”²⁸ With funding from the New Zealand High Commission, the VIBA project was able to set out ten benefits of the workshop, including lower installation costs and eliminating local groundwater pollution. EU trainers helped members of VIBA learn how to install ecologically safe sanitation systems within bungalows. Within the first year of the trainings, funds had taken a severe hit. However, with assistance from the Department of Environment, four CT systems were installed, and the population of the country was taught to install future systems in a more weather/disaster resilient manner.

TUVALU: Practical Hands-On Training through the Tuvalu International Waters Programme, 2006

Under the International Waters Programme, a Communications and Sanitations Programme was implemented in Tuvalu with the goals of assessing the poor sanitation, raising awareness of the health and environmental consequences, and finding and creating possible solutions for the island. Hands-on training was provided through the programme and from other non-governmental personnel. “The training included an examination of the invisible threats (pathogens, nutrients) to public and environmental health from inadequate management of human excreta and compared the design, cost, and maintenance requirements of a range of common sewage treatment technologies.”²⁹ Along with the informational trainings were the constructions of CTs in trial and in household and community buildings over the duration of the Programme. Feedback concluded that those trained appreciated and could utilize the training information given to them. Tuvalu is one of the only island nations that continued to prioritize improving sanitation after the trainings concluded. They were a part of the Sustainable Integrated Water Resources and Wastewater Management Project, a five-year sanitation project that began in 2008.

KIRIBATI: Tarawa Training, 2007

The Pollution Control Officer from the Ministry of Environment, Lands, and Agricultural Development, in cooperation with the Ministry of Health, sponsored the low budget training seen in Kiribati. The trainings included informational sessions and hands-on based construction of CTs, funded by Taiwan (Republic of China) through the Pacific Islands Applied Geoscience Commission (SOPAC). Associated with Kiribati’s poor sanitation infrastructure, the trainings sought to educate the islanders of water pollution and health concerns. In order to promote the trainings and continued building of CTs afterwards, competitions were held between townspeople. This training stood out for how well it was received and for how Kiribati began prioritizing construction of CTs in schools, homes, and other buildings. In the 1990’s, a similar training was attempted but was ultimately turned down by the people of Kiribati due to their initial rejection of technology.³⁰

The goals and achievements of this case study mirror one of the targets for SDG 14 – Life Under Water. “Target 14.a: Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.”³¹

28 Sharing experiences: Sustainable sanitation in South East Asia and the Pacific. (March 2008). Retrieved from <https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/sustainable%20sanitation%20south%20east%20asia%20pacific.pdf>.

29 Sharing experiences: Sustainable sanitation in South East Asia and the Pacific. (March 2008). Retrieved from <https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/sustainable%20sanitation%20south%20east%20asia%20pacific.pdf>.

30 Sharing experiences: Sustainable sanitation in South East Asia and the Pacific. (March 2008). Retrieved from <https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/sustainable%20sanitation%20south%20east%20asia%20pacific.pdf>.

31 GOAL 14: Life below water. (n.d.). Retrieved from <https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-14>

Questions to Consider

How do sanitation and lack of infrastructure perpetrate continued wealth inequalities?

How do the private interests of corporations interfere with addressing pollution?

Should national governments increase regulations on their citizens as a part of the efforts to decrease water mismanagement and pollution, such as limitations on how much water can be used for watering lawns or mandating recycling in public plazas?

What actions can be taken in the agricultural industry to lessen water mismanagement?

How does increased sanitation infrastructure help combat the effects of natural disasters?

How should mass areas of pollution, such as the Great Garbage Patch, be cleaned up?

Topic II: Environmental Sustainability in Active and Post-Conflict Zones

Introduction

The term conflict zones refer to areas in which there is a confrontation between one or more parties that can stem from disagreements on sovereignty, trade, nationality, etc. These zones are also referred to as “armed conflict zones” or “war zones.” A post-conflict zone is an area where open warfare has come to an end. These zones are incredibly susceptible to conflict relapse and do not have a guaranteed peace or resolution with its people. Between 2017 and 2018, there were approximately 70-armed conflict zones around the world.³²

A center of focus for the UNEP is to address and create substantive solutions towards achieving greater sustainability and livable environments of conflict zones. Within active and post-conflict zones, there is no guarantee to access to food, clean water, or stable infrastructure. Armed conflicts destroy infrastructure, tear apart families, and increase poverty through economic instability. Through the work of hundreds of non-governmental organizations (NGOs) and the UNEP, educational outreaches and crisis management teams work collaboratively to address the ongoing threats and seek peacebuilding within the area. An important aspect of ending armed conflicts or creating international resolutions is that all armed conflicts are principally governed by international humanitarian law (IHL). By the end of 2016, approx. 65.6 million people were displaced because of persecution, conflict, violence, or human rights violations – the largest number record in history.³³ The work of NGOs, all branches of the United Nations, and international courts is of utmost importance and will continue to help resolve and restore the damage from conflicts across the globe.

History

War and conflict are not new developments. The past carried similar violence, displacement, and inequality that have been seen over the past centuries. Whether the conquest of the Mongolian Empire under Genghis Khan, the Imperial Age of Europe, or the multiple genocides of the 20th century, human history has seen horrendous conflicts time and time again.

The United Nations was created shortly after World War II, with its authors living in a period of global recovery. In the Preamble of the UN, the statement of “saving succeeding generations from the scourge of war” is given as one of the direct reasons for its creation.³⁴ The United Nations is tasked with prevention of uprising disputes or restoration during and after a conflict. The UN Security Council, made up of 15 countries, with 5 of them being permanent members, is the organ of the United Nations for imposing and restoring international peace, stability, and security. “When a dispute leads to fighting, the council’s first concern is to bring it to an end as soon as possible.”³⁵ The council has used ceasefire directives as one of the many ways that could prevent wider hostilities, which is stated directly in the Preamble. As the General Assembly of the United Nations cannot impose forced laws, the body can provide recommendations to

32 International humanitarian law and peace processes. (n.d.). Retrieved from <http://gsdrc.org/publications/international-humanitarian-law-and-peace-processes/>

33 Armed Conflict. (n.d.). Retrieved from <https://www.amnesty.org/en/what-we-do/armed-conflict/>

34 Preamble. (n.d.). Retrieved from <http://www.un.org/en/sections/un-charter/preamble/index.html>

35 Preamble. (n.d.). Retrieved from <http://www.un.org/en/sections/un-charter/preamble/index.html>

the states involved and even have sanctions set against nations whom have violated human rights. In the instance of the Security Council failing, the general body can take similar action that the council has the power to pursue. Succeeding the November 1950 “Uniting for Peace” resolution, the General Assembly may act if the Security Council fails to act or if a Permanent Member’s vote is seen to be a sign of aggression, breach of peace, or threat.³⁶

Focusing on conflict prevention, the UN follows two methods: preventive diplomacy and preventative disarmament. Through these methods, the UN forces either implement envoys into regions with early signs of conflict or they intervene under peace agreements. They can help demobilize combative forces and destroy collected weapons. Additionally, the UN has the office of prevention of genocide, more formally known as the Special Adviser of the Prevention of Genocide. The UN peacekeeping operations are another important aspect of conflict prevention and is seen as one of the vital instruments of the international community. Established in 1948, the UN peacekeeping mission was established to monitor the Armistice Agreement between Israel and the surrounding region of the Middle East. Since its creation, the UN peacekeeping has grown dramatically and expanded after the Cold War to negotiate peace during civil wars and monitor rates of militarization of conflict zones. The UN established the Peacebuilding Commission in 2005 and it is tasked with helping conflict-affected areas find the cause of conflict, consolidate peace, and establish a strong foundation for recovery. UNEP gathered field evidence and historical backgrounds on conflict, peacebuilding opportunities, and regional context all synthesized in the “From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.”³⁷ UNEP has established partnerships with the Environmental Law Institute, the Secretariat of the G7+ Group, and helped create a partnership between the UN and the European Union (EU). For all of these examples of cooperative alliances that the UNEP has created, the goals stayed consistent -- to encourage natural resource governance, provide peacebuilding opportunities, and educate on conflict prevention.³⁸

Key Issues

Green Economies and Agriculture-based Economies

A green economy is an economy that provides better social equity and prioritizes well-being and standards of living, all while reducing carbon footprints and environmental risks.³⁹ These economies move away from the traditional view of a successful economy, which promote wealth inequalities, overconsumption, and corporate power. The transition into a green economy is dependent on a variety of characteristics about the individual state. Quality of living, natural resource abundance, economic structure, current environmental conditions, and socioeconomic status are just some of the aspects to consider in the transition. With the vast diversity of each nation’s structure, this transition is not a one-size-fits-all development.

Agriculture-based economies play an important role in the development and security of many conflict-struck regions. According to the World Bank, three out of every four poor people in developing countries live in rural areas, and most of them depend directly on agriculture for their livelihoods.⁴⁰ Food and economic insecurity can cause a relapse into conflict and can prevent sustainable development for years. For many living in post-conflict zones, sustainable agriculture and small livestock operations creates a family-run farm that encourages small market economies in rural regions.

36 Peace and Security. (n.d.). Retrieved from <http://www.un.org/en/sections/issues-depth/peace-and-security/>

37 “From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.” (n.d.). Retrieved from <https://www.iisd.org/library/conflict-peacebuilding-role-natural-resources-and-environment>.

38 Ibid.

39 What does green economy mean? (n.d.). Retrieved from <https://www.unecce.org/sustainable-development/green-economy/what-does-green-economy-mean.html>

40 World Bank, & Food and Agriculture Organization. (1970, January 01). Gender in Agriculture Sourcebook. Retrieved from <https://openknowledge.worldbank.org/handle/10986/6603>

Infrastructure

In post or active conflict regions, the goal of developing infrastructure is to reduce conflict and provide stable access to basic services. In the beginning stages of infrastructure development, the development must coincide with a sustainably recovering economy. Ensuring a strong beginning in the process of economic and development restoration can help prevent conflict-prone regions from relapsing. Additionally, successful infrastructure after a conflict should be pursued while being aware of conflict drivers, situations that either propelled or initiated the original conflict.⁴¹ Infrastructure, however, does not guarantee that an area is conflict-free. It is a part of the process of reestablishing security and functionality, initially focused on access to water, food, and buildings providing social welfare (hospitals, schools, etc.) Moreover, this process can be done with both the goal of creating security and providing environmental sustainability. The process of developing infrastructure and increasing national security can stop ongoing environmental damages that occur during conflict. Pursuing sanitation and water infrastructure will help prevent water contamination and illness that hungry or malnourished peoples may already be susceptible to.

Natural Disasters and their Impact on Conflict Zones

Some conflict zones under siege face alarming threats from natural disasters. Without stable infrastructure, shelters, or state-sanctioned emergency response teams, natural disasters can claim hundreds to thousands of lives – on top of those already claimed by the conflict. Internally displaced persons (IDPs) do not have adequate shelters or homes to protect them from these disasters, which can prolong the period in which they are displaced. A present-day example of this issue is the Rohingya genocide and refugee crisis. Over 700,000 Rohingya refugees have fled Myanmar to the neighboring state of Bangladesh.⁴² From the months of May to October, this region of southeast Asia experiences a monsoon season. Monsoons, dangerous rainstorms that bring flooding and severe winds, have been a serious threat to the refugees as these natural disasters destroy the makeshift shelters and medicine tents in their refugee camps. With extreme flooding comes disease outbreaks, such as cholera, as there is no proper sanitation or waste disposal systems.

Education

“Let us pick up our books and our pens, they are the most powerful weapons.”⁴³ This quote from Malala Yousafzai expresses the importance and power of education. Education is an essential part of security and national stability. Throughout active conflict zones, such as South Sudan, Syria, or Yemen, there are approximately 27 million children not enrolled in school.⁴⁴ In such conflict zones, education is not protected and those who need it most are not guaranteed it. In Homs, Syria, two car bombs were detonated near a primary school – killing 48 adults and 41 children.⁴⁵ Aside from the clear infrastructural and physical landscape damage caused by such attacks, the societal repercussions will last for generations. For many of these children in conflict zones, they are being referred to in the media as the “lost generation,” a generation in which their lives, education, and future have been taken away from them by their elders’ war. In active and post-conflict zones, the protection of education is necessary in the process of restoring national stability and economy. War creates cyclical poverty, destroys infrastructure needed for economic stability, and eliminates forms of environmental security. This cycle can subject generations after the conflict to the same underdeveloped conditions created by the initial conflict. According to the Global Partnership for Education, 420 million people could be lifted out of poverty if they had a secondary level education. A

41 <https://www.usip.org/sites/default/files/sr197.pdf>

42 Why is the monsoon season so dangerous for Rohingya refugees in Bangladesh? (2018, May 02). Retrieved from <https://www.rescue.org/article/why-monsoon-season-so-dangerous-rohingya-refugees-bangladesh>

43 Yousafzai, M., McCormick, P., & Gilkes, J. (2018). *I am Malala: How one girl stood up for education and changed the world*. Waterville, ME: Thorndike Press, a part of Gale, a Cengage Company.

44 Education in Conflict Zones: An Unmet Need. (n.d.). Retrieved from <https://reliefweb.int/report/world/education-conflict-zones-unmet-need>

45 41 children killed in Syria school bombing. (n.d.). Retrieved from <https://www.middleeasteye.net/news/blast-syria-school-kills-18-including-10-kids-421191049>

nation can see a decrease of 3% in the risk of war if their secondary level of education was approximately 10% higher than the international average.⁴⁶

Regional Context

The Americas

Throughout the countries in the Americas, there are a variety of approaches made towards environmental sustainability. North America, while not experiencing armed conflicts on its land in recent history, has been a major influence in conflicts overseas. There have not been any major events in the United States or Canada that have destroyed their infrastructure or disrupt environmental security. In Central and South America, however, there has been a series of energy extraction-related conflicts. It is imperative to note that conflicts are diverse in how they arise, are carried out, and end. Many of the conflicts seen throughout Latin America have started from the connection of global capitalism, natural resources, and economic stability. From pollution of rivers and oceans, to governmental disputes over land, the quick economic developments around energy extraction has sparked a variety of social movements and rebellions from people all over Latin America. Threats to the environment are a security threat. To indigenous groups, the spread of oil and mining fields has encroached on their lands and has already begun to destroy the ecosystems in which these people depend on. In Colombia, government seizure of land for resource extraction is listed as one of the main reasons for the increase in political leader assassinations. “According to the Human Rights Ombudsman in Colombia, 186 leaders of the civil society were assassinated between the 1st of January 2016 and the 5th of July 2017.”⁴⁷

Africa

Whether from the militant Islamic groups such as Al-Qaeda, the Lord’s Resistance Army (LRA) in the Democratic Republic of the Congo, or Boko Haram in Nigeria, regions throughout Africa have been experiencing armed conflicts that have caused environmental degradation. Many environmental workers are unable or unwilling to enter areas in which armed conflicts are active. As such, weak governments cannot maintain environmental laws, and poaching and illicit gathering of resources plague conflict zones. Additionally, armed conflicts and civil wars have led to an ongoing refugee crisis throughout the northern and southeastern parts of the continent. Since 2013, the United Nations has estimated that approximately 2.3 million civilians have been forced from their homes in Nigeria due to the attacks from Boko Haram. These IDPs have since fled to neighboring countries such as Chad or Niger.⁴⁸ Further endangering the lives of the IDPs are the severe weather conditions. Droughts and flooding have amplified the inaccessibility to clean drinking water, food, and shelter. Ultimately, while environmental sustainability could not have fully prevented the situation, the devastating results could have certainly been abated.

Middle East and Europe

Currently, there are about five ongoing conflicts in Europe: Corsican Insurgency, Abkhaz-Georgian, Georgian-Ossetian, Dissident Irish Campaign, North Caucasus Insurgency, and War in Donbass.⁴⁹ Georgia is at the center of two of those conflicts; both the Abkhaz-Georgian and the Georgian-Ossetian conflicts are ethno-political conflicts that began near the dissolution of the Soviet Union. Despite both conflicts having underwent ceasefires and multiple peace efforts, neither conflict has been resolved. As both Abkhazia and South Ossetia sought sovereignty in the early 90s, the Georgian government resisted and thus led to a

46 The Benefits of Education. (n.d.). Retrieved from <https://www.globalpartnership.org/education/the-benefits-of-education>

47 Resource Extraction and Conflict in Latin America. (n.d.). Retrieved from <https://revistas.uniandes.edu.co/doi/full/10.7440/colombiaint93.2018.01>

48 FACTSHEET: Explaining Nigeria’s Boko Haram & its violent insurgency. (n.d.). Retrieved from <https://africacheck.org/factsheets/factsheet-explaining-nigerias-boko-haram-and-its-violent-insurgency/>

49 List of conflicts in Europe. (2018, September 11). Retrieved from https://en.wikipedia.org/wiki/List_of_conflicts_in_Europe

nearly 30-year conflict of claiming autonomy. Going back in time to the early 1990s, the Yugoslav Wars were similarly individual, yet intertwined, ethnic military conflicts that led to the break apart of the Yugoslav state. The resulting states are still feeling the effects of the military conflict, with Bosnia and Herzegovina holding the title of most landmines per square mile.⁵⁰ Though the former Yugoslav states have made extreme strides in economic and social development, the physical landscape and infrastructural development is still hindered by the remaining vestiges of war.

In recent decades, the Middle East has become one of the most important regions in global politics and has been host to numerous wars and armed conflicts. Terrorism, unstable regimes, and Western intervention have riddled the region with power inequalities and environmental degradation. One such example was the recent conflict in Syria and northern Iraq, which included both political actors and terrorist groups, most specifically ISIS, the Islamic State of Iraq, and Syria. ISIS's seizure of strategic resources and locations in northern Iraq posed extreme risks to the infrastructure and environment of the rest of the country. One of the key locations seized by ISIS was the Mosul Dam, the largest dam in Iraq that sits at one of the northernmost points of the Tigris River. When ISIS claimed the site in August of 2014, there were immediate concerns from engineers and citizens alike that the dam would not be properly maintained, which could present disastrous consequences for the rest of the country.⁵¹ Although dams harbor large amounts of greenhouse gases and can cause ecological disruption, the collapse of a dam, of any size, leads to flooding, tree line/soil removal, and can threaten the lives of thousands. Though the Iraqi army successfully recaptured the dam just ten days later, the incident is a valuable case study in the possibilities of environmental destruction stemming from armed conflicts.

Asia

The vast majority of continental Asia has not experienced an armed conflict in decades. However, some nations are still facing developmental hurdles despite how long it has been since their conflict. Roughly forty years since the beginning of their civil war, Cambodia is still writhing in the aftermath of landmine usage. In contest against the Khmer Rouge, landmines were laid across the Cambodia-Thai border, and throughout many rural villages seeking protections. Although approximately 50% of the landmines once laid out have been diffused, Cambodia still has one of the highest landmine concentrations and ratio of amputees. With nearly 80% of the population residing in rural areas, the still active landmines have left parts of the country unable to develop infrastructure or access areas of natural resources.⁵² Another Asian country that experienced a developmental hindrance due to armed conflict in the recent past is Afghanistan. In 1979, Afghanistan experienced its first major conflict, when the Soviet Union invaded. Though the Soviet invasion was ultimately unsuccessful, the damage done to the Afghan environment was widespread.⁵³ Afghanistan was not given much time to recover; in 2001, the United States invaded the country, once again bringing immense destruction to local environments and infrastructure.

Case Study: Natural Resource Conflict in Sudan⁵⁴

For nearly half a century, Sudan has experienced conflict. Intense competition and instability of natural resources were major reasons for the ongoing conflict. A 2007 UNEP report provided a comprehensive overview of the role and threats to Sudan from the environmental issues. It is important to note that this case study is the overview of the UNEP-led investigation of the "environmental dimension" of the conflict and does not go into details of the political and social aspects.

50 Land mines: Hidden killers. (n.d.). Retrieved from <https://www.unicef.org/sowc96pk/hiddenkill.htm>

51 Collard, R. (2014, August 16). Iraq: Why U.S. Is So Desperate to Take Mosul Dam Back From ISIS. Retrieved from <http://time.com/3126423/iraq-isis-mosul-dam-airstrikes/>

52 Cambodia. (n.d.). Retrieved from <https://www.halotruster.org/where-we-work/south-asia/cambodia/>

53 Soviet-Afghan War. (2018, September 09). Retrieved from https://en.wikipedia.org/wiki/Soviet-Afghan_War

54 https://postconflict.unep.ch/publications/sudan/04_conflict.pdf

From the major conflicts that wreaked havoc in Sudan for over 60 years, the death toll is estimated to be around two to three million, with approximately 20 million having been directly affected by the conflict. Many of the major conflicts are connected to smaller beginnings of tribal conflicts over territorial matters. As conflicts would grow, the Sudanese government would intervene. Most conflicts were fought with “light weaponry,” consisting of mainly AK-47s. As the government is the only body with airpower and heavy machinery, landmines became an incredibly common use of weaponry in the conflicts. With no regulated or strategic placement and no mapping of locations, the use of landmines has haunted the region and still claims civilian lives daily. A part of the major conflicts of Sudan include the aftermath of its civil war, the “scorched earth” method of destruction by militias who destroy forests and target civilians, and the spread of the conflict from the Lord’s Resistance Army (LRA).⁵⁵

The four natural resources attributed with having such intense influence on the conflicts in Sudan are: oil and gas reserves, the Nile waters, hardwood timber, and rangeland and rain-fed agricultural land (and associated water points). The first three contributors are national, and though the last contributor begins on local levels, it can escalate into a regional conflict. All four of the contributors are not entirely environmental issues and share derivation with political and social conflicts. With all of them, access to and ownership of the resources is the foundational reason for conflict in the environmental dimension and have only increased in intensity with population growth and resource mismanagement. Between these reasons and the destruction from the past conflicts, soil erosion, deforestation, and limited water supply are only worsening and have caused many civilians, pastoralists, and rural villages to compete.

Mitigating conflict or providing long-term solutions to the areas of conflict in Sudan have been difficult as there has been inconsistent infrastructure and nation-wide leadership with much of the nation still being pastoral or agriculture-based. “One key issue is the difficulty of developing and applying a practical, just and stable system of rural land tenure in an ethnically complex society of intermingled sedentary farmers and transhumants/nomads.”⁵⁶ This investigation led by UNEP came to several conclusions about the environmental resource influences on conflict and the stability of Sudan. It is believed that the best path to stability and recovery of the area is for a wholistic approach, not a narrow-scope idea. From the conflicts and current environmental position in Sudan, the report summarized the impacts. Direct impacts were overall “minor,” but still necessary in the analysis. Destroyed target impacts and defensive works, and targeted natural resource destruction were all seen as “not significant,” while landmines and explosive remnants were significant. Moreover, indirect impacts were seen as “major.” Funding of the crises, environmental governance, natural resource looting and depletion, and population displacement were all listed as significant impacts of the conflict.

Questions to Consider

What are various ways for both urban and rural regions of the globe to shift to more “green economies”?

How do environmental instabilities and resource mismanagement perpetuate wealth inequalities?

If any, what are the humanitarian responsibilities of wealthier nations to help prevent and stop food and water shortages in conflict-torn regions?

What are the possible roles for NGOs in contributing to conflict-sensitive approaches in developing infrastructure?

55 Source for image: Conflict in Sudan. (2017, October 06). Retrieved from <http://www.dismalworld.com/conflict-in-sudan/>
 56 Sudan: Post-Conflict Environmental Assessment. (2007, June). Retrieved from https://postconflict.unep.ch/publications/UNEP_Sudan.pdf.