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United Nations Environmental Program

Novice Committee

Chair: Joshua Galea

Co-Chair: Linda Xiao

Topic 1: Access to Clean Water in Sub-Saharan Africa

Introduction

Access to clean and safe water for all people is a crucial elementary right that must be achieved. Unfortunately, this fundamental right is not only severely lacking in Sub-Saharan Africa, but the number of people without access to clean water is continuing to grow at a rapid rate (World Bank, n.d.). As of 2020, it is reported that 387 million people lived without access to clean water in a single year, leading to health risks and hindering the socio-economic development of the region (World Bank, n.d.) (CDC, 2022.). Sub-Saharan Africa is the only region in the world where this issue is becoming more alarming. The lack of sustainable water management practices and the neglect of investing in proper water infrastructure have led hundreds of millions of people to not have access to this necessity (UNICEF, 2022). The United Nations Environmental Program must step in and explore measures to improve access to clean water in Sub-Saharan Africa.

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History/Case Study

The people of Sub-Saharan Africa's lack of access to clean water is not a sudden occurrence. There is a long and complex history that has forced this region into the predicament it is currently in. Factors contributing to this issue include climate change, environmental degradation, poor infrastructure, and political instability based on historical context. Firstly, climate change has tormented the Sub-Saharan region for decades. Given the region's "high exposure, fragility, and low adaptive capacity," the effects of climate change are felt more fiercely than in other areas (United Nations Ghana, 2023). Kenya and Ethiopia, for example, have suffered through some of the worst droughts that have ever been seen in the past four decades (Maina, 2023). Climate change has continued to fuel the lack of accessible and clean water in Sub-Saharan Africa while also destroying infrastructure, agriculture, and socio-economic development. In addition to climate change, environmental degradation is also a massive contributor to the depletion or lack of water in the region. While climate change can be considered the changing or "disturbance" of planetary dynamics, environmental degradation is the deterioration of the environment (air, water, and land) caused by human activities (Purwar, 2022). Actions such as deforestation, pollution, and mining directly impact the quality of water, which in turn, given the region's abundance of resources and lack of regulations, makes this place perfect for international companies and organizations to abuse its abundance (USGS, n.d.).

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Ultimately, this impacts many people's access to clean water. Furthermore, amidst these actions of environmental degradation, some African countries suffer due to their lack of water infrastructure. Water infrastructure means any structure that is, or is to be, used for the collection or storage of water (Law Insider, n.d.). In many countries in the region that are still developing, water infrastructure is one of the many sectors that is neglected and most likely not focused on. This could be due to the negligence of the government or their inability to act due to a lack of funding or resources. Lastly, and what is considered by many to be the most impactful of all crises within Africa, is the impact of colonialism. The impacts surrounding the colonialism of Africa loom over the continent like an umbrella. Due to decades and even centuries of extortion and political manipulation, the state of Africa's political stability is dreadful. The corruption of the government has, in turn, negatively impacted the people and the state of clean water in the regions. These factors are only the tip of the iceberg in understanding the reason "why" there is such a lack of access to clean water in Sub-Saharan Africa. Thus, the need for a discussion of ways to combat this growing problem is crucial to preventing hundreds of millions of more people from living without clean water.

Questions to Consider

1. Does providing new water infrastructure address the root of the issue? Is this solution long-term or short-term?
2. Which country is being impacted by the clean water issue the most?

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3. What programs can be implemented to address the access to water issue while also combating climate change?
4. What should be the program's first step?

Topic 2: Combating Air Pollution in Industrialized Nations

Introduction

The Industrial Revolution has shifted societies from an agrarian economy to a manufacturing economy where products are no longer made by people but by machines (Chen, 2023). This has led to lower prices and a major increase in production. To maintain this efficiency while keeping prices for manufacturing as low as possible, fossil fuels and other non-renewable resources were used as sources of fuel for these factories. The resources that were used have led to a negative shift in climate, impacting the sea levels, average temperature, and health of humans and animals (United Nations, 2023). It has been over a century since the start of the Industrial Revolution, and many of these nations face immense challenges in combating air pollution from emissions from vehicles, energy production, and industrial manufacturing. All

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these different contributions, in turn, degrade the general health and environment of the nation. It is the United Nations Environmental Policy's focus to find ways to develop and implement effective policies to reduce air pollutants, encourage industrial policies, and promote renewable energy sources.

History/Case Study

Industrialized nations are countries whose gross domestic product and exports contain a large share of industrial production (Wokutch & Singal, n.d.). Industrialization within nations is a solid contributor to the nation's prosperity, growth, and power within the world (Safeguard Global, 2023). As a country continues to grow and grow, its population, along with the increase in vehicle emissions, demands an increase in manufacturing and energy production to maintain the economic state and well-being of the country and allow for the GDP to increase (Safeguard Global, 2023). It is UNEP's goal to only focus on developing and implementing effective policies for reducing air pollutants, encouraging sustainable management of industrial practices, and promoting renewable energy sources; hence, it wouldn't be as impactful to focus on the economic context when discussing this topic. In its place, from the perspective of UNEP, the issue that must be addressed is in a historical and future context. Find solutions, address past mistakes or persisting issues, and most importantly, develop effective policies for these nations. Many shifting parts lead to air pollution within industrialized nations. Firstly, emissions from vehicles are a major contributor to air pollution within nations (Union of Concerned Scientists,

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2014). They produce lots of nitrogen oxides, carbon monoxide, and other negative pollutants within the atmosphere. America's transportation sector, for example, is one of the largest anthropogenic U.S. greenhouse gas (GHG) emissions, with 29% of the total GHG emissions accounting for transportation (Figure 1). Within Figure 2 below, the majority of the emissions in the transportation sector are not from heavy-duty trucks but from light-duty vehicles (civilian cars).

2021 U.S. GHG Emissions by Sector

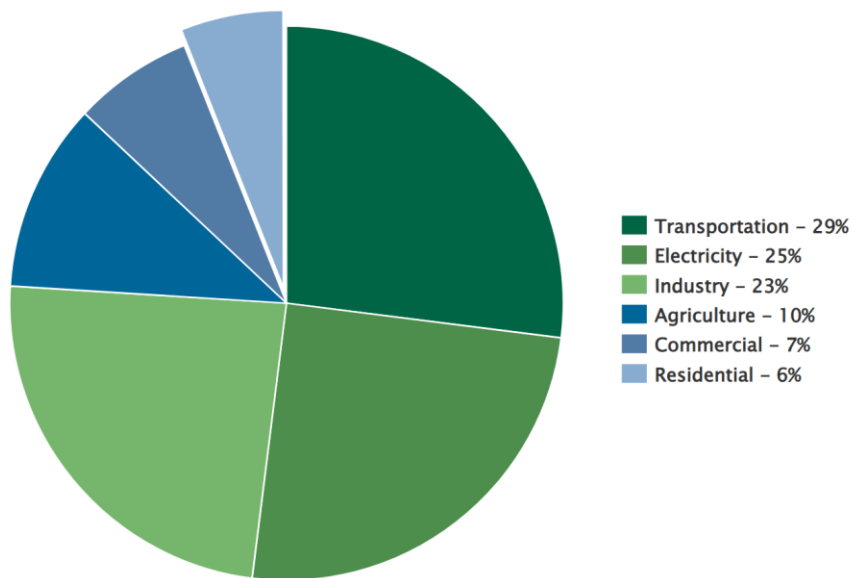


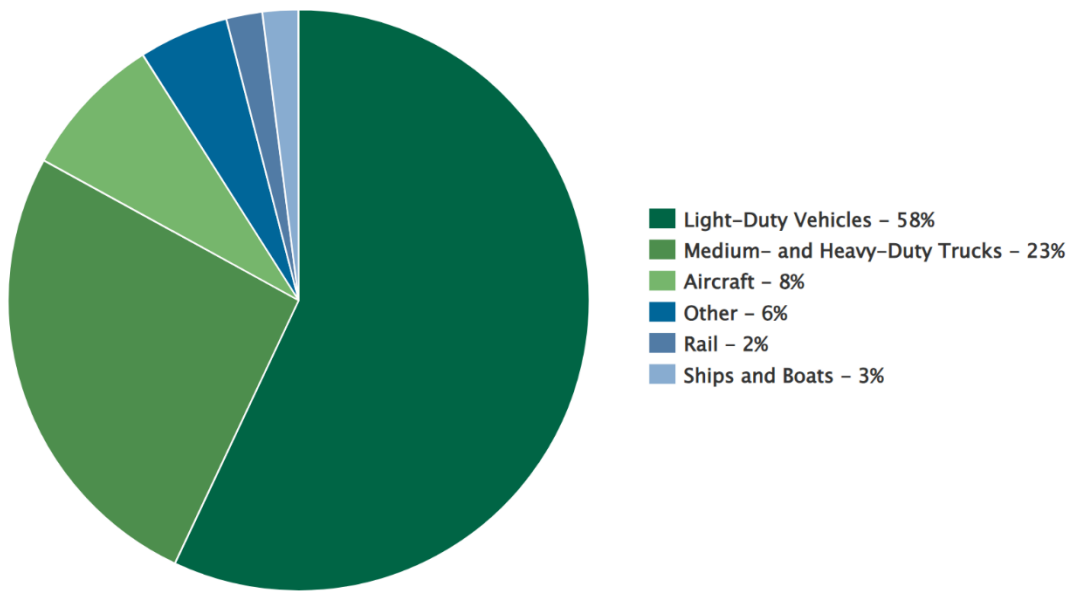
Figure 1

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2021 U.S. Transportation Sector GHG Emissions by Source



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Figure 2

It is crucial to identify the origin and main contributor of vehicle emissions to eventually approach and tackle the challenges industrialized nations are facing with air pollution. Moreover, burning fuel for energy plants to generate electricity, for example, results in the emission and formation of a lengthy list of harmful pollutants (American Lung Association, n.d.). The two most significant things that are affected when burning fossil fuels that release air pollution are human impact and particle impact (American Lung Association, n.d.). Humans, when exposed to air pollutants, can develop coughing, itchy eyes, lung diseases, and, in worse cases, lung cancer (Minnesota Pollution Control Agency, 2023). It is a must that the use of renewable energy production resources be in constant use to preserve and maintain human health. Particle pollution (PM) is the mixture of solid particles and liquid droplets found in the air (US EPA, 2016). These particles or matter can spread dozens of miles away from the production plant and negatively affect the environment, human health, and animal health. In essence, energy production produces many types of harmful pollutants in the air; it impacts human health, the environment's health, and many organisms' health as well. Therefore, nations must adopt policies and develop renewably sourced energy production facilities to combat these challenges. Leading into the last challenge industrialized nations face, manufacturing emissions contributing to human health and environmental damage, is a challenge that can be most difficult to solve or tackle. Many nations so heavily rely on the production and exportation of manufactured goods that implementing policies and providing solutions that still provide the same economic benefits will

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be difficult. However, encouraging sustainable practices in these nations is a must. The drawbacks to the environment are so drastic that biodiversity and major ecosystems are at risk (European Environment Agency, 2024). Plant health, organism health, and even breeding cycles can be put at risk in the face of pollutants from industrial emissions (European Environment Agency, 2024). In addition, human health is also greatly at risk from industrial emissions. “Fine” particles, which are 2.5 micrometers, pose the greatest risks to human health regarding pollutants or particles released by industrial emissions. These particles can lodge deep within the lungs and cause major respiratory infections and heart diseases (WHO, 2019). Air pollution within industrialized nations is a growing threat; the environment, people, and organisms are all at risk in the face of rising emissions.

Questions to Consider

1. Would industrialized nations follow actions taken by the UN to ensure sustainability?
2. What renewable energy sources can be used as a substitute for burning fossil fuels?
3. What policies can be implemented to combat the increasing emissions from vehicles?
Should there be bans, restrictions, or implementations from the government?
4. How greatly has the environment been impacted in some industrialized nations?

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