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### The War on our Environment

In February of 2021, the conflict began in the Ukraine as Russia began launching their invasion of the neighboring country. The conflict has resulted in hundreds of billions of dollars in damages as well as the displacement of around 14 million people. The devastations of the war have severely impacted large communities, and will continue to linger and affect the world for years to come due to the technology and machinery involved. The environmental impacts of the war are affecting the quality of life of those in Ukraine who are currently facing water accessibility issues along with mass emissions of CO<sub>2</sub> and destruction of natural habitat. Chemical leaches, oil spills, bombings, and pollution are leading to a rapid increase in local environmental issues which will likely span long term due to their severity. The physical impacts of the Ukraine conflict will impact future generations as the destruction of the natural world will have lasting and complicated effects on populations and ecosystems.

Forest fires are a naturally occurring phenomenon which benefits soil and helps rejuvenate ecosystems, though at the rate they are occurring today they do much more harm than good. In the Ukraine dangerous amounts of fires are being set in forest canopies due to the conflict destroying ecosystems and releasing concerning amounts of CO<sub>2</sub> and chemicals into the atmosphere. The CO<sub>2</sub> being released is one of the leading causes of global warming, as the gas becomes trapped in the atmosphere it radiates heat absorbed from the sun re-releasing onto Earth. The region of Mykolayiv has experienced high levels of burn in recent weeks, and has been documented as representing 9.2% of the burned land in Ukraine (Global Forest Watch). The

land catching fire is usually due to plane crashes and other strategically targeted attacks on farm land. A plane crash in Zhytomyr left a pocket of forest destroyed as the plane spewed out fuel and exploded leaving debris as well as a fire which threatened neighboring villages, and left the community with a stench of fuel for months. “Fires at fuel depots. Blown-up reservoirs of dangerous chemicals. Damaged gas pipelines. Disruptions and wildfires at the Chernobyl nuclear exclusion zone” (Rott). Various anthropogenic and war related attacks are leading to the rapid release of both CO<sub>2</sub> at alarming rates as well as extremely dangerous chemicals which put citizens at risk for cancer and respiratory issues.

The bombing of a food factory in Ukraine led to the spoiling of large quantities of produce and dairy. The food waste was buried in trenches in order to take care of the waste created by the attack (Garza). This strategy was not thought out and led to a wide variety of issues that go beyond world hunger. Food waste itself is a mass CO<sub>2</sub> and methane producer, the breakdown process of the food releases these greenhouse gasses and in large quantities can be harmful to the atmosphere. The production of this methane gas specifically has 80 times the global warming power of CO<sub>2</sub> gas, meaning that the mass food waste is not only harmful to communities in need, but for global warming. This food being buried trapped gasses and other harmful compounds into groundwater leading to not only a foul scent, but toxic groundwater. The increase in toxins and chemicals in the water is a crisis when it comes to access to clean drinking water. A large majority of fresh drinking water comes from our groundwater reserves. The food factory was not the only contaminant of groundwater, debris from oil spills as well as chemicals from forest fires, and bomb residue can make their way into main waterways as well as groundwater contaminating drinking water at unsafe levels and altering the natural balance of the water which aquatic life depend on to survive.

The impact of the conflict between Russia and Ukraine will have detrimental impacts on the environment for generations to come, and concerns of how Ukrainian agriculture and quality of life is raised when it comes to water quality and chemical pollution (Golder). The health of citizens and the access to clean water is declining due to strategic attacks targeting various water supply infrastructure, which impacts fresh water supply to millions of people in Ukraine.

“Attacks or disruption to wastewater treatment infrastructure have been reported in Chernihiv, Mariupol, Mykolaiv, Rubizhne, Skadovsk, Sloviansk and Vasylivka” (Conflict and Environment Observatory). Attacks occurring in various regions impact large communities and slows the availability of clean water leading to individuals using contaminated water to use at home. The contamination of groundwater, which provides around 25% of fresh water in the region, is a concern for both people and the overall health of the ecosystem. “These leak toxic substances into the soil and affect surface and groundwater quality. Hazardous substances include heavy metals used in munitions, explosive compounds and propellants from missiles and rockets” (Masterson). Pollution runoff is entering waterways and contaminating water in regions heavily affected by the conflict. Oil and gas from destroyed machinery, toxins from forest fires, floods gathering debris and runoff, sewage contamination and sediment buildup are all contributing to a decline in quality of water throughout the country. Aquatic life is affected by this runoff and debris

The impacts on the environment as a result of the conflict shows reason for concern in the future. The question of ethics and war can be easily shut down when examining the damage being done to the Earth. Our current environmental situation is not worth any dispute and the constant disregard for the quality of life of our people, and earth as a whole is enough to create conflicts worldwide. Pollution of waterways, excessive forest fires, debris, and disruption to

ecosystems are all environmental crises which will not be resolved with a treaty or a white flag. The dangers and consequences of this conflict demonstrate how our climate crisis will continue to worsen as change is not being made. The health of our planet has never taken priority and the strategic attacks targeting land and essential sources of life are helpful examples of the disregard for our natural world. The textbook leading factors of climate change are being concentrated in Ukraine and devastating the community.

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