



Eco Trauma: Unveiling the Anthropocentric Destruction, the Pathway to Apocalypse

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ABSTRACT

Humans have evolved to the point where we are the most sophisticated animals in the world. The point of evolution is for creatures to become more suited to their natural habitat. A new degree of evolutionary adaptation has been attained through humans. Massive technological advancements, new governments, and metropolises have all taken place. Every one of these societal advancements has one overarching goal: to ensure that our species continues to exist. As a species, we've figured out how to divide ourselves up into nations defined by shared values, religion, geography, and history. Divergences in geography, culture, and history have always been a source of contention among human beings. These disparities have, in the worst-case scenarios, led to war. Many various things, including religion and wealth, have sparked wars throughout history. War, though, never ends well; destruction is an inevitable byproduct. After a conflict, everyone is talking about how many lives were lost, how much property was destroyed, and how much money was spent. But the ecosystem is a quiet casualty of war. Seldom given a second thought are the deaths and devastation that befall Earth's ecosystems, natural resources, and population. One can not help but question the impact of modern warfare on the environment and the consequences for humanity as a whole. The moral and social consequences of modern warfare's assault on the environment can be seen by looking at the historical record of environmental degradation caused by this conflict. It is possible to learn about past and future efforts to safeguard the environment from human aggression by considering the problem from philosophical, scientific, and religious vantage points. If the Earth is to be further devastated by contemporary weaponry and combat, the loss endured by the environment will make the death toll of any contemporary battle appear negligible. The preservation of the natural world is crucial to the continuation of the human race.

INTRODUCTION

The Anthropocene Epoch is an informal designation within the field of geology, employed to delineate the latest epoch in the chronology of Earth's history, during which the influence of human activity on the planet's climate and ecosystems became notably substantial. The term "Anthropocene" originates from the Greek terms "anthropo," meaning "man," and "cene," meaning "new." It was introduced and gained prominence in the year 2000 by biologist Eugene Stormer and chemist Paul Crutzen. The inquiry around the commencement of the Anthropocene, a purported novel geological epoch, has generated much scholarly discourse among scientists. One widely accepted hypothesis posits that the phenomenon under consideration originated around the onset of the Industrial Revolution in the 19th century. This pivotal period witnessed a substantial alteration in human activities, resulting in a significant perturbation of

carbon and methane levels within the Earth's atmosphere. There are differing perspectives regarding the proposed commencement of the Anthropocene epoch, with some advocating for its initiation to be traced back to the year 1945. During this period, human beings conducted the initial testing of the atomic bomb, subsequently deploying atomic bombs on the cities of Hiroshima and Nagasaki in Japan. The radioactive particles that ensued were identified in soil samples on a global scale. The experimental detonation of the bomb and the subsequent formation of a mushroom cloud gave rise to a potent and emblematic representation of the immense capacity for destruction inherent in the human race. The devastation caused due to war is less, but the aftereffects are tremendous.

Looking at the past is the first step in morally assessing the impact of war on the environment. One can start to discern a pattern of ecological devastation by looking closely at the

recent history of conflict. “The first fireball flung at the first enemy, in prehistory, probably began it all” (Davis 1998) although environmental degradation has been going on for far longer than that. The destruction of farms and fields, the damming of rivers, and the poisoning of water supplies have all been done by armies throughout history in the name of war. Even in biblical accounts, such as “the story of Samson and Philistines...tells of...direct environmental destruction,” we witness examples of such devastation. “Samson set fire to the Philistines’ fields, orchards, and olive trees” (Ghorani-Azam et al. 2016). According to Judges 9:45, while scouring the ancient city of Schechem, Abimelech had his warriors pour salt on the land, rendering it sterile. By destroying the city’s water supply, Genghis Khan conquered Mediaeval Baghdad—one of the most advanced civilizations of its time (Clark 1993). The devastation of crops and other natural resources was just the beginning of ancient conflict. Evidence of chemical warfare dates back to the Peloponnesian War (674–2000 B.C.), the Battle of Constantinople in 674, and India circa 2000 B.C. (Graham 1993). Biological warfare was employed during the 1300s Mongol siege of Kaffa. Plague victims’ corpses were hurled over city walls by the Mongols (Graham 1993). Not only did these chemical and biological weapons wipe out human populations, but they also damaged ecosystems and altered water cycles in the process. There would be an end to life on Earth as chemicals and biological agents seeped into the ecosystem. These earliest examples of ecological devastation due to human conflict show how far a man can push the environment, even with very basic tools and strategies.

The environmental damage has now reached a new degree of catastrophe. Environmental harm has escalated to unprecedented levels due to the development of chemical, nuclear, and biological weapons of mass destruction. This extraordinary degree of ecological devastation was first observed in World War I, the first big war. During this brutal conflict, new weaponry was introduced, each one capable of causing horrific damage. The French landscape and agriculture were levelled by the trenches. Because of how bad the destruction was in certain places; people are still feeling the effects today. Over 250,000 acres of arable land were declared unusable due to the extensive damage they sustained in the Somme conflict. Fighting also cut down 494,000 acres of forest in France. Allied war efforts required the harvesting of more than 20 billion board feet (Clark 1993). As with human populations, animal populations in Europe were decimated by the conflict. The wisent, or European buffalo, population was nearly wiped out due to the extensive clearing of forests across Europe (Graham 1993). The environmental devastation caused by World War I was not limited to Europe. The unexpected effects of the war on

American environmental health were substantial. The war effort necessitated farmers to produce more food than they could reasonably consume. This led to the widespread belief that the soil in many Great Plains areas was nutrient deficient and hence unproductive. Many North American species had their habitats destroyed when farmland expanded across the plains and into woodlands and wetlands.

PAST STUDIES OF RELEVANCE

The research paper investigates the impact of warfare on the environment using large-N statistical models. The authors theorize on the potential effects of warfare on CO₂ emissions per capita, NO_x emissions per capita, forest change, and overall environmental stress reduction. They find that warfare significantly affects the environment, with impacts varying based on the environmental attribute examined, the location of the fighting (at home or abroad), and the level of economic development of the country. The study finds that warfare reduces CO₂ emissions, with weaker effects in less developed countries (LDCs) compared to developed countries (DCs). Contrary to conventional wisdom, warfare at home increases deforestation while promoting forest growth when fought abroad, especially in LDCs. Warfare at home reduces NO_x emissions for the LDCs but increases them for the DCs, while warfare abroad increases NO_x emissions for both. Additionally, warfare increases aggregated environmental stress, particularly for the LDCs when fought at home and for the DCs when fought abroad. The study also provides insights into the implications of the findings for policymakers and suggests the need for further research on this topic. The research paper offers an empirical examination of the impact of warfare on the environment, providing valuable insights into the potentially substantial effects of warfare on various environmental indicators. The research paper, authored by Rafael Reuveny, Andreea S. Mihalache O’Keef, and Quan Li, delves into the effects of armed conflict on the environment, focusing on its impact on CO₂ emissions, forest change, NO_x emissions, and environmental stress reduction. The authors acknowledge the assistance received from Nils Petter Gleditsch, three anonymous referees, and Melanie Arnold. Overall, the research paper aims to provide a comprehensive analysis of the impact of armed conflict on the environment, utilizing statistical data and analyses to explore the relationship between warfare and environmental variables. The paper’s findings contribute to the understanding of the environmental consequences of armed conflict and provide valuable insights for policymakers and researchers.

The paper “*Impact of War on the Environment: A Critical Study of Afghanistan*” discusses the challenges in accurately documenting war fatalities, including those of

combatants and civilians, as well as quantifying the physical and environmental impacts of the conflict in Afghanistan. It highlights the environmental degradation caused by armed conflict, including the devastation of physical property, environmental pollution, and climate change, leading to mass migration and threats to human health. The paper emphasizes the need for environmental protection during armed conflict, citing international humanitarian law and protocols. It also discusses the adverse impacts of the US war in Afghanistan on the environment, natural resources, and the health of US service members and civilians. The paper provides a comprehensive analysis of the environmental consequences of war and the need for effective environmental protection measures during armed conflict.

The research paper delves into the complexities surrounding the principles, approaches, and methods for achieving full reparation for armed conflict-related environmental damage in the law of State responsibility. The paper examines the legal definition of the environment as an object of protection under international law and discusses practical challenges in international compensation for wartime environmental damage. It also delves into the valuation of environmental losses, particularly in the context of armed conflict, and the challenges in quantifying ecological services that are not traded in the market. The paper emphasizes the dynamic nature of the environment and the interactivity between human and natural systems. It provides insights into the practical challenges in assessing wartime environmental damage, including the temporal scale for reparation, limited baseline information, and establishment of the causal nexus. It also discusses the difficulties in quantifying environmental damage and valuing ecosystem services in monetary terms. Moreover, the paper addresses the impact of environmental damage on public health and emphasizes the relationship between reparation for the environment and the well-being of humankind. It also highlights the need to consider the relationship between environmental damage and public health as integral components of the reparation process. The paper highlights the difficulties in establishing causality and the need for specific criteria for environmental damage resulting from armed conflict. It also addresses the challenges of valuing environmental damage and suggests the establishment of a permanent UN body to evaluate and compensate for environmental damage during armed conflicts. The paper emphasizes the evolving nature of environmental protection in relation to armed conflict and the importance of protecting the environment in times of peace and conflict.

The paper discusses the impact of human evolution on the development of societies, governments, and conflicts, leading to the organization of humans into different countries

based on various factors. It explores how disagreements and conflicts have arisen as a result of differences in borders, values, and heritage, leading to wars fought for reasons such as religion and money. The paper provides a historical analysis of the environmental destruction caused by modern warfare, including examples from World War I, World War II, the Vietnam War, and the Gulf War. It highlights the catastrophic environmental effects of warfare, such as the destruction of farmland, forests, wildlife, and ecosystems, as well as the release of chemicals and oil spills. The paper also addresses the ethical, moral, and social ramifications of the environmental toll of war and discusses the responsibility of humans to protect the environment. It mentions international treaties and laws aimed at protecting the environment during warfare and the efforts made within the U.S. military to become more environmentally conscious (Ellis-Petersen 2019). Ultimately, the paper concludes that war has significantly reduced the overall environmental health of the Earth and suggests that the only way to truly protect the environment from war is to end war itself.

MATERIALS AND METHODS

This study employed qualitative research methods. The qualitative study findings were gathered from a variety of secondary sources, including media articles, academic journal articles, and past theses. A discourse analysis method was used throughout this study, and several case studies were gathered from news articles and journals to provide a brief overview of the impacts of the climate crisis. For this research, various approaches were taken to bring forward the major issues of the study. Through the research and statistics available, the relationship between the environment and humans is clear. War has various impacts on the environment, but the main cause is human intervention.

War and Consequences

Throughout history, conflicts and military engagements have persisted, leading to a continuous series of wars up until the present day. The planet Earth has a rich historical record of warfare, which has undergone significant transformations for millennia. Historically, it was customary for a warrior to go from his place of residence in the early hours of the day to engage in combat. The individual possessed the understanding that, unless subjected to fatal harm or rendered unable to function, he would be reunited with his community later that evening. However, over time, this phenomenon transformed, as certain conflicts extended over prolonged periods, spanning several decades. The tools employed in warfare undergo continuous evolution and growth, although the fundamental context of conflicts remains largely unaltered. In ancient times, the warrior relied on the forest

as a crucial resource for its influence on the air quality of the area. However, the introduction of fire as a weapon likely had an impact on the contemporary environment. Without a doubt, the ramifications of fire resulting from natural occurrences, such as lightning discharges and volcanic outbursts, would have been considerably more severe during that period. In contemporary times, warfare has seen significant transformations. The weaponry exhibits a diverse range of capabilities and adaptability, resulting in multifaceted impacts on the environment and air quality that humans inhale. These consequences manifest before, during, and after each occurrence, in addition to the primary objective of eliminating adversaries. Currently, it is feasible to observe unfolding events in real time. However, there is a notable absence of discourse regarding the anticipated consequences for individuals directly involved in these operations, the noncombatant populace, and future generations burdened by air pollution.

While wars are primarily driven by political, economic, social, and ideological factors, environmental considerations can play a role in the dynamics and armed conflicts. War solely doesn't happen for environmental reasons, but the factors initiating war have environmental factors often intertwined. What is immediately striking is that today's regional conflicts take place against a background of widespread poverty and misery in particularly stressed

countries. Sometimes, in highly militarized but weak, poorly performing states and fragmented societies with endemic competition between ethnic or religious groups. The scarcity of natural resources and environmental degradation may also be the reason for interring group violence and anti-regime struggles. Conflicts happen over scarce natural resources like water, minerals, land, etc. Nations engage in conflict to gain strategic resources such as oil or valuable minerals. Environmental factors need not be the prime reason for a conflict to arise, but indirectly, in all aspect's environment becomes a point where either conflict arises or it is being affected due to the conflict. For instance, from Table 1 the causes and consequences can be seen.

From Table 2, it is known that conflicts are a widespread phenomenon. Throughout history, with the arrival of the Industrial Revolution and following developments in armament, warfare has become a powerful and threatening phenomenon. The battles that occurred in ancient times under the governance of monarchs did have environmental repercussions, although they did not have a long-lasting impact. Wood was utilized as the major material in the production of weapons. Wars have resulted in various adverse effects, including the depletion of forests, disruption of agricultural practices, and devastation of urban areas.

Nevertheless, these disputes involved humans rather than automatons. The wars did not result in substantial

Table 1: War and its causes.

WARS	CAUSES
IRAQ WAR (2003-2011)	Control of oil resources
CONGO WARS (1996-2003)	Control of minerals such as Colton, which is used in electronic devices.
1 st LIBERIAN CIVIL WAR (1989-1997)	Over resources such as rubber, iron, and timber.
DARFUR CONFLICT (2003-PRESENT)	Over scarce resources like water and land.
NIGER DELTA CONFLICT (2004- present)	Control of oil resources.
SOUTH CHINA SEA DISPUTES (ongoing)	Claim overfishing rights, oil, natural gas reserves, and control over shipping lanes.
ANGOLAN CIVIL WAR (1975-2002)	Control over oil wealth.

Table 2: War and consequences. Wars that caused heavy environmental damage.

Wars	Consequences
Vietnam War (1955-1975)	Destroyed jungle foliage, land-water contamination, long long-lasting ecological damage.
Gulf War (1990-1991)	The Gulf oil spill caused damage to the marine ecosystem.
Iraq War (2003-2011)	The burning of oil wells and targeting of industrial facilities led to air and soil pollution.
Yugoslav War (1991-2001)	Destruction of oil sites and bombing of infrastructure contributed to pollution.
Syrian Civil War (2011- Present)	Destruction of chemical plants and oil spills led to pollution of water and soil.
Kuwait War (1990-1991)	Release of oil into Persian Gulf, burning of oil fields and oil wells.
Cambodian Civil War (1967-1975)	The bombing by the US caused environmental damage.
Lebanese Civil War (1975-1990)	The destruction of infrastructure and the release of pollutants contributed to long-term environmental challenges.

enduring repercussions. The widespread dissemination of nuclear weapons in modern times has greatly contributed to the incidence of armed conflict, mostly fuelled by scientific progress. This development has had significant and harmful repercussions on both present and future generations. As an illustration, the United States rapidly utilized nuclear weapons in Hiroshima and Nagasaki, leading to long-lasting hereditary abnormalities throughout the impacted populace, encompassing children and future generations.

Political Ecology

The study conducted in anthropology, geography, and allied fields is very significant for its examination of how structural forces, such as capitalist economic processes and power dynamics, contribute to environmental change in our increasingly linked world. The approach was characterized by a famous political scientist named Richard A Matthew. He has made a significant contribution to the study of environmental dimensions of armed conflict. He put forth the political ecology theory to understand the environmental consequences of armed conflict. Armed conflict can lead to environmental degradation, impacting communities’ access to essential resources and exacerbating vulnerabilities. He also explores how military activities contribute to environmental harm. These include the use of weapons and tactics that can lead to deforestation, soil contamination, and habitat destruction.

Air Pollution

Aristotle regarded air as one of the five important elements of life on the planet. Pollution of the air must concern everyone. In the declaration of the 1972 Stockholm Conference, there was no mention of the relevance of war in the pollution of the environment, although, in Principle 6, there is a reference to ‘.... the release of heat to such quantities or concentrations to exceed the capacity of the

environment.....’. The environmental consequences of war, specifically in relation to air pollution, are initiated by the research, experimentation, and evaluation of various components associated with military weaponry, equipment, and ammunition, as well as the essential training required for their deployment (Protopsaltis 2012).

Beginning in 1945 and continuing until 2009, several governments were actively working towards the creation of nuclear weapons. According to the findings of the study, which included more than two thousand tests carried out over sixty-four years, there is no space for doubt regarding the major impact on air quality, as stated in Fig. 1. It was largely believed that this influence was caused by the emission of chemicals into the atmosphere, in addition to the subsequent addition of heat to the system of the Earth (Protopsaltis 2012). The patterns of natural air currents over land and sea were influenced by these elements, which in turn affected the flora, wildlife, and human population of the globe. Wars have been around for a very long time on Earth and have “evolved” in a significant way throughout history. Historically, to engage in combat, warriors would leave their homes during the early morning hours to make their way to the battlefield. The individual was aware of the fact that they would be reunited with their community later that evening, provided that they were not exposed to any harm that might result in death or physical impairment. On the other hand, this phenomenon went through substantial changes over time, as many confrontations lasted for several decades. Even though the underlying framework of battles is mostly unchanged, the technologies that are used in warfare are always evolving and growing. When it came to the acquisition of wood, which was used in the manufacturing of bows and arrows, historical warriors relied heavily on the forest as a vital resource available to them. However, the conflict had a relatively minor impact on the air quality of the environment even though the forest was

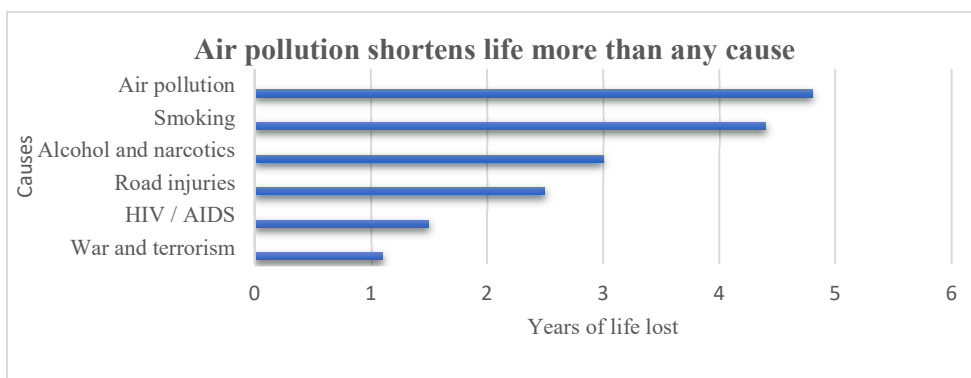


Fig. 1: Causes of Air Pollution.

significantly affected by its consequences. The use of fire as a weapon, on the other hand, very likely had some impact on the environment that we live in today. Without a shadow of a doubt, the repercussions of fires that were caused by natural phenomena, such as lightning strikes and volcanic eruptions, would have been significantly more catastrophic during that period.

Throughout modern history, there have been substantial shifts in the character of warfare. The weapons demonstrate a wide range of capabilities and adaptability, which results in a variety of effects, particularly on the environment that is surrounding it and the air quality that people breathe in. In addition to the fundamental purpose of eradicating the presence of the opponent, these repercussions reveal themselves before, during, and after each instance of weapon deployment (Protopsaltis 2012). The ability to witness events in real-time is currently available, although there is little to no discussion about the potential implications that may be incurred by persons who are involved in the operations, civilians who are not involved in the conflict, and future generations who will be impacted by the air pollution that is caused by these activities. Fire has always been a significant component in battle, and it appears that it reached a respectable degree of proficiency during World War II. This is something that has been the case throughout the years. In the course of carpet-bombing air operations, incendiary bombs were developed and later utilized on a massive scale. Guernica was the target of continuous bombing by the Spanish Air Force and its allies for forty-eight hours during the Spanish Civil War in 1937. The bombing lasted for the whole duration of the conflict. Consequently, this bombardment led to the formation of a firestorm, which was distinguished by the development and maintenance of its wind system because of the increased intensity of the fire. A state that is comparable to that which is seen in an industrial incinerator may be observed in the scenario that was presented earlier, in addition to the fact that human lives were lost in the situation. Nevertheless, within the walls of an industrial incinerator, all materials are exposed to controlled combustion processes following regulatory standards, with the primary goal of reducing the amount of pollution that is released into the atmosphere. In the context of the Guernica tragedy, all of the things that were preventing the advancement of the fire were destroyed, and there was no sort of protection against air contamination. Certain types of pollution may be still present in the present day. It is dependent on the meteorological conditions that are now in place whether or not there is a possibility of getting airborne and engaging in continuous migration.

During World War II, many cities in Germany, Poland, and Japan were affected by the production of firestorms

that were similar to the phenomenon. Both in the places that were immediately affected by the war and in regions that were placed along the predominant air currents, the potential environmental implications that could have resulted from the actions of the war were not fully examined or acknowledged, both at the time of the conflict and in future years. Given the highly intense and concentrated character of firestorms, it is of the utmost importance to conduct an assessment of the volume of the heat that is produced during these events (Nilson & Burke 2002). Thermal energy is distributed throughout the surrounding air, with the majority of it being contained within the atmosphere of the Earth, and as a result, it contributes to the overall thermal load. World War I was one of the most significant wars that took place in the early part of the twentieth century with a significant impact. During the conflict, which lasted for more than four years, both sides deployed a significant amount of military force, with the majority of their operations taking place within the European continent. The event represented the beginning of the widespread use of chemical weaponry as well as the deployment of munitions that were becoming increasingly powerful. The majority of the thermal energy that was produced during this conflict was unable to escape from the system of the planet when it was released. Over time, it went through the process of dispersion and became mixed in with the air in the atmosphere, which affected the thermal conditions that were already present inside the air. The fight in Ethiopia and the battle in the Spanish Civil War were both subsequent events that occurred within the period immediately following World War II. In the beginning, the majority of the conflict took place in Europe; however, it eventually was extended to include both Asia and the Pacific. The struggle covered numerous forms of warfare, including ground conflicts, naval engagements, the targeting and destruction of cargo vessels, aerial fighting and bombings, the deployment of flying bombs and ballistic missiles, and finally, the usage of atomic armament. Between the years 1939 and 1945, a substantial period of intense conflict took place in many different regions, including Japan, Europe, the Middle East, North Africa, and the Pacific islands. Around twenty-five cities in Europe and fifty-five cities in Japan were affected by destruction that ranged from forty percent to eighty percent.

The Keelings curve in Fig. 2, generated by the Intergovernmental Panel on Climate Change (IPCC), is presented here. This passage was subsequently cited in an *Inconvenient Truth* by Al Gore. The graph displays the temporal variation of the “temperature average.” Additionally, it displays the coordinates of the recorded temperature. The IPCC graph illustrates a steady rise in temperature from 1900 to 1950, reaching its highest

The Keeling Curve: current global average

Atmospheric CO₂, parts per million

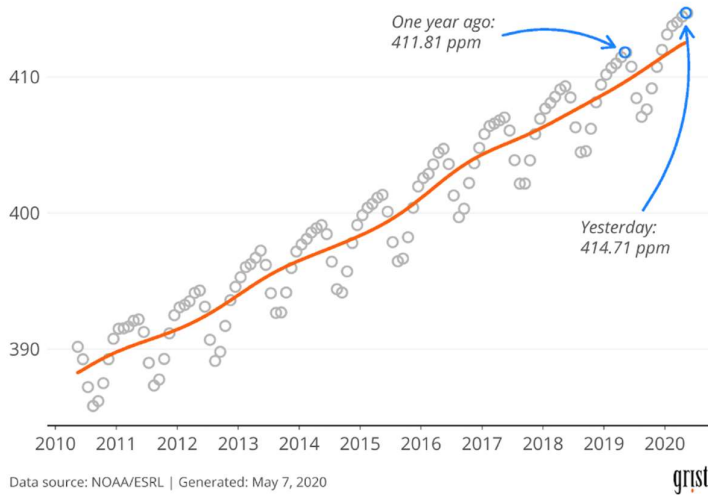


Fig. 2: The Keelings curve.

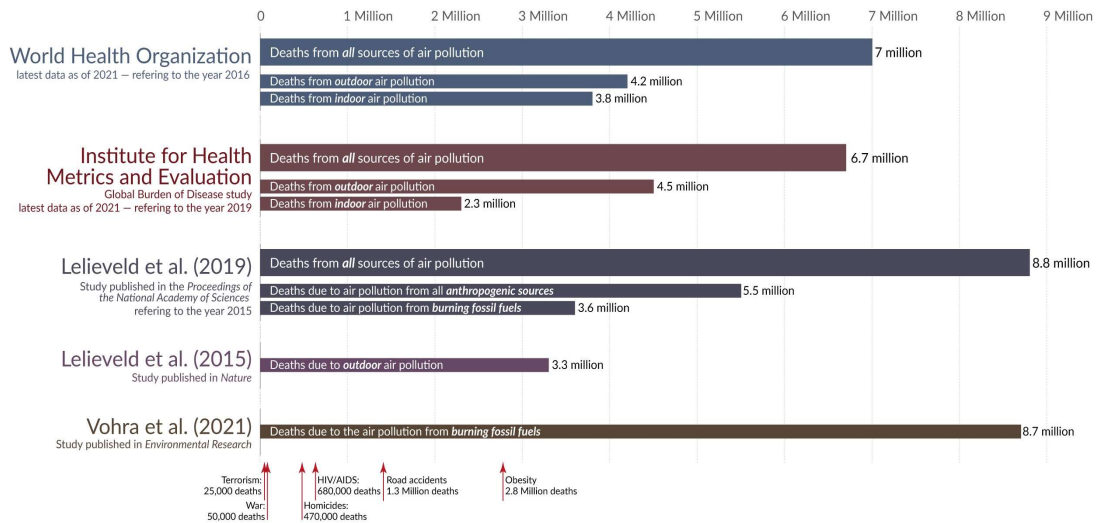
How many people die from air pollution each year?



Estimates of the global death toll from air pollution published in major recent studies

'All sources' includes both anthropogenic and natural sources:

- The largest source of natural air pollution is airborne dust in the world's deserts. Other natural sources are fires, sea spray, pollen, and volcanoes.
- Anthropogenic sources include electricity production; the burning of solid fuels for cooking and heating in poor households; agriculture; industry; and road transport.



Data on annual death tolls from other causes is the latest data from the World Health Organization, UCDP, and Global Terrorism Database as of November 2021. OurWorldinData.org - Research and data to make progress against the world's largest problems.

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Fig. 3: Death rate due to air pollution.

point during World War II. There are two notable surges towards the conclusion of World War II, which align with escalated warfare, including the devastation of numerous cities and the release of thermal energy from atomic weaponry.

There is a noticeable increase in temperature fluctuations noted from the time of the Spanish Civil War to the beginning of World War II. The temperature experienced a gradual decrease until 1975, followed by a significant increase until 2005. The increase in numbers corresponds

to the enduring state of war that continued until 2005. Since 1970, there has been a clear association between the increase in the height of the ordinates and the incidence of key events such as the Gulf War, the Iran-Iraq War, war activities in Southern Europe, the war in Afghanistan, and the World Trade Center tragedy. These events likely had a significant impact on the rise in temperature within the Earth's atmosphere. The Gaia hypothesis suggests that the biotic and physical components of the Earth are closely linked, forming an intricate network of interactions that maintain the climatic and biochemical conditions of our planet in a stable state of balance. Undoubtedly, based on the evidence, one may argue that the planet's design, probably implemented during its construction, does not allow for trivial actions.

Effects of Air Pollution

The World Health Organisation (WHO) presents empirical evidence establishing associations between exposure to air pollution and the occurrence of type 2 diabetes, obesity, systemic inflammation, Alzheimer's disease, and dementia. The International Agency for Research on Cancer (IARC) has officially designated air pollution, specifically PM_{2.5}, as a prominent contributor to the development of cancer (Greentumble 2018). According to a recent comprehensive global analysis, prolonged exposure to certain factors has the potential to impact many bodily organs, hence potentially worsening and intensifying pre-existing health issues. Children and teenagers are considered to be particularly susceptible to many health risks due to the ongoing development of their bodies, organs, and immune systems.

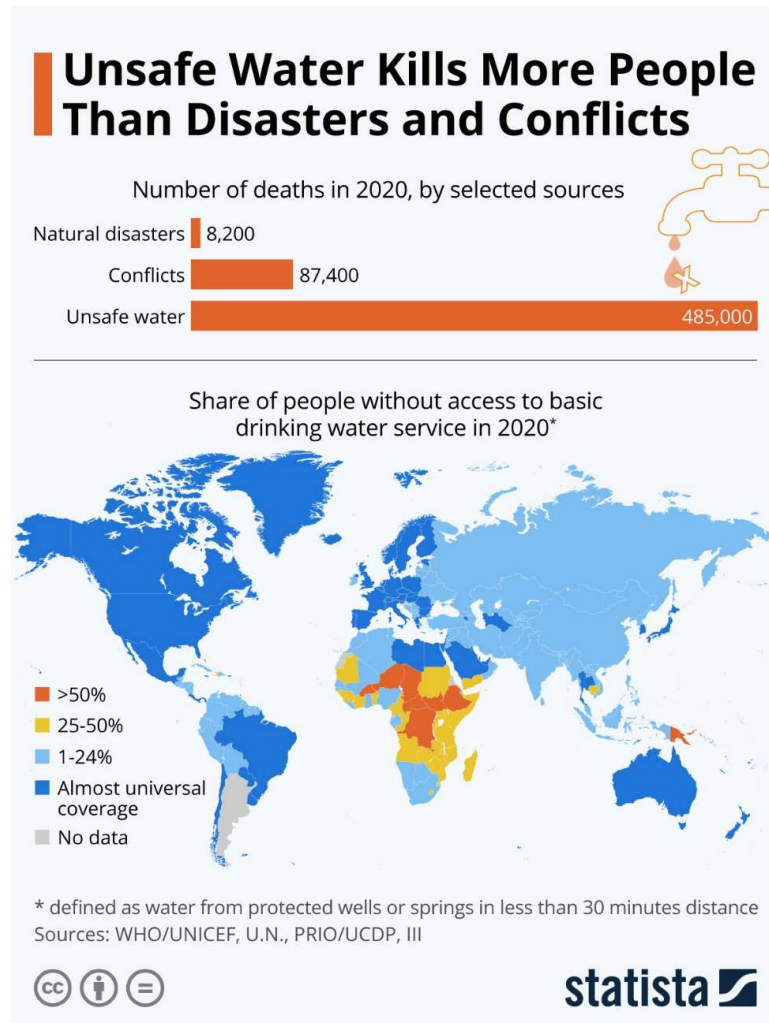


Fig. 4: Death due to water pollution (Buchholz 2022).

Childhood exposure to air pollution has detrimental effects on health and is associated with an elevated susceptibility to diseases in adulthood, as shown in Fig. 3. However, children possess limited agency in safeguarding their well-being or exerting influence over air quality policies (Roser 2023).

Water Pollution

Thomas Homer-Dixon contends that it is difficult to locate distinct historical or modern instances of significant conflicts driven primarily by shortages of renewable resources like crops, woods, fish, and freshwater, despite worries that future conflicts may be fought over water. In August 1995, Ismail Serageldin, the Vice-President for environment sustainable development at the World Bank, presented a fresh report on global water challenges during a meeting in Stockholm. The research and its accompanying speech delineated an incipient water crisis in the Middle East, North Africa, and several nations, encompassing India and China. Mr. Serageldin stated that soon, the primary limitation for agricultural productivity in many regions will be the availability of water rather than land. Water resources are essential for promoting sustainable development and have a pivotal role in attaining Sustainable Development Goals (Clark 1993). Armed conflicts have the potential to disrupt water systems in various ways, leading to adverse effects that range from the supply of essential water services to development initiatives. Water, often hailed as the essence of life, is also recognized as a major transmitter of diseases. Consequently, the world is rapidly heading towards an impending catastrophe (Haseena et al. 2017).

According to a study undertaken by the World Health Organisation (WHO), water serves as a vector for several diseases (Lin et al. 2022). Female individuals who ingest this contaminated water are prone to transmitting the consequences to subsequent generations. Recent research has discovered the presence of microplastics in breast milk. The researchers assert that although the inference may be imprecise, it is highly likely that the pathogen entered the body via consumption of contaminated food and drink. Significant quantities of plastic debris are indiscriminately disposed of in the environment, while microplastics pervade the entire world, spanning from the peak of Mount Everest to the depths of the oceans. Individuals ingest the minuscule particles by ingestion of food and water, as well as inhalation, and these particles have been detected in the excrement of both infants and adults (Schillinger et al. 2020). Fig. 4 shows how dangerous water pollution is than other causes.

Chemical defoliants were used on an estimated ten percent of the land in South Vietnam between the years 1961 and 1975 to boost the effectiveness of bombing operations during the Vietnam conflict. This was done to boost the effectiveness

of bombing operations (Rathi 2016). The usage of chemical agents has a significant influence on the water resources that are available in the region (region). The repercussions included a variety of factors, including the contamination of water sources, the increase in runoff and sedimentation, and the increase in the number of malarial illnesses that occurred as a result of bodies of water that remained stagnant. The coastal areas that have been cleared of vegetation have also witnessed an increase in their vulnerability to the harm that is produced by storms. Approximately one-quarter of the world's population is currently dealing with a severe lack of water, and they are facing acute water shortages for at least one month out of every year. According to Kitty van der Heijden, a specialist in hydro politics and the chief of international cooperation at the foreign ministry of the Netherlands, the absence of water would encourage individuals to commence migration (Schillinger et al. 2020). According to estimates provided by the United Nations and the World Bank, approximately forty percent of the world's population is affected by water scarcity. There is a possibility that over 700 million people could be put at risk by drought conditions by the year 2030, which could result in the prospect of people being forced to relocate. Many people, including van der Heijden, have expressed their concern about the potential outcomes that could be brought about by this circumstance. "If there is no water, politicians are going to try and get their hands on it, and they might start to fight over it," adds the politician (Milne 2021).

Over the 20th century, the rate of water consumption on a global scale increased at a rate that was greater than twice as fast as the rate of population growth. In the present moment, the presence of this incongruity is forcing a great number of urban places, ranging from Rome to Cape Town, Chennai to Lima, to impose water rationing measures. Since 2012, water crises have been routinely ranked among the top five of the Global Risks by Impact list, which is compiled by the World Economic Forum (Lin et al. 2022). This has been the case for almost a decade, beginning in 2012. The year 2017 was marked by the occurrence of severe droughts, which played a key role in compounding the most catastrophic humanitarian catastrophe that has occurred since the Second World War. Approximately twenty million people were forced to flee their homes across Africa and the Middle East as a direct consequence of this crisis. This was mostly due to the simultaneous shortages of food and the subsequent wars that arose when these shortages occurred. For the past three decades, Peter Gleick, who is the chairman of the Pacific Institute in Oakland, has been spending his time researching the connection between water scarcity, war, and migration (Rothschild & Haase 2023). As a result of his belief that water disputes are on the rise, he made the following statement:

“With very rare exceptions, no one dies of literal thirst; however, more and more people are dying from contaminated water or conflicts over access to water.”

Water Pollution and Maternal Health

Pollution can have detrimental effects on human reproductive processes through various mechanisms, such as decreasing sperm count, motility, and morphology, disrupting hormonal balance, increasing the risk of miscarriage, and impairing the functionality of reproductive organs (Haseena et al. 2017). The implications have the potential to cause infertility and reduce the chances of obtaining successful conception and pregnancy. Hepatitis E virus (HEV) is a pathogen that is transmitted via the contamination of water systems with fecal matter (Bartram 2008). Furthermore, it is linked to the occurrence of disease outbreaks in both children and pregnant women. SARS is a highly contagious viral illness that affects the respiratory system. The number 12. SARS infection during pregnancy is linked to occurrences of spontaneous miscarriage, premature birth, and intrauterine growth restriction. Research examining pregnant women with SARS found that three deaths occurred among twelve patients, and four women experienced spontaneous miscarriages during their first trimester (Wong et al. 2004). Walker et al. (2011) conducted a study to examine the impact of copper poisoning on pregnant women. Elevated copper levels are associated with intrauterine growth restriction (IUGR), preeclampsia, and neurological disorders. The investigations additionally indicate that the build-up of this substance in the body's tissues might lead to heart failure, liver cirrhosis, pancreatic malfunction, and neurological abnormalities (Roberts et al. 2003). The main effects of water pollution are PCOS, the menstrual cycle is affected, poor puberty

and breast development, endometriosis, delay in pregnancy and steroidogenesis, and steroid hormone levels, causing an imbalance in the human body.

It is well established that the consumption of water with high levels of radioactive toxicants by pregnant women exposes them to an increased risk of spontaneous abortion, as seen in Fig. 5. Pollutants found in water not only specifically affect women. It affects both genders, in which women are more vulnerable to the changes. Infection in women is like a disease to the entire generation. Children are born malnourished. That is underdeveloped and dies at an early age. From the perspective of water resources, arsenic, nitrate, chromium, etc., are highly associated with cancer. Ingestion of arsenic from drinking water can cause skin cancer and also kidney and bladder cancer (Marmot 2007). The potential cancer risk posed by arsenic in the water supply of the United States population is potentially like the risks associated with tobacco smoke and radon exposure inside residential environments (Smith et al. 1992). Nevertheless, there is variability in the individual susceptibility to the carcinogenic effects of arsenic. A controlled study conducted in northern Chile between 1994 and 1996 revealed a strong correlation between the presence of arsenic in drinking water and the incidence of lung cancer (Ferrecchio et al. 2000). The study involved individuals who had been diagnosed with lung cancer and were admitted to a hospital, with their frequency being matched accordingly. Research has also demonstrated a synergistic relationship between smoking and the consumption of arsenic-contaminated drinking water in the development of lung cancer. The association between exposure to elevated levels of arsenic in drinking water and the occurrence of liver cancer was seen, although this relationship did not reach statistical significance

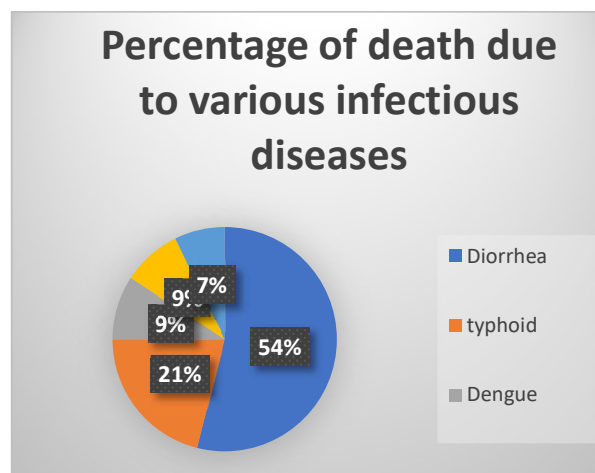


Fig. 5: Death due to pollution.

Table 3: Consequences of lead.

Parts of the Body	Consequences of Lead
Brain	Any exposure is linked to lowered IQ, ADHD, hearing loss, and damaged nerves. Acute exposure can cause convulsions, loss of body movement, coma, stupor hyperirritability, and death.
Heart	They have a significant increase in high blood pressure after the age of 50
Hormones	It disrupts Vitamin D levels, which impairs cell growth, maturation, and tooth and bone development.
Blood	Lead inhibits the body’s ability to make hemoglobin, which leads to anemia. This reduces oxygen flow to organs, causing fatigue, rapid heartbeat, dizziness, light-headedness, and shortness of breath.
Kidneys	Chronic inflammation resulting from this might potentially lead to kidney failure, hematuria, pyrexia, emesis, dermatitis, cognitive impairment, somnolence, unconsciousness, increased body mass, and alterations in urinary patterns.
Reproductive System	Moderate exposure not only lowers sperm count but also damages them. Chronic exposure can diminish the concentration, total count, and motility of sperm.

for exposure levels below 0.64 mg.L⁻¹ (Lin et al. 2022). From Table 3, the consequences of lead consumption can be seen.

Soil Pollution

Land pollution is defined as the degradation or even destruction of the earth’s surface and soil as a result of human activities. Sources of soil pollution can be direct, for example, from dumping toxic chemicals directly onto a site, or indirect, for example, where toxic chemicals leach through the soil from particulates that have settled from air pollution from a nearby lead smelter (Heiderscheidt 2018). It can also be degraded by transforming the land by clearing it so that beneficial organisms can no longer provide services supporting growth and protect it from further erosion.

The causes of Land pollution are 1) Deforestation and soil erosion. 2) Agricultural chemicals 3) Industrialization 4) Mining 5) Landfills 6) Human Sewage 7) Industrialization 8) Construction activities 9) Nuclear waste

These pollutants in the land have an adverse effect on the environment. Due to the chemicals disposed in the land, the groundwater gets poisoned, making it unfit for drinking and other purpose. Due to a wide range of negative consequences, there is mass displacement of people from one place to another. Migration increases pressure on the lands, as they must meet the requirements of the entire population. `

The global population growth and escalating food demand are leading to the conversion of forests and grasslands into agricultural land(Roser 2023) The natural vegetation possesses extensive root systems that effectively anchor the soil in its original position. Several of the substitute crops, such as cotton, coffee, wheat, and soybeans, lack extensive root systems, which contribute to soil erosion. Consequently, the inability of the soil to absorb surplus rainfall exacerbates flooding. Additionally, it facilitates the efficient drainage of fertilizers and other substances that have been applied (Heiderscheidt 2018). Farmers regularly administer potent fertilizers, pesticides, fungicides, herbicides, and insecticides directly onto the crops and soil. Substances that are not sprayed or carried by wind over the land can infiltrate the soil either by being absorbed through the roots of plants or by means of the remains of the targeted insects, creatures, and dead (Alengebawy & Abdelkhalek 2021). The pollution eradicates the thriving organisms that are accountable for producing fresh vegetative growth. In 2016, the Food and Agriculture Organisation of the United Nations disclosed that a staggering 75 billion tonnes of soil are annually depleted worldwide, leading to the forfeiture of hundreds of billions of dollars in agricultural output. Furthermore, it is worth noting that a significant proportion of food, specifically 95 percent, is cultivated on soil worldwide. This highlights contamination as a significant issue in terms of land pollution.

An exemplary instance of soil contamination is the Vietnam War (1955-1975), during which the extensive utilization of herbicides, notably Agent Orange, had profound and enduring impacts on soil and the environment. The substance in question was dioxin, a very poisonous molecule that had significant adverse effects on the environment. Dioxin exposure has been associated with a broad spectrum of health problems, such as cancer and congenital abnormalities. Global land contamination is a significant issue caused by the unrestricted dumping of industrial solid and hazardous waste. The output of industrial solid and hazardous waste has significantly increased due to growing industrialization, resulting in a severe environmental impact. India experienced severe crop failure in the late 1980s. As a result, farmers are compelled to seek artificial fertilizers and pesticides to enhance the productivity of their crops. A factory was established in Bhopal (Heinzerling et al. 2016) in response to the increased demand. Methyl isocyanate (MIC), a very toxic chemical, poses significant risks to human health. Inhabitants of Bhopal residing near the pesticide facility started experiencing irritation caused by the methyl isocyanate (MIC) and subsequently commenced evacuating the city. Pregnant women at the time of the incident experienced an increased likelihood of giving birth to children with elevated cancer risk and who

were born prematurely (Carrington 2022). The individuals who survived the Bhopal Gas Tragedy have encountered a variety of health issues throughout the years. The concerns encompass respiratory, neurological, musculoskeletal, ophthalmic (pertaining to the eyes), and endocrine conditions. Furthermore, women who have been exposed to hazardous gas have seen a notable rise in miscarriages, stillbirths, neonatal death, monthly irregularities, and premature onset of menopause (Lin et al. 2022).

The production of carbide needed more attention. Without proper knowledge and maintenance to cover the entire population's needs, the consequences are the greatest Bhopal Gas tragedy. The poisonous gas killed over 2000 people and still has its aftereffects on the soil. Mans's greed and lack of knowledge led to such a great disaster. The consequences affect not only a single person but a whole generation to come.

Plant-Animal Ecosystem

Human actions, including the use of fossil fuels, ocean acidification, pollution, deforestation, and forced migrations, pose a substantial danger to diverse types of life. It is anticipated that over 33% of coral species, freshwater mollusks, sharks, and rays, 25% of all mammal species, 20% of all reptile species, and 16% of all bird species will become extinct (Arif 2020) A study undertaken by the Worldwide Fund for Nature (WWF) found that by 2100, a marine area over 2.5 times the size of Greenland might reach ecologically

dangerous levels of microplastics. According to the WWF, plastic pollution is widespread in the water, and it is anticipated that almost every marine animal has encountered it (Schillinger et al. 2020). The WWF has documented 2,141 species that have been detected coming into contact with plastic waste in their native environments. The research states that numerous marine ecosystems, including highly contaminated regions such as the Mediterranean, the East China and Yellow Seas, and the Arctic Sea ice, have already been beyond the threshold for acceptable levels of plastic pollution.

The anthropocentric pollution is not only harming humankind but also bringing great destruction to the ecosystem (Nguyen 2021). Animals and birds are vulnerable to the toxins present in the air and water. In the Bhopal Gas Tragedy, when there was an outbreak of emission of harmful gas people managed to survive by some measures. But there was a total loss to the livestock present there. During the crisis, animals and birds are unaware of the harmful consequences, and they lose their lives (Fahad 2022). Due to this, many species are on the verge of being extinct. Species die due to fight, hunger, or old age. But now they become extinct, as they are not able to tolerate the harsh environment. Birds who migrate change their ways and get distracted due to improper seasons. The onset of migration gets delayed. People are in a future where the rainy season becomes summer, and summers are prolonged too much. The world has recorded the hottest summer ever in history. To quench

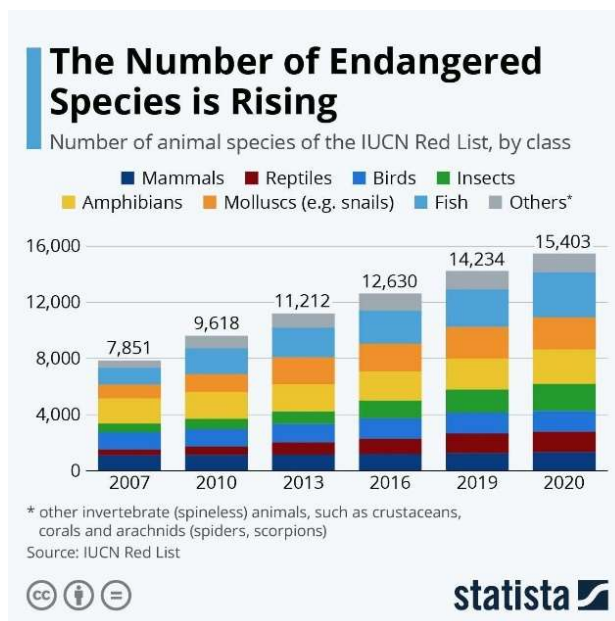


Fig. 6: Endangered species list (Nguyen 2021).

the thirst, animals, and birds drink polluted water, and there are all the consequences, as seen in Fig. 6.

Global apprehension revolves around the impact of environmental degradation on human beings. It is sometimes overlooked that these contaminants also have an impact on animals and birds. When people possess knowledge of preventive procedures for all possible events, their five sensory organs are rendered incapable of responding. Air pollution has the potential to harm wildlife by interfering with their endocrine function, causing damage to their organs, making them more susceptible to stress and diseases, reducing their reproductive success, and potentially leading to death (Fahad 2022). Several instances of historical data, such as the occurrence of cattle deaths during livestock events in the 1890s, the air pollution scenario in the Meuse Valley in the 1930s, and the cattle death episode in Belgium in 1911, indicate a potential connection. The discharge of arsenic in the United States in 1908 resulted in the widespread illness and death of certain livestock and horses. In addition, the release of industrial smoke in England in 1914 resulted in respiratory ailments among cattle, leading to a decline in wool production in sheep. Wildlife is highly vulnerable to the detrimental effects of industrial pollutants. Moreover, there is compelling historical data that precisely supports this claim. In 1963, the release of asbestos in South Africa resulted in lung damage in baboons and rats. In addition, the release of fluoride in Canada in 1967 resulted in the occurrence of Fluorosis among whitetail deer. In addition, other historical instances of pollutant emissions have demonstrated the consequences of population reduction, bioaccumulation, hypocalcemia, hypoproteinaemia, blindness, genetic alterations, reduced corneal protein in hares, diminished antler quality in Roe deer, and eventual mortality. These are the consequences of various chemical emissions, such as Arsenic, hydrogen sulfate, fly ash, cadmium, oxidants, lead, mercury, sulfur dioxide, ozone, and so on. Anthropogenic pollution poses a significant risk to the preservation of wildlife habitats. Humans have traditionally viewed the air, water, and soil as places to dispose of trash without adequately considering the ecological repercussions of pollution. Wildlife populations are consistently exposed to a vast range of toxins that are discharged into the environment.

DISCUSSION

The universe's problems originate within everyone. Humanity established empires to fulfill its desires and avarice yet remains oblivious to the repercussions they are encountering. To combat sloth, he devises machines that ultimately supplant humans and defy the laws of

nature. According to Elon Musk, we are currently in an era where artificial intelligence is poised to dominate the planet. "AI is more powerful than nukes," as stated by Elon Musk. During a recent discussion among school pupils, it was observed that while youngsters are conscious of the evolving environment, they fail to recognize their role as contributors to its degradation. The melting of glaciers is mostly attributed to excessive heat resulting from the usage of fossil fuels, as well as the detrimental effects of air and water pollution. These factors contribute to global warming, which subsequently leads to ozone depletion and ultimately causes the glaciers to melt. The younger generation must comprehend that every activity they engage in is detrimental to the environment. From the act of discarding plastic waste to leaving the refrigerator door ajar, every action adds to the deterioration of the environment. Individuals sometimes fail to comprehend the gravity of the matter unless they undergo it themselves. The younger generation should promptly assume their obligations towards nature. Lessons about the environment and its various impacts should be incorporated into their everyday curriculum. They should possess knowledge of the saying, "As you sow, so shall you reap."

War has negative impacts on the environment. War is caused due to political greed. People are always concerned about how to outlive others, whereas they are least bothered by how it affects others. Countries show off their power through war. They are unaware of how many devastations these wars bring. In the olden days, the war brought destruction to the environment when compared to the modern bio war. Bio war has an impact on a generation ahead. The study of how structural forces, like capitalist economic processes and power dynamics, contribute to environmental change in our increasingly interconnected world is a major contribution of anthropology, geography, and related sciences. Richard A. Matthew, a well-known political scientist, typified the methodology. He has significantly advanced the field of research on the environmental aspects of armed conflict. To comprehend the effects of armed conflict on the environment, he proposed the political ecology hypothesis. Environmental deterioration can result from armed conflict, which can affect populations' access to vital resources and exacerbate vulnerabilities. He also looks at the connection between military operations and environmental damage. These include the employment of tools and strategies that have the potential to cause habitat damage, soil contamination, and deforestation.

There is an innate drive in every human being to ensure their survival, procreate, and pass their genes on to the next generation. Consequently, people gravitate towards others who share their values, ethics, and worldviews because we

are social beings. Wars have broken out over these divergent ideologies throughout human history. Looking at how conflict has affected the environment throughout history reveals that current human fighting has drastically worsened the planet's environmental health. Applying notions from religion, philosophy, and science also makes it obvious that protecting the environment is essential to human survival and that people, being intelligent animals, have a responsibility to do it. A lot of work remains, but we have made progress in preventing further environmental degradation. If we look at the situation closely enough, we can see that stopping war is the only option to save the ecosystem from destruction. "Wherever there are military maneuvers, there will be some [environmental] damage" (Graham 1993), regardless of how ecologically conscious future forces may be. The scene of any battlefield will be one of devastation; war is a horrible thing. The environment is indirectly targeted by contemporary weapons such as bombs, tanks, and other military vehicles, which devastate ecosystems; battleships pollute the seas; and chemical and biological warfare might wipe out all life on Earth. So, ending war is the only way to safeguard the environment from its destructive effects. Unfortunately, we aren't yet technologically sophisticated enough to disseminate the lovely concept of world peace. The only way to safeguard the environment from human conflict, therefore, is for there to be peace. Despite our many differences, many people believe that people will eventually learn to live in peace with one another. But worst-case scenario: human war wipes out Earth, its people, and its resources to the point that there is no longer any habitable planet.

CONCLUSION

The age of the Earth is approximately 4.5 billion years. The age of humanity is around 140,000 years. Humanity's tenure on Earth has been relatively brief, yet the consequences of its actions endure indefinitely. The individual has chosen to identify as *Homo sapiens*, a term that translates to "wise man." However, the question arises as to whether this individual truly possesses the level of intelligence implied by this designation. There are numerous locations where mankind has demonstrated wisdom. He has successfully divided the atom and constructed equipment capable of interstellar navigation. He embarks on a quest to discover new habitats in another universe. The process of splitting atoms resulted in the emergence of nuclear warfare as he pursued his ambition to explore the galaxy, disregarding and neglecting his current planet. This lacks wisdom. Wisdom exhibits distinct characteristics. Intelligence is vocal, while wisdom is attentive. The man shielded his ears from the cries of Mother Nature and turned a blind eye to all her pleas

for assistance. Wisdom recognizes that every action elicits an equal and opposite reaction. Therefore, if we possessed wisdom, we would not be surprised by the occurrence of more intense storms, prolonged periods of drought, hurricanes, and wildfires. There is a significantly higher level of pollution compared to previous times. Increased carbon emissions result in a higher number of trees being deforested. Human activities have accelerated the rate of animal extinction by a factor of 1000 compared to the natural rate. In the next years, it is expected that every animal depicted in books will become extinct. Species that have outlasted humans will become extinct due to our actions. The genuine crisis does not lie in global warming or environmental deterioration. It is the human-centered perspective. Problems are manifestations of humanity and consequences of human activity.

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