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Review Article

Eco-Warfare: Understanding the Environmental Consequences of Armed Conflict

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Abstract

Armed conflict has profound and often overlooked environmental consequences, which can have long-term effects on ecosystems and human populations. This study explores the concept of "eco-warfare," focusing on how military activities, including the use of chemical weapons, landmines, and deforestation, directly and indirectly impact the environment. , This Paper highlights the destruction of natural habitats, contamination of water resources, and loss of biodiversity resulting from warfare. The study also delves into the role of legislation, international environmental laws and treaties in mitigating these impacts, assessing their effectiveness and proposing strategies for better enforcement. Through this exploration, the paper aims to raise awareness of the critical need for integrating environmental considerations into conflict resolution and post-war recovery efforts, ultimately advocating for more sustainable approaches to both warfare and peace building.

Keywords: Armed Conflict, Weapons, Natural habitats, Environment, Warfare.

INTRODUCTION

Wars and armed conflicts have been a part of the human civilization for centuries. In the contemporary world, the consequences of armed conflicts extend beyond humans and impact the environment. These may be in the form of deforestation, loss of wildlife, pollution, fear of nuclear explosions, and climate change. Intentional destruction or deterioration of natural resources including forests, agriculture, and water sources is particularly prevalent, and its effects on the ecosystem have been recognized. More recently, rising environmental pressures, heightened environmental awareness, and changes in the nature of warfare have raised the stakes in terms of intentional and unintentional environmental damage.[1]

Nowadays, armed conflicts are common worldwide. Although leaders are unlikely to prioritize environmental quality when national security is at risk, they may do so if they start considering that environmental repercussions are significant and long-lasting.[2]

The Environment Cost: What We Pay

To understand the environmental cost of armed conflict, it is essential to be aware of the extent

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to which man makes nature pay for his greed. The breadth of impacts includes anything from abandoning hazardous sites, the land used in war, timeline of the conflict to environmental damage brought on by components used in weapons. Over time, these indirect effects often result in more fatalities than the actual conflict.

For instance, in Kabul, the Afghan capital where hostilities have been ongoing since 1978, about 3,000 individuals lost their lives to illnesses linked to air pollution in 2018.[1] The conflict itself is one of the main causes of this because, in an effort to escape the violence and poverty, many Afghans have fled to the city and are now living in chaotic suburbs with either non-existent or very poor basic amenities. poverty is making things worse by forcing people to burn their possessions, sometimes even tires, in order to remain warm.

The Gulf War (1990-1991) exhibited one of the greatest environmental consequences of human conflict, killing and destroying a substantial amount of marine life and disrupting the Persian Gulf's ecological balance.[2] The Iraqi soldiers purposefully released millions of barrels of oil into the Persian Gulf during the Gulf War. The subsequent oil leaks caused irreversible ecological and economic damage to the area destroyed marine habitats and killed numerous fish and birds.

The recent Russia- Ukraine crisis, is another glaring example of the extent to which the environment can be destroyed as a direct and indirect consequence of war. Firstly, there are many coal mines in Donbas region. These cannot be destroyed, and they have to be managed to prevent contamination of reservoirs with hazardous metals like lead, arsenic etc. In wartime, maintenance is not possible and this results in the contamination of water causing health hazards. Secondly, Ukraine is home to about 15 nuclear reactors[3]. It is just a matter of seconds for the world to witness another Chornobyl disaster, impacting the countries, flora, and fauna. Moreover, 16% of Ukraine's land area is covered by forests, and explosions from the artillery will likely cause fires in the forest which have already burned 20,000 hectares of the Luhansk region in 2020.[2]

The Cost of War Project, an initiative of the Watson Institute for International and Public

Affairs claims that the US military is the organization that creates the most CO2 equivalent each year, on a per-institution basis[3]. This is a great deal more than any international firm, as well as a vastly superior system of welfare, health, or education.

Beyond all these environmental issues is the issue of 'climate change'. This is brought about by the use of armed weapons; its components emit harmful greenhouse gases. Further, the bombing of sites and infrastructure also releases a plethora of carcinogenic gases and elements into the atmosphere like mercury, hydrocarbons, and ammonia[2].

In light of the constant degradation, it won't be long before the environment will also become a reason for armed conflict. Countries might fight over clean water, air, and land in the future.

The Legislative Framework for the Protection of Environment during the War

Since the 1990s, the World Bank and the United Nations Environment Program have conducted environmental evaluations in many parts of the world following armed wars[3]. These evaluations, along with related research, have shown that armed conflicts can have a wide range of negative effects on the environment, from short-term devastation to long-term degradation, due not only to the conduct of hostilities but also to toxic or dangerous post-conflict remnants, excessive conflict resource exploitation, unsustainable survival strategies of affected populations, or institutional collapse.

It is pertinent to note that there exists a greater problem of lack of a legally enforceable mechanism dealing with environmental harm caused by conflict-related destruction. At the international stage, the International Committee for Red Cross's(hereinafter ICRC) updated Guidelines on the Protection of the Natural Environment in Armed Conflict UN International Law Commission (ILC) on Protection of the environment in relation to armed conflicts have sought to provide a mechanism by compiling relevant international humanitarian law norms[11].

Another feature of the ILC's work stemming from its broad focus is that it draws on areas of international law other than International Humanitarian Law, including international human rights law and international environmental law. Both of these areas of law are obviously relevant in the pre-and post-conflict periods, but they also play a role during armed conflict.[11]

In 2020, the ICRC updated its recommendations for safeguarding the environment during armed conflict to address five crucial concerns.[12]

To start, these guidelines specifically prohibit any

fighting tactics or equipment that might seriously harm the environment over the long term. Second, they highlight how the natural environment is essentially a civilian domain, making it susceptible to protection under international humanitarian law, particularly in terms of preventing disproportionate environmental harm. Third, the guidelines encourage parties to conflicts to come to agreements that provide further environmental protections, including the creation of demilitarized zones in ecologically sensitive areas. Fourth, these principles stress the need for non-state armed groups to adhere to rules on distinctions, safety measures, and proportionality.

The ICRC also urges states and parties to armed conflicts to implement specific measures to lessen the environmental damage caused by conflict, including incorporating environmental protection into military doctrine, conducting environmental impact analyses, and exchanging best practices for environmental preservation that are compliant with international humanitarian law.

Legal Framework for Domestic Affairs in India

India is a party to a few international accords pertaining to environmental preservation, including the Ramsar Convention on Wetlands,[13] the Convention on Biological Diversity (CBD),[14] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).[15] These agreements could include clauses that are important for preserving the environment in times of war.

Although largely focused on disaster management, the Disaster Management Act, 2005[16] can be utilized to address environmental catastrophes brought on by military operations, such as oil spills or chemical accidents[16].

The Right to a Clean and Healthy Environment is a component of the Right to Life enshrined in Article 21 of the Indian Constitution. It is a fundamental right that is critical since the environment determines the quality of life. A healthy, clean, and sustainable environment is required for excellent health, economic prosperity, and overall well-being.

It's crucial to remember that during wartime, security and humanitarian issues frequently take precedent over environmental conservation. However, protection of the environment during armed conflicts is covered by international humanitarian law, especially the Geneva Conventions and their Additional Protocols. certain clauses bind India as a signatory to certain accords but a proper legislative framework is required.

CONCLUSION AND SUGGESTIONS

Limiting The Negative Environmental Consequences of War and Armed Conflict

In order to mitigate the destruction and harmful ramifications of armed conflict, the first step is to *acknowledge* the need to do it and the magnitude of its impact on humans as well as the environment. It is high time that nations should collectively be held responsible for taking mindful actions to save the environment during armed conflicts to preserve it for future generations.

Moreover, there is a need for a coherent legal framework that considers the various guidelines, rules, resolutions, and agreements. It can be made a part of the international and made applicable to most nations. Further, it is required that an international organization is set up or any institution is given the responsibility for assessment of the environmental cost due to armed conflict. It would be easier to formulate strategies when the data and figures are accurate and credible.

The UN has attempted to pass resolutions on this subject, but they require concrete action. Countries should commit to adopting the Sustainable Development Goals outlined in General Assembly Resolution 70/1, "Transforming Our World: The 2030 Agenda for Sustainable Development."[18] Furthermore, they should be reminded of General Assembly Resolution 47/37, titled "Protection of the environment in times of armed conflict," which urges states to take all measures to ensure compliance with existing international law applicable to environmental protection in times of armed conflict, to consider becoming parties to the relevant international conventions, and to take steps to incorporate such provisions into their military manuals.[18]

There are still measures to prevent harm to flora and wildlife even if we accept that war is inevitable in today's civilization. There is a necessity for a carbon-neutral military and Switzerland has been setting the pace in this area[19,20] with goals to emit 40% less CO2, rely more heavily on renewable energy sources, and replace oil heating in buildings with alternative energy systems like photovoltaic solar panels and increased usage of electric alternatives. Their "Nature-Landscape-Army" initiative has also been deemed successful for preserving the variety

of species and its habitats on military property[21].

Overall, to lessen the threats that armed conflicts represent to our environment, and ultimately our health and way of life, we must act with greater urgency and coherence if we are to attain the Sustainable Development Goals.

"In war, there are no winners, only survivors. But the environment, it has no voice, no choice; it's a silent casualty of our conflicts. Let us protect it, for it sustains us all."

Armed conflicts not only involve high environmental costs but also high economic and societal costs. Because repairing and reconstructing infrastructure following an armed conflict typically diverts resources away from addressing the current climate problem and other environmental challenges, the indirect environmental costs are enormous[22].

In the modern world, the environmental cost of armed war is a complex and urgent problem. It has significant effects on human security and well-being in addition to ecosystems and natural resources. In addition to the end of hostilities, addressing these environmental issues calls for a concerted effort to restore and safeguard the environment in conflict-affected areas. Understanding and reducing the environmental cost of armed conflict is more crucial than ever in a time when the impact of human activity on the environment is a global concern.

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