B·L·E·S·S
Balkans
Legal,
Economic and
Social
Studies

The Environment as a Silent Casualty: Legal Protection of Nature in Armed Conflict with Insights from the Western Balkans

DOI: https://doi.org/10.14232/bless.2025.2.111-126

Iliriana Islami

Besnik Beqaj

ABSTRACT

Armed conflicts generate enduring environmental harm, including pollution and ecological degradation, that often outlasts human suffering by decades. Despite the evolution of international law through the Hague Regulations, Additional Protocol I, and the ENMOD Convention, current protections are hampered by high evidentiary thresholds, anthropocentric framing, and weak enforcement. This article examines the environment's legal status across international humanitarian, criminal, human rights, and environmental law, utilizing the dissolution of the former Yugoslavia (1991–1999) as a case study to highlight persistent normative and institutional gaps. Although industrial bombardments, chemical releases, and landmine contamination caused extensive damage across the Western Balkans, no criminal accountability followed. This lack of justice stems from legal fragmentation between environmental bodies and international tribunals, alongside a political reluctance to prioritize ecological issues. The study argues that effective protection requires both normative advancements, such as the recognition of ecocide, and the integration of environmental expertise within transitional justice mechanisms. Ultimately, the experience of the Western Balkans demonstrates that safeguarding the natural environment is vital for ecological integrity, post-conflict recovery, and sustainable peace. Methodologically, this research employs a qualitative, multi-source approach, combining a systematic literature review of international regulatory frameworks with detailed case study analysis.

AUTHORS:

ILIRIANA ISLAMI

Faculty of Law, University of Prishtina, Kosovo

Iliriana.islami@uni-pr.edu

0009-0006-2268-7829

BESNIK BEQAJ

Faculty of Law, University of Prishtina, Kosovo

besnik.beqaj@uni-pr.edu

0000-0003-1276-3876

KEYWORDS:

Identity, Hungarian, ethnic minority, regional identity, Vojvodina, past, present

Introduction

The environment often remains the *silent casualty* of war. Beyond the visible loss of life and property, armed conflicts produce ecological devastation, destroyed infrastructure, toxic spills, deforestation and contamination of soil and water, that can last for decades. These environmental consequences frequently exacerbate humanitarian crises, impede post-war recovery, and undermine the human rights of affected populations. Modern conflicts, including those in the Balkans during the 1990s, have demonstrated that the boundary between human suffering and environmental degradation is porous: damage to ecosystems translates directly into violations of fundamental rights such as health, food and water.[1]

The right to a healthy environment is now recognized as a component of the *third generation of human rights*, alongside collective rights to peace, development and self-determination.[2] This right is collective, belonging to humanity as a whole, intergenerational, protecting present and future generations and global, since environmental harm transcends national boundaries. Environmental protection thus functions not only as a human right but also as a *precondition* for the enjoyment of other rights, including the rights to life, health and dignity.

The Balkan wars of the 1990s epitomized this duality of human and environmental suffering. Industrial bombings, the use of hazardous weapons, and deliberate destruction of infrastructure produced widespread contamination. While international criminal law has made progress in addressing mass atrocities, the environment remains largely unaccounted for in the mechanisms of transitional justice. The following sections examine the evolution of environmental protection within IHL and related regimes, before turning to the Yugoslav conflicts as a case study of law's limitations in practice.

This article seeks to examine the extent to which existing international legal frameworks provide effective protection to the natural environment during armed conflict and meaningful avenues for accountability after hostilities have ended.

It addresses the following research questions:

1. To what extent do IHL, ICL, IHRL and IEL protect the natural environment during armed conflict?
2. What legal and institutional gaps hinder accountability for wartime environmental destruction?
3. How are these gaps illustrated by the environmental consequences of the armed conflicts in the former Yugoslavia?
4. What normative and institutional reforms could strengthen environmental protection and post-conflict remediation?

Croatia, Bosnia-Herzegovina, and Kosovo were selected as case studies for three principal reasons. First, the armed conflicts in these territories involved sustained hostilities in densely populated and industrialized areas, resulting in significant risks of environmental contamination and long-term ecological degradation. Second, all three contexts were subject to extensive international monitoring and post-conflict environmental assessment, providing relatively rich empirical material for comparative analysis. Third, the conflicts unfolded under the jurisdiction of the International Criminal Tribunal for the former Yugoslavia, offering a unique opportunity to evaluate the treatment of environmental harm within international criminal accountability mechanisms. Together, these cases enable a comparative assessment of how similar legal norms were applied across different conflict settings and political contexts within the same regional and temporal framework.

The study adopts a qualitative research design combining doctrinal legal analysis with empirical case study methodology. Primary and secondary legal sources were examined, including international treaties, jurisprudence, UN reports and policy documents. In parallel, post-conflict environmental assessments and academic literature on wartime ecological damage were systematically reviewed to identify recurring patterns of harm and accountability deficits.

The article is structured as follows. Section 2 reviews the existing literature on environmental harm in armed conflict. Section 3 presents the international legal framework governing environmental protection under IHL, IHRL, IEL, and ICL. Section 4 examines environmental destruction during the dissolution of Yugoslavia, with comparative attention to Croatia, Bosnia-Herzegovina and Kosovo. Section 5 discusses the implications of these

[1] United Nations Environment Programme, *UNEP Annual Evaluation Report 2003* (Nairobi: UNEP, 2003). [2003 An.Eval.Rpt.pm]

[2] United Nations General Assembly, *"The Human Right to a Clean, Healthy and Sustainable Environment,"* Resolution A/RES/76/300, adopted 28 July 2022, United Nations Digital Library, https://digitallibrary.un.org/record/3983329

findings for international accountability and legal reform. The final section concludes by summarizing the main findings and outlining directions for future research and policy development.

Literature Review

Environmental Impacts of Armed Conflict

Armed conflict has long been recognized as a major driver of environmental degradation. Early scholarship focused primarily on the ecological consequences of chemical warfare and scorched-earth tactics, while more recent studies have examined industrial targeting, infrastructure collapse, and toxic contamination as structural features of modern warfare.[3]

Contemporary research highlights three dominant patterns: (i) direct environmental damage from military operations, including bombardment of industrial facilities and energy infrastructure[4]; (ii) indirect damage resulting from displacement, breakdown of governance, and unsustainable resource exploitation[5]; and (iii) long-term public health effects caused by soil, water, and air pollution.[6] Scholars further emphasize that environmental harm disproportionately affects civilian populations and often persists long after formal peace agreements.[7]

Despite growing recognition of these dynamics, literature consistently identifies a gap between environmental harm and legal accountability. While normative frameworks have expanded, enforcement mechanisms remain weak, fragmented, and highly dependent on political will. This study builds on this body of research by integrating doctrinal legal analysis with empirical evidence from the Western Balkans.

The Position of the Environment under International Humanitarian Law

International Humanitarian Law (IHL) provides the principal framework regulating conduct in armed conflict, aiming to balance military necessity with humanitarian considerations. While early codifications, such as the 1868 St. Petersburg Declaration[8] or the 1899/1907 Hague Regulations[9], did not explicitly reference the environment, they laid the foundations for restricting the use of weapons and methods of warfare that cause unnecessary suffering or superfluous injury. Environmental protection emerged more clearly with the 1977 Additional Protocol I to the Geneva Conventions.[10]

1. Dual Protection of the Environment: Anthropocentric and Ecocentric Approaches

Articles 35(3) and 55 of Additional Protocol I contain the core provisions dedicated to the protection of the environment during international armed conflict. Article 35(3) establishes a general prohibition on employing methods or means of warfare that are intended, or may be expected, to cause "*widespread, long-term and severe damage to the natural environment*".[11] This formulation reflects an ecocentric orientation, acknowledging the inherent value of the natural environment independently

[3] See generally: Westing, Arthur H. 1980, Environmental Warfare: The Case of Agent Orange."
Environment: Science and Policy for Sustainable Development 22, no. 6, 6–40; Austin, Jay E., and Carl E. Bruch (eds.), 2000, The Environmental Consequences of War. Cambridge: Cambridge University Press; Matthew, Richard A., et al. 2019, War and Nature: The Environmental Consequences of War in a Globalized World. Lanham: Rowman & Littlefield; CEOBS (Conflict and Environment Observatory). 2017, Pollution and Conflict: Understanding the Environmental Impacts of Modern Warfare. London.

[4] UNEP. 2003, Post-Conflict Environmental Assessment: The Balkans. Geneva; Hulme, Karen.
War Torn Environment: Interpreting the Legal Threshold. 2004, Martinus Nijhoff;

[5] Le Billon, Philippe. 2012, Wars of Plunder: Conflicts, Profits and the Politics of Resources.
Hurst; UNEP. 2009, From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.
Nairobi.

[6] UNEP / WHO. 2002, Health and Environment in Post-Conflict Settings. Geneva; UNEP. 2003, After the Conflict: Environmental Assessment in Iraq. Geneva.

[7] Payne, Cymie R. 2010, The Environment and the Laws of War. International Review of the Red Cross 92: 881–907; Maljean-Dubois, Sandrine. 2010, Environmental Protection in Armed Conflict. International Review of the Red Cross 92: 593–607.

[8] *Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight (St. Petersburg Declaration)* (Saint Petersburg, 11 December 1868).

[9] Hague Peace Conference, *Regulations Concerning the Laws and Customs of War on Land (Hague Regulations of 1899)* (The Hague, 29 July 1899); Hague Peace Conference, *Regulations Concerning the Laws and Customs of War on Land (Hague Regulations of 1907)* (The Hague, 18 October 1907).

[10] International Committee of the Red Cross, *Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977.

[11] Ibid. art. 35(3).

of its direct utility to humans. Article 55(1) further requires that parties take care to protect the natural environment against such widespread, long-term and severe damage, and prohibits the use of methods or means of warfare that may be expected to result in such harm and, in doing so, jeopardize the health or survival of the civilian population.[12] In contrast to Article 35(3), this provision is grounded more explicitly in an anthropocentric rationale, recognizing the environment as essential to human life and well-being.

The cumulative threshold of "widespread, long-term and severe" damage found in both articles was deliberately set at a high level, reflecting the drafters' intention to circumscribe the scope of potential military liability. A substantial body of scholarship has criticized the cumulative threshold of "widespread, long-term and severe" environmental damage contained in Articles 35(3) and 55 of Additional Protocol I, arguing that the drafters' intention to limit military liability has resulted in a standard that is exceptionally difficult to satisfy in practice. Schmitt contends that the requirement for all three criteria to be met simultaneously effectively shields most environmentally harmful actions from legal consequences, creating what he describes as a form of de facto immunity for any harm falling short of catastrophic levels.[13] Similar concerns have been articulated by policy analysts, who note that the Protocol provides no clear definitions of the three criteria, thereby imposing an ambiguous and extremely high evidentiary barrier that excludes many significant forms of environmental degradation from legal scrutiny.[14] Recent analyses by the International Committee of the Red Cross further emphasize that the cumulative formulation is increasingly viewed as outdated and insufficiently protective, given contemporary understandings of environmental vulnerability and the long-term impacts of warfare.[15] Comparative studies, including assessments of the ENMOD Convention, likewise highlight that the drafters' restrictive intent has resulted in a framework ill-suited to addressing modern forms of environmental harm in armed conflict.[16] Authoritative legal commentary similarly observes that the high threshold substantially limits the enforceability of these provisions, leaving substantial gaps in the legal protection of the natural environment during hostilities.[17]

2. Indirect Protection under Additional Protocol I

In addition to its explicit environmental provisions, Additional Protocol I afford indirect protection to the natural environment through several complementary rules. Article 54(2) prohibits attacks against "objects indispensable to the survival of the civilian population," a category that includes foodstuffs, agricultural areas, livestock, water installations and irrigation works, all of which constitute essential ecological resources whose destruction can have severe environmental and humanitarian consequences.[18] **Article 56** extends protection to works and installations containing "dangerous forces," such as dams, dykes, and nuclear power stations, recognizing that attacks on such infrastructure could precipitate large-scale ecological disasters with long-term public health implications.[19] Additionally, Article 57 imposes precautionary obligations requiring parties to take constant care to spare the civilian population and civilian objects, duties that contemporary scholarship interprets as encompassing the need to minimize incidental environmental damage and to apply the principles of distinction and proportionality to ecological harms.[20] Taken together, these provisions reflect an evolving understanding within international humanitarian law that environmental destruction may directly threaten civilian survival and thus falls squarely within the humanitarian purpose of the law of armed conflict. As the ICRC and numerous commentators have

[12] Ibid. art. 55(1).

[13] Schmitt, Michael N. 1997. *Green War: An Assessment of the Environmental Law of International Armed Conflict, p. 68-81.*

[14] Conflict and Environment Observatory. 2018. *Protecting the Environment During Armed Conflict*. London: CEOBS.

[15] International Committee of the Red Cross (ICRC). 2023. "The Obligation to Prevent Environmental Harm in Relation to Armed Conflict." *International Review of the Red Cross*.

[16] Lieber Institute. 2025. *ENMOD: Dead Letter or Environmental Lifeline?* West Point: Lieber Institute

[17] Dinstein, Yoram. 2001. *Protection of the Natural Environment in International Armed Conflict*.

[18] Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 54(2), June 8, 1977.

[19] Protocol I, art. 56.

[20] See Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 348–52; see also Thilo Marauhn, "Environmental Damage in Times of Armed Conflict," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (Oxford: Oxford University Press, 2013), 541–43.

emphasized, this indirect protection framework underscores a broader normative shift toward viewing the environment not merely as a backdrop to conflict but as an essential civilian interest requiring legal safeguarding.[21]

The ENMOD Convention and Related Norms

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), adopted in 1976 and entering into force in 1978, emerged directly from international concern over the large-scale ecological destruction witnessed during the Vietnam War, particularly the extensive use of herbicidal agents such as Agent Orange.[22] The Convention prohibits the deliberate manipulation of natural processes—such as weather modification, seismic disturbance, or changes to atmospheric conditions—when carried out for hostile purposes. Article 1 obliges States Parties "not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party," thereby establishing a substantive limitation on intentional environmental manipulation.[23] While this provision reflects a largely anthropocentric rationale akin to that found in Article 55 of Additional Protocol I, it is distinguished by its singular focus on the intentional alteration of natural processes, as well as by its broad reference to "any other hostile use," which extends its scope beyond conventional armed conflict.[24]

Despite its normative significance, ENMOD has been criticized for its limited practical impact. Scholars note that although the Convention adopts the familiar "widespread, long-lasting or severe" threshold, its application has remained exceptionally narrow, largely because the technological capacities for large-scale environmental modification remain constrained and because the Convention has been invoked only rarely in state practice.[25] Furthermore, ENMOD lacks a dedicated verification regime, relying instead on politically challenging mechanisms of state cooperation and consultation, a structural weakness that commentators argue undermines its deterrent effect.[26] Nevertheless, the Convention is widely regarded as a landmark instrument that first recognized environmental stability as a matter integral to international peace and security, and it continues to influence contemporary debates on the environmental dimensions of warfare and emerging technologies.[27]

1. *The Hague Regulations and Customary International Law*

The foundations of contemporary protections for the natural environment in armed conflict can be traced to the 1899 and 1907 Hague Regulations, which articulated the fundamental principle that the means and methods of warfare are not unlimited. Although drafted decades before the emergence of modern ecological consciousness, several provisions of the Regulations indirectly contribute to environmental protection. Article 23(a) prohibits the use of poison or poisoned weapons, a prohibition that modern commentators interpret as an early constraint on the use of toxic agents capable of contaminating soil, water, and vegetation.[28] Article 23(g) restricts the destruction of enemy property to that which is "*imperatively demanded by the necessities of war*," thereby limiting environmentally

[21] International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Natural Environment in Armed Conflict* (Geneva: ICRC, 2020), 7–10; see also Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 25–29.

[22] Arthur H. Westing, "Environmental Warfare: The Case of Agent Orange," *Environment: Science and Policy for Sustainable Development* 22, no. 6 (1980): 6–40; see also Richard A. Falk, "The Vietnam War and International Law," *American Journal of International Law* 69, no. 2 (1975): 595–620.

[23] Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), art. 1, May 18, 1977.

[24] Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 358–61.

[25] Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 103–08.

[26] Alan Boyle and Catherine Redgwell, *International Law and the Environment*, 4th ed. (Oxford: Oxford University Press, 2021), 420–22.

[27] Michael N. Schmitt, "Green War: An Assessment of the Environmental Law of International Armed Conflict," *Army Environmental Policy Institute Report* (1997), 25–28; U.N. General Assembly, *Report of the Secretary-General Pursuant to General Assembly Resolution 2995 (XXVII) on the Effects of the Possible Use of Environmental Modification Techniques*, A/48/304 (1993).

[28] Hague Regulations (1899), art. 23(a); see also Ben Saul and Simon Chesterman, "Chemical Weapons and the Law of Armed Conflict," *International Review of the Red Cross* 87, no. 859 (2005): 497–519.

harmful acts that cannot be justified by strict military necessity.[29] In addition, Articles 28 and 47, which prohibit pillage and protect civilian property, can be read as safeguarding natural resources, forests, agricultural lands, water sources and other environmental assets, when these constitute civilian objects.[30] Scholars such as Greenwood and Kalshoven argue that these provisions, taken together, evidence an early recognition within the law of armed conflict that the environment forms part of the civilian domain and thus merits indirect legal protection.[31]

Customary international law has subsequently developed more explicit protections. The International Committee of the Red Cross (ICRC), in its authoritative *Customary International Humanitarian Law Study*, has identified three rules of particular importance for environmental protection during hostilities. Rule 43 affirms that the general principles governing the conduct of hostilities, including distinction, proportionality, and precautions, apply equally to the natural environment.[32]Rule 44 requires parties to armed conflict to have "*due regard*" for the protection and preservation of the natural environment, a standard that commentators interpret as imposing an affirmative obligation to integrate environmental considerations into military planning.[33] Finally, Rule 45 prohibits the use of methods or means of warfare intended, or expected, to cause widespread, long-term, and severe environmental damage, a formulation that parallels the treaty-based protections of Additional Protocol I but applies in both international and non-international armed conflicts.[34] Together, these rules demonstrate that environmental protection has crystallized into a binding principle of customary international humanitarian law, applicable irrespective of treaty ratification.

2. IHL Principles Governing Environmental Protection

The protection of the natural environment during armed conflict must further be understood within the framework of the four core principles of international humanitarian law. The principle of distinction prohibits deliberate attacks on civilian objects, a category that includes environmental assets essential to civilian survival, such as agricultural fields, water infrastructure and forests used for subsistence.[35] Military necessity limits hostilities to those actions that offer a concrete and direct military advantage, thereby constraining environmental damage that serves no legitimate military purpose. The principle of proportionality forbids attacks in which incidental harm, including significant environmental destruction, would be excessive in relation to the anticipated military gain.[36] Finally, the principle of humanity requires avoidance of unnecessary suffering, a concept that scholars such as Dinstein and Meron argue extends to environmental harm where such harm exacerbates human suffering or undermines the conditions necessary for life and dignity.[37] Collectively, these principles provide both a moral and legal framework for assessing environmental harm in war and reinforce the idea that the natural environment constitutes an interest protected under the law of armed conflict.

Interplay of International Humanitarian Law, International Human Rights Law and International Environmental Law

The relationship between international humanitarian law (IHL), international human rights law (IHRL), and international environmental law (IEL) has increasingly been recognized as essential to understanding the protection of the environment before, during and after armed conflict. While IHL provides the primary regulatory framework

[29] Hague Regulations (1907), art. 23(g); Frits Kalshoven, *Constraints on the Waging of War*, 2nd ed. (Geneva: ICRC, 1991), 56–59.

[30] Hague Regulations (1907), arts. 28, 47.

[31] Christopher Greenwood, "Historical Development and Legal Basis," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (Oxford: Oxford University Press, 2013), 30–34; Frits Kalshoven, "The Law on Property Rights in Armed Conflict," *Netherlands Yearbook of International Law* 16 (1985): 3–22.

[32] Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol. 1 (Cambridge: Cambridge University Press, 2005), Rule 43.

[33] Henckaerts and Doswald-Beck, *Customary International Humanitarian Law*, Rule 44; see also Lindsay Moir, "Environmental Protection and the Law of Armed Conflict," *International Law Studies* 69 (1996): 81–102.

[34] Ibid., Rule 45; see also Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 133–38.

[35] Dieter Fleck, ed., *The Handbook of International Humanitarian Law*, 3rd ed. (Oxford: Oxford University Press, 2013), 254–58.

[36] Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, 3rd ed. (Cambridge: Cambridge University Press, 2016), 119–24.

[37] Yoram Dinstein, *War, Aggression and Self-Defence*, 5th ed. (Cambridge: Cambridge University Press, 2012), 221–23; Theodor Meron, *The Humanization of International Law* (Leiden: Martinus Nijhoff, 2006), 71–73.

governing conduct during hostilities, IHRL and IEL supply complementary norms that extend state obligations into peacetime and post-conflict contexts. The emergence of the right to a clean, healthy and sustainable environment, now recognized in numerous international instruments, including the Stockholm Declaration (1972), the Rio Declaration (1992), and regional frameworks such as the Aarhus Convention (1998), has reinforced the idea that environmental protection is indispensable to human welfare and that states bear duties to prevent, mitigate and remedy environmental harm affecting fundamental rights.[38] A substantial body of scholarship argues that environmental degradation during war cannot be divorced from broader human rights concerns, particularly rights to life, health, water, food and housing, all of which are deeply dependent on ecological stability.[39]

Contemporary jurisprudence underscores the complementarity and mutual reinforcement of these regimes. The International Court of Justice (ICJ), in its 1996 *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, affirmed that environmental considerations must inform the interpretation and application of IHL, noting that the environment constitutes an "*essential interest of mankind*" whose protection does not cease during armed conflict.[40] Scholars such as Cançado Trindade and Sands similarly emphasize that the fragmentation of international law cannot obscure the interconnected nature of environmental protection, human rights and humanitarian obligations; rather, these bodies of law must be read harmoniously to ensure meaningful safeguards for populations affected by conflict.[41] In practice, this approach requires that even during hostilities, states remain bound by non-derogable human rights obligations and by IEL principles such as prevention, due diligence and environmental impact assessment, all of which constrain environmentally harmful conduct that could impair human dignity or endanger civilian survival.[42]

In post-conflict settings, the relevance of IEL and IHRL intensifies. Environmental damage often outlasts active hostilities, producing long-term effects on public health, livelihoods and ecosystems. To address these challenges, targeted mechanisms such as the United Nations Environment Programme's Post-Conflict Environmental Assessments have played a central role in documenting environmental harm, assessing risks and guiding reconstruction efforts, as demonstrated in post-conflict evaluations in the Balkans, Afghanistan, and Lebanon.[43] These assessments highlight the persistent gap between the environmental harms produced by modern warfare and the limited avenues for accountability and remediation available under existing international law. Despite advances in norm development, no comprehensive international mechanism exists to impose criminal responsibility for wartime environmental destruction, a deficiency frequently criticized in both legal scholarship and policy circles.[44] Emerging jurisprudence under the Rome Statute of the International Criminal Court (ICC), including the gradual recognition of environmental harm within the framework of war crimes and crimes against humanity, has begun to fill parts of this accountability vacuum, but the normative and institutional landscape remains incomplete.[45] In this context, the interplay between IHL, IHRL, and IEL provides a crucial, if still evolving, foundation for strengthening the protection of the environment as an essential component of human security and post-conflict recovery.

[38] United Nations Conference on the Human Environment, *Stockholm Declaration*, June 16, 1972; United Nations, *Rio Declaration on Environment and Development*, June 14, 1992; Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998.

[39] Alan Boyle, "Human Rights and the Environment: Where Next?," *European Journal of International Law* 23, no. 3 (2012): 613–642; John H. Knox and Ramin Pejan, eds., *The Human Right to a Healthy Environment* (Cambridge: Cambridge University Press, 2018).

[40] International Court of Justice (ICJ), *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, July 8, 1996, I.C.J. Reports 1996, 241.

[41] Antônio Augusto Cançado Trindade, *International Law for Humankind: Towards a New Jus Gentium*, 2nd ed. (Leiden: Brill, 2013), 357–360; Philippe Sands, *Principles of International Environmental Law*, 4th ed. (Cambridge: Cambridge University Press, 2018), 255–257.

[42] Sandrine Maljean-Dubois, "Environmental Protection in Armed Conflict: Norms, Institutions, and Practice," *International Review of the Red Cross* 92, no. 879 (2010): 593–607.

[43] United Nations Environment Programme (UNEP), *Post-Conflict Environmental Assessment: The Balkans* (Geneva: UNEP, 2003).

[44] Cymie Payne, "The Environment and the Laws of War: The Role of International Courts and Tribunals," *International Review of the Red Cross* 92, no. 879 (2010): 881–907.

[45] Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998, 2187 U.N.T.S. 3; see also Carsten Stahn, "Environmental Protection and the ICC: New Opportunities, Cautious Progress," *Journal of International Criminal Justice* 19, no. 4 (2021): 701–722.

The Contribution of International Criminal Law to Environmental Safeguards

International Criminal Law (ICL) plays an increasingly important, though still limited, role in the protection of the natural environment during armed conflict. Whereas International Humanitarian Law (IHL) imposes obligations primarily on states and armed actors, ICL focuses on the individual criminal responsibility of those who intentionally cause grave harm. The adoption of the Rome Statute of the International Criminal Court (ICC) in 1998 marked a significant development, as it became the first multilateral treaty to expressly enumerate environmental destruction as a potential war crime. Article 8(2)(b)(iv) criminalizes the act of "intentionally launching an attack in the knowledge that such attack will cause widespread, long-term and severe damage to the natural environment" when such damage is "*clearly excessive*" in relation to the concrete and direct military advantage anticipated.[46] This formulation mirrors the language of Article 35(3) and Article 55 of Additional Protocol I, thereby importing a cumulative threshold, widespread, long-term, and severe, that scholars widely regard as an almost insurmountable evidentiary burden.[47] Bothe, Partsch, and Solf note that such a high threshold reflects the drafters' caution, but it simultaneously narrows the potential for successful prosecutions, even in cases of profound ecological harm.[48]

Although no individual has yet been convicted before the ICC for environmental destruction, the jurisprudence of the Court has demonstrated a growing recognition of the environmental dimensions of atrocity crimes. Notably, the 2009 arrest warrant for President Omar Hassan al-Bashir in relation to the situation in Darfur referenced the contamination of wells, destruction of food sources and deliberate targeting of environmental resources as part of a broader genocidal campaign.[49] While these acts were charged as crimes against humanity rather than discrete environmental crimes, the case marked an important shift toward acknowledging the environment as an instrument and object of violence. Scholars such as Schabas and Cryer observe that linking environmental destruction to genocide and crimes against humanity may offer a more promising avenue for accountability than relying solely on Article 8(2)(b)(iv), given the latter's stringent threshold requirements.[50]

The experience of the International Criminal Tribunal for the former Yugoslavia (ICTY) further illustrates the challenges of prosecuting environmental harm under ICL. The ICTY Statute did not contain explicit provisions addressing environmental destruction, and the Tribunal rarely confronted ecological harm directly. The most notable engagement occurred in the context of the NATO bombing campaign during the 1999 Kosovo conflict, where the Office of the Prosecutor examined allegations that attacks on industrial facilities had caused severe environmental contamination.[51] In its Final Report on the Review of the NATO Bombing Campaign, the Prosecutor concluded that although certain strikes had resulted in environmentally damaging releases of toxic substances, the available evidence did not meet the threshold required for criminal liability under Article 55 of Additional Protocol I.[52] This decision underscored a broader structural gap: environmental harms often fall between the categories of traditional humanitarian offenses and property-based crimes, rendering significant ecological destruction legally invisible within existing prosecutorial frameworks.

Taken together, these developments demonstrate both the symbolic progress and the practical limitations of international criminal law in addressing environmental destruction. While the Rome Statute represents a milestone in recognizing environmental protection as a matter of international criminal concern, the persistence of high evidentiary thresholds and the absence of dedicated environmental crime provisions continue to impede effective accountability. As emerging scholarship on "ecocide" suggests, the evolution of ICL may require a reconceptualization of environmental harm as a distinct category of atrocity, one that reflects the profound

[46] Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998.

[47] Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 145–150.

[48] Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 348–52.

[49] International Criminal Court, *Prosecutor v. Omar Hassan Ahmad Al Bashir*, Warrant of Arrest, ICC-02/05-01/09 (Mar. 4, 2009).

[50] William A. Schabas, *An Introduction to the International Criminal Court*, 6th ed. (Cambridge: Cambridge University Press, 2020), 153–55; Robert Cryer et al., *An Introduction to International Criminal Law and Procedure*, 4th ed. (Cambridge: Cambridge University Press, 2019), 270–72.

[51] International Criminal Tribunal for the former Yugoslavia (ICTY), *Office of the Prosecutor, Final Report to the Prosecutor on the Review of the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* (June 2000).

[52] Ibid., 10–12.

ecological and human consequences of modern conflict.[53]

Environmental Destruction during the Dissolution of Yugoslavia (1991 – 1999)

The dissolution of the Socialist Federal Republic of Yugoslavia and the succession of armed conflicts in Croatia (1991–1995), Bosnia-Herzegovina (1992–1995), and Kosovo (1998–1999) generated extensive and multifaceted environmental destruction. The wars were characterized by sustained bombardment of industrial facilities, petrochemical plants, energy infrastructure and urban utilities, resulting in widespread air, soil and water contamination, ecosystem degradation, and long-term risks to public health. Scholars have noted that although the conflicts were politically and militarily distinct, they produced a remarkably consistent environmental pattern: the targeting, or collateral damage, of industrial nodes created persistent "hot spots" whose effects extended well beyond the cessation of hostilities, shaping regional ecological vulnerabilities for decades.[54] The conflict in Croatia provides an early example, particularly the repeated shelling of the Sisak Oil Refinery between 1991 and 1992, which caused large-scale fires, hydrocarbon spills and contamination of the Kupa River basin. UNEP's post-conflict assessments identified Sisak as one of the most heavily polluted industrial zones in the region, yet no prosecutions were ever undertaken for the environmental damage, which was absorbed within the broader category of wartime destruction.[55] A similar pattern emerged at the Bosanski Brod Refinery on the Sava River; bombardment in 1992 led to transboundary oil contamination affecting downstream ecosystems in Croatia and Serbia. Despite the spill's regional implications, post-war engagement was limited to technical monitoring by the Sava River Basin Commission, and again no criminal proceedings followed.[56]

Urban warfare likewise produced acute environmental degradation, most notably during the Siege of Sarajevo. The prolonged destruction of water systems, sewage networks and energy infrastructure resulted in severe pollution of the Miljacka and Bosna Rivers and contributed to outbreaks of disease. Although the ICTY convicted Generals Stanislav Galić and Dragomir Milošević for terrorizing civilians, the environmental dimensions of the siege did not appear as independent charges, reflecting the broader structural difficulty of articulating ecological harm within the existing categories of international crimes.[57] In Tuzla, the shelling and subsequent abandonment of the large industrial complex, including chemical plants, salt mines, and ammonia facilities, resulted in uncontrolled releases of hazardous substances, soil salinization, and long-term contamination of the Jala and Spreča Rivers. UNEP labeled Tuzla a "*major ecological hot spot*," projecting that remediation would require decades, yet accountability mechanisms again proved absent.[58] Coastal regions of Croatia, including Split, Šibenik, and Zadar, suffered similar environmental effects as repeated shelling of shipyards and oil depots ignited large fuel fires, introducing pollutants into the Adriatic Sea and threatening coastal biodiversity. Cleanup operations were managed by national agencies, but no legal claims for environmental responsibility were pursued in international forums.[59]

Beyond industrial destruction, the wars produced region-wide ecological harm through the widespread deployment of landmines and unexploded ordnance, with more than three million mines laid across Croatia and Bosnia. These devices have contributed to long-term land degradation, deforestation, restrictions on agriculture, and wildlife disruption. Mine-action centers established in Croatia (CROMAC) and Bosnia (BHMAC) have made significant progress, yet the environmental consequences remain substantial, and mine-laying has never been prosecuted as an environmental offense in its own right.[60] The most

[53] Philippe Sands et al., *The Independent Expert Panel for the Legal Definition of Ecocide: Commentary and Core Text* (2021).

[54] Richard A. Matthew, "Environmental Consequences of War in the Balkans," in *War and Nature: The Environmental Consequences of War*, ed. J. Brauer and T. Dunne (Lanham: Rowman & Littlefield, 2019), 147–166.

[55] United Nations Environment Programme (UNEP), *Post-Conflict Environmental Assessment: The Balkans* (Geneva: UNEP, 2003), 45–47.

[56] International Sava River Basin Commission, *Annual Report*, 2005; UNEP, *Balkans Assessment*, 2003, 52–54.

[57] International Criminal Tribunal for the former Yugoslavia (ICTY), *Prosecutor v. Stanislav Galić*, Case No. IT-98-29-T, Judgment (Dec. 5, 2003); *Prosecutor v. Dragomir Milošević*, Case No. IT-98-29/1-A, Judgment (Nov. 12, 2007).

[58] UNEP, *Post-Conflict Environmental Assessment: The Balkans*, 61–64

[59] Croatian Ministry of Environmental Protection, *War Damage Report*, 2001.

[60] CROMAC, *Annual Report*, 1998; BHMAC, *Mine Action Strategy*, 1999; see also Rae McGrath, *Landmines and Unexploded Ordnance: A Global Survey* (London: Pluto Press, 2000).

significant environmental damage of the decade occurred during NATO's 1999 "Operation Allied Force," which deliberately targeted strategic industrial installations in Serbia and Kosovo. Bombardment of the Pančevo Petrochemical Complex, the Novi Sad Oil Refinery, and Danube-adjacent power plants released toxic chemicals, including PCBs, dioxins and mercury compounds, into the air, soil and waterways, raising long-term public health concerns. UNEP and UN-Habitat's joint mission identified Pančevo as one of Europe's most polluted sites, while the ICTY Review Committee ultimately determined that the available evidence did not meet the legal thresholds necessary to pursue criminal charges, emphasizing questions of intent and proportionality.[61]

The cumulative environmental legacy of the Yugoslav conflicts has been profound. By the early 2000s, UNEP estimated that the region contained more than 200 contaminated industrial and military sites, extensive minefields, and persistent pollution affecting major river systems, including the Danube and Sava. These impacts continue to impede sustainable development, obstruct post-war reconstruction and strain regional cooperation. As scholars such as Westing and de Shalit have emphasized, the Yugoslav case illustrates the enduring nature of wartime environmental harm and the limitations of existing legal frameworks, both national and international, in addressing ecological devastation produced by contemporary conflict.[62] The environmental consequences of the wars thus remain integral to the broader process of transitional justice and regional recovery.

Result

Accountability and Legal Gaps

Despite the extensive and well-documented environmental harm resulting from the Yugoslav conflicts, no individual has ever been held criminally responsible for an environmental war crime arising from the hostilities. This persistent accountability vacuum reflects a constellation of structural, doctrinal, and political barriers embedded within both international humanitarian law (IHL) and international criminal law (ICL). A central obstacle remains the exceptionally high evidentiary thresholds built into treaty frameworks such as Additional Protocol I and the Rome Statute, which require proof that environmental damage was "widespread, long-term and severe."[63] As numerous commentators have observed, this cumulative standard demands sophisticated scientific data and long-term environmental monitoring, requirements nearly impossible to meet during armed conflict and often even in its aftermath.[64] The problem is compounded by the fundamentally anthropocentric orientation of existing law, which treats the environment primarily as a civilian interest instrumental to human survival rather than as a legal value in its own right. Scholars such as Sands and Schmid have argued that this anthropocentric framing narrows the conceptual space for recognizing ecological harm as an independent basis for liability.[65]

Institutional fragmentation further undermines enforcement. Environmental assessment bodies—most notably the United Nations Environment Programme (UNEP), and criminal tribunals such as the ICTY and ICC operate with distinct mandates, evidentiary standards and temporal priorities, resulting in limited procedural coordination and minimal cross-institutional information flow.[66] Moreover, the political economy of post-conflict reconstruction often deprioritizes ecological justice in favor of infrastructural and economic recovery, fostering reluctance among states and international organizations to pursue accountability for environmental harm that is

[61] ICTY Office of the Prosecutor, *Final Report to the Prosecutor on the Review of the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* (June 2000); UNEP/UN-Habitat, *The Kosovo Conflict—Consequences for the Environment and Human Settlements* (Geneva: UNEP, 2001).

[62] Arthur H. Westing, *Environmental Warfare: A Technical, Legal, and Policy Appraisal* (London: Allen & Unwin, 1984); Avner de Shalit, *The Environment: Between Theory and Practice* (Oxford: Oxford University Press, 2000), 181–185.

[63] Additional Protocol I to the Geneva Conventions, arts. 35(3), 55(1); Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998.

[64] Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 135–150; Michael N. Schmitt, "Green War: An Assessment of the Environmental Law of International Armed Conflict," *Army Environmental Policy Institute Report* (1997), 23–28.

[65] Philippe Sands, *Principles of International Environmental Law*, 4th ed. (Cambridge: Cambridge University Press, 2018), 247–251; Evelyne Schmid, *Taking Economic, Social and Cultural Rights Seriously in International Criminal Law* (Cambridge: Cambridge University Press, 2015), 182–185.

[66] Cymie Payne, "The Environment and the Laws of War: The Role of International Courts and Tribunals," *International Review of the Red Cross* 92, no. 879 (2010): 885–890.

framed as "collateral damage."[67] This political hesitation intersects with a broader absence of enforcement mechanisms, as neither the Geneva Conventions nor the ENMOD Convention provides a direct remedial pathway for victims of wartime environmental destruction, nor do they establish compensation mechanisms or investigative bodies competent to evaluate ecological claims.[68] As a result, even in cases involving large-scale pollution, transboundary contamination, or the destruction of critical environmental resources, the legal architecture has proven ill-suited to producing criminal accountability.

Against this backdrop, emerging approaches have sought to address these longstanding deficits. Perhaps the most far-reaching proposal is the development of an international crime of ecocide, advanced by the Independent Expert Panel in 2021, which recommended amending the Rome Statute to include severe and unlawful acts committed with knowledge of substantial environmental harm.[69] While still in the normative stage, the ecocide initiative has attracted growing academic and civil-society support, reflecting an international shift toward recognizing environmental protection as a core aspect of global criminal justice. Additional efforts include the ICRC's 2020 Guidelines on the Protection of the Environment in Armed Conflict, which synthesize existing customary and treaty rules and encourage states to integrate environmental precautions into military planning and operations.[70] Parallel discussions within international environmental law have emphasized post-conflict restitution mechanisms grounded in principles such as polluter-pays, restoration, and intergenerational equity, though these ideas have yet to crystallize into consistent state practice or adjudication.[71] Taken together, these developments represent important, albeit still tentative, steps toward addressing the structural gaps that have long impeded accountability for wartime environmental harm. Their effectiveness, however, will depend on political will, institutional innovation, and the continued evolution of international norms capable of recognizing environmental destruction not as a peripheral concern but as a core threat to human and ecological security.

Conclusion

The armed conflicts accompanying the dissolution of the former Yugoslavia demonstrate with particular clarity that environmental destruction is not an incidental by-product of warfare but a systematic and enduring consequence of modern hostilities. Across Croatia, Bosnia-Herzegovina, Serbia and Kosovo, the bombardment of industrial complexes, the release of toxic substances, the proliferation of landmines and the widespread degradation of ecosystems generated ecological harm on a scale comparable to the region's profound humanitarian suffering. Yet, despite the magnitude and persistence of this damage, international legal mechanisms have proven largely incapable of translating environmental destruction into meaningful accountability.

The study identifies several core findings. First, international humanitarian law recognizes environmental protection in principle but subjects it to evidentiary thresholds that are rarely attainable in practice, leaving many forms of serious ecological harm beyond effective legal scrutiny. Second, international criminal law offers only limited avenues for accountability and has failed to generate jurisprudence specifically addressing environmental war crimes, as illustrated by the absence of prosecutions before the ICTY despite extensive documentation of wartime contamination. Third, the conflicts in Croatia, Bosnia-Herzegovina, and Kosovo produced comparable patterns of industrial pollution, infrastructure-related contamination, and long-term ecological degradation, yet none resulted in criminal responsibility. Fourth, institutional fragmentation and political reluctance remain decisive obstacles to environmental justice in post-conflict settings. Finally, emerging concepts such as the recognition of ecocide and the systematic use of post-conflict environmental assessments offer promising but still underdeveloped

[67] Simon Dalby, "Environmental Security and Post-Conflict Reconstruction," in *War and Nature*, ed. J. Brauer and T. Dunne (Lanham: Rowman & Littlefield, 2019), 171–189.

[68] ENMOD Convention, arts. 5–7; Geneva Conventions (1949), lacking environmental enforcement procedures; see also Louise Doswald-Beck, "The Legal Framework for Environmental Protection in Armed Conflict," *International Review of the Red Cross* 40, no. 837 (1998): 567–578.

[69] Independent Expert Panel for the Legal Definition of Ecocide, *Commentary and Core Text* (2021).

[70] International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Environment in Armed Conflict* (Geneva: ICRC, 2020).

[71] Alan Boyle, "Reparation for Environmental Damage in International Law," in *Environmental Protection and Transitions from Conflict to Peace*, ed. C. Stahn et al. (Oxford: Oxford University Press, 2017), 495–517.

pathways toward reform.

These findings confirm that effective protection of the environment in armed conflict requires both normative evolution and institutional redesign. A more integrated application of international humanitarian law, international human rights law, and international environmental law would affirm the environment's dual status as both a victim of armed conflict and a foundational precondition for the enjoyment of human rights. Embedding environmental expertise, including methodologies developed by UNEP, into accountability mechanisms, transitional justice processes and reconstruction strategies is essential if legal norms are to reflect the empirical realities of ecological harm.

Ultimately, safeguarding the natural environment during armed conflict is not merely an ecological or legal necessity but a moral imperative. The legacy of the Western Balkans illustrates that peace built upon degraded ecosystems and polluted landscapes is inherently fragile. Sustainable peace depends on the protection and restoration of the natural foundations upon which societies rely, a principle that should guide the future development of international legal norms and accountability mechanisms.

COMPETING INTERESTS

The author has no competing interests to declare.

REFERENCES

Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998.

Additional Protocol I to the Geneva Conventions, arts. 35(3), 55(1); Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998, 2187 U.N.T.S. 3.

Alan Boyle and Catherine Redgwell, *International Law and the Environment*, 4th ed. (Oxford: Oxford University Press, 2021), 420–22.

Alan Boyle, "Human Rights and the Environment: Where Next?," *European Journal of International Law* 23, no. 3 (2012): 613–642;

Alan Boyle, "Reparation for Environmental Damage in International Law," in *Environmental Protection and Transitions from Conflict to Peace*, ed. C. Stahn et al. (Oxford: Oxford University Press, 2017), 495–517.

Antônio Augusto Cançado Trindade, *International Law for Humankind: Towards a New Jus Gentium*, 2nd ed. (Leiden: Brill, 2013), 357–360;

Arthur H. Westing, "Environmental Warfare: The Case of Agent Orange," *Environment: Science and Policy for Sustainable Development* 22, no. 6 (1980): 6–40;

Arthur H. Westing, *Environmental Warfare: A Technical, Legal, and Policy Appraisal* (London: Allen & Unwin, 1984);

Austin, Jay E., and Carl E. Bruch (eds.), 2000, The Environmental Consequences of War. Cambridge: Cambridge University Press

Avner de Shalit, *The Environment: Between Theory and Practice* (Oxford: Oxford University Press, 2000), 181–185.

Ben Saul and Simon Chesterman, "Chemical Weapons and the Law of Armed Conflict," *International Review of the Red Cross* 87, no. 859 (2005): 497–519.

Carsten Stahn, "Environmental Protection and the ICC: New Opportunities, Cautious Progress," *Journal of International Criminal Justice* 19, no. 4 (2021): 701–722.

Christopher Greenwood, "Historical Development and Legal Basis," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (Oxford: Oxford University Press, 2013), 30–34;

Conflict and Environment Observatory. 2018. *Protecting the Environment During Armed Conflict*. London: CEOBS.

Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), art. 1, May 18, 1977.

Croatian Ministry of Environmental Protection, *War Damage Report*, 2001.

CROMAC, *Annual Report*, 1998; BHMAC, *Mine Action Strategy*, 1999;

Cymie Payne, "The Environment and the Laws of War: The Role of International Courts and Tribunals," *International Review of the Red Cross* 92, no. 879 (2010): 881–907.

Cymie Payne, "The Environment and the Laws of War: The Role of International Courts and Tribunals," *International Review of the Red Cross* 92, no. 879 (2010): 885–890.

Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight (St. Petersburg Declaration) (Saint Petersburg, 11 December 1868).

Dieter Fleck, ed., *The Handbook of International Humanitarian Law*, 3rd ed. (Oxford: Oxford University Press, 2013), 254–58.

Dinstein, Yoram. 2001. *Protection of the Natural Environment in International Armed Conflict*.

Evelyne Schmid, *Taking Economic, Social and Cultural Rights Seriously in International Criminal Law* (Cambridge: Cambridge University Press, 2015), 182–185.

Frits Kalshoven, "The Law on Property Rights in Armed Conflict," *Netherlands Yearbook of International Law* 16 (1985): 3–22.

Geneva Conventions (1949), lacking environmental enforcement procedures.

Hague Peace Conference, *Regulations Concerning the Laws and Customs of War on Land (Hague Regulations of 1899)* (The Hague, 29 July 1899)

Hague Peace Conference, *Regulations Concerning the Laws and Customs of War on Land (Hague Regulations of 1907)* (The Hague, 18 October 1907).

Henckaerts and Doswald-Beck, *Customary International Humanitarian Law*, Rule 44;

Hurst

Ibid., Rule 45; see also Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 133–38.

ICTY Office of the Prosecutor, *Final Report to the Prosecutor on the Review of the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* (June 2000); UNEP/UN-Habitat, *The Kosovo Conflict—Consequences for the Environment and Human Settlements* (Geneva: UNEP, 2001).

Independent Expert Panel for the Legal Definition of Ecocide, *Commentary and Core Text* (2021).

International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Natural Environment in Armed Conflict* (Geneva: ICRC, 2020), 7–10;

International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Environment in Armed Conflict* (Geneva: ICRC, 2020).

International Committee of the Red Cross (ICRC). 2023. "The Obligation to Prevent Environmental Harm in Relation to Armed Conflict." *International Review of the Red Cross*.

International Committee of the Red Cross, *Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977.

International Court of Justice (ICJ), *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, July 8, 1996, I.C.J. Reports 1996, 241.

International Criminal Court, *Prosecutor v. Omar Hassan Ahmad Al Bashir*, Warrant of Arrest, ICC-02/05-01/09 (Mar. 4, 2009).

International Criminal Tribunal for the former Yugoslavia (ICTY), *Office of the Prosecutor, Final Report to the Prosecutor on the Review of the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* (June 2000).

International Criminal Tribunal for the former Yugoslavia (ICTY), *Prosecutor v. Stanislav Galić*, Case No. IT-98-29-T, Judgment (Dec. 5, 2003); *Prosecutor v. Dragomir Milošević*, Case No. IT-98-29/1-A, Judgment (Nov. 12, 2007).

International Sava River Basin Commission, *Annual Report*, 2005; UNEP, *Balkans Assessment*, 2003, 52–54.

Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol. 1 (Cambridge: Cambridge University Press, 2005), Rule 43.

John H. Knox and Ramin Pejan, eds., *The Human Right to a Healthy Environment* (Cambridge: Cambridge University Press, 2018).

Kalshoven, *Constraints on the Waging of War*, 2nd ed. (Geneva: ICRC, 1991), 56–59.

Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 25–29.

Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 103–08.

Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 145–150.

Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff, 2004), 135–150;

Lanham: Rowman & Littlefield; CEOBS (Conflict and Environment Observatory). 2017, Pollution and Conflict: Understanding the Environmental Impacts of Modern Warfare. London.

Le Billon, Philippe. 2012, Wars of Plunder: Conflicts, Profits and the Politics of Resources.

Lieber Institute. 2025. *ENMOD: Dead Letter or Environmental Lifeline?* West Point: Lieber Institute

Lindsay Moir, "Environmental Protection and the Law of Armed Conflict," *International Law Studies* 69 (1996): 81–102.

Louise Doswald-Beck, "The Legal Framework for Environmental Protection in Armed Conflict," *International Review of the Red Cross* 40, no. 837 (1998): 567–578.

Maljean-Dubois, Sandrine. 2010, Environmental Protection in Armed Conflict. International Review of the Red Cross 92: 593–607.

Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 348–52;

Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 358–61.

Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts* (Leiden: Martinus Nijhoff, 1982), 348–52.

Michael N. Schmitt, "Green War: An Assessment of the Environmental Law of International Armed Conflict," *Army Environmental Policy Institute Report* (1997), 25–28;

Nairobi.

Philippe Sands et al., *The Independent Expert Panel for the Legal Definition of Ecocide: Commentary and Core Text* (2021).

Philippe Sands, *Principles of International Environmental Law*, 4th ed. (Cambridge: Cambridge University Press, 2018), 255–257.

Philippe Sands, *Principles of International Environmental Law*, 4th ed. (Cambridge: Cambridge University Press, 2018), 247–251;

Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 54(2), June 8, 1977.

Rae McGrath, *Landmines and Unexploded Ordnance: A Global Survey* (London: Pluto Press, 2000).

Richard A. Falk, "The Vietnam War and International Law," *American Journal of International Law* 69, no. 2 (1975): 595–620.

Richard A. Matthew, "Environmental Consequences of War in the Balkans," in *War and Nature: The Environmental Consequences of War*, ed. J. Brauer and T. Dunne (Lanham: Rowman & Littlefield, 2019), 147–166.

Robert Cryer et al., *An Introduction to International Criminal Law and Procedure*, 4th ed. (Cambridge: Cambridge University Press, 2019), 270–72.

Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998.

Rome Statute of the International Criminal Court, art. 8(2)(b)(iv), July 17, 1998.

Sandrine Maljean-Dubois, "Environmental Protection in Armed Conflict: Norms, Institutions, and Practice," *International Review of the Red Cross* 92, no. 879 (2010): 593–607.

Schmitt, Michael N. 1997. *Green War: An Assessment of the Environmental Law of International Armed Conflict, p. 68-81.*

Simon Dalby, "Environmental Security and Post-Conflict Reconstruction," in *War and Nature*, ed. J. Brauer and T. Dunne (Lanham: Rowman & Littlefield, 2019), 171–189.

Theodor Meron, *The Humanization of International Law* (Leiden: Martinus Nijhoff, 2006), 71–73.

Thilo Marauhn, "Environmental Damage in Times of Armed Conflict," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (Oxford: Oxford University Press, 2013), 541–43.

U.N. General Assembly, *Report of the Secretary-General Pursuant to General Assembly Resolution 2995 (XXVII) on the Effects of the Possible Use of Environmental Modification Techniques*, A/48/304 (1993).

UNEP / WHO. 2002, Health and Environment in Post-Conflict Settings. Geneva; UNEP. 2003, After the Conflict: Environmental Assessment in Iraq. Geneva.

UNEP, *Post-Conflict Environmental Assessment: The Balkans*, 61–64

UNEP. 2003, Post-Conflict Environmental Assessment: The Balkans. Geneva

UNEP. 2009, From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.

United Nations Conference on the Human Environment, *Stockholm Declaration*, June 16, 1972; United Nations, *Rio Declaration on Environment and Development*, June 14, 1992;

United Nations Environment Programme (UNEP), *Post-Conflict Environmental Assessment: The Balkans* (Geneva: UNEP, 2003).

United Nations Environment Programme (UNEP), *Post-Conflict Environmental Assessment: The Balkans* (Geneva: UNEP, 2003), 45–47.

United Nations Environment Programme, *UNEP Annual Evaluation Report 2003* (Nairobi: UNEP, 2003).

United Nations General Assembly, *"The Human Right to a Clean, Healthy and Sustainable Environment,"* Resolution A/RES/76/300, adopted 28 July 2022, United Nations Digital Library,

Westing, Arthur H. 1980, Environmental Warfare: The Case of Agent Orange. Environment: Science and Policy for Sustainable Development 22, no. 6, 6–40

William A. Schabas, *An Introduction to the International Criminal Court*, 6th ed. (Cambridge: Cambridge University Press, 2020), 153–55;

Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, 3rd ed. (Cambridge: Cambridge University Press, 2016), 119–24.

Yoram Dinstein, *War, Aggression and Self-Defence*, 5th ed. (Cambridge: Cambridge University Press, 2012), 221–23;

Submitted: 31 January 2025 **Accepted: 19 January 2026** **Published: 20 January 2026**

TO CITE THIS ARTICLE:

Islami, I., Beqaj, B. 2025. The Environment as a Silent Casualty: Legal Protection of Nature in Armed Conflict with Insights from the Western Balkans. *Balkans Legal, Economic and Social Studies* 2(2):111-126. DOI: https://doi.org/10.14232/bless.2025.2.111-126

COPYRIGHT:

© 2025 The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See http://creativecommons.org/licenses/by/4.0/.

BLESS – Balkans Legal, Economic and Social Studies is a peer-reviewed open access journal published by Western Balkans Centre.

The research and the e-journal were supported by the Humanities and Social Sciences Cluster of the Centre of Excellence for Interdisciplinary Research, Development and Innovation of the University of Szeged. The authors are members of the Western Balkans Center.