| Chapter 4 |

Other Environmental Treaties Relevant for Human Rights Protection

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ABSTRACT

This chapter explores how a group of "classic" sectoral environmental treaties operate, in practice, as tools for protecting human rights, with a particular focus on Central and Eastern European (CEE) countries. It examines treaties on nuclear safety and radioactive waste (the Convention on Nuclear Safety and the Joint Convention), transboundary air pollution (CLRTAP), ozone layer protection (the Vienna Convention and the Montreal Protocol), hazardous waste (the Basel Convention), and biological diversity (the Ramsar Convention, CITES, the Bonn Convention and the CBD).

Across these regimes, the chapter traces how obligations to prevent environmental harm, manage risks and regulate dangerous activities translate into protection of the rights to life, health, food, water and a healthy environment. The CEE perspective is used to show how states with a legacy of heavy industry, nuclear energy and rich biodiversity rely on these treaties to address long-standing environmental pressures while meeting their human rights commitments.

The chapter argues that, although most of these agreements are not framed as human rights instruments, their implementation has become an important part of how states discharge their human rights obligations. At the same time, it highlights persistent weaknesses, including soft or unevenly enforced obligations and the continued exposure of vulnerable communities to environmental harm. The conclusion invites readers to critically assess the effectiveness of these treaty regimes and to consider how future practice could better integrate environmental and human rights protection.

KEYWORDS

international environmental law; human rights; nuclear safety; air pollution; ozone layer; hazardous waste; biodiversity; Central and Eastern Europe

1. Introduction

Environmental degradation and human rights are closely connected. The condition of the environment directly affects individuals' and communities' ability to exercise fundamental human rights, including the rights to life, health, water, food, and a safe environment. As global challenges such as nuclear safety, air pollution, ozone depletion, hazardous waste, and biodiversity loss have become more urgent, international

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treaties have become essential for regulating environmental harm and protecting human well-being. This chapter examines several key environmental treaties that both protect the environment and play a critical role in safeguarding human rights globally.

Each area discussed in this chapter was selected because of its effects on the environment, human health, and, consequently, human rights. Nuclear activities, for example, present significant risks to the rights to life and health, especially following nuclear accidents or improper nuclear waste disposal. The Convention on Nuclear Safety and the Joint Convention are examined to show how international agreements address these risks and promote the safe management of nuclear materials.

This chapter also addresses air pollution as one of the most pressing environmental threats to human health, particularly in urban areas. The focus is primarily on the CLRTAP[1], which serves as a critical framework for international cooperation in controlling transboundary pollutants that affect both ecosystems and respiratory health, as well as overall well-being.

The chapter examines ozone layer protection, focusing on the Vienna Convention and the Montreal Protocol, which have been essential in phasing out substances that deplete the ozone layer. By reducing exposure to UV radiation, these treaties play a crucial role in protecting the right to health, particularly by lowering the risks of skin cancer and cataracts. This section also presents a positive view of the regulation of ozone-depleting substances, identifying it as one of the most successful international regimes in environmental protection.

Further, hazardous waste control is addressed primarily through the Basel Convention. Improper waste disposal can devastate ecosystems and disproportionately affect vulnerable communities, making it a significant human rights concern. The Basel Convention requires responsible management of hazardous waste and holds countries accountable for the waste they generate.

Finally, the chapter examines biological diversity, focusing on key treaties such as the Ramsar Convention, CITES, the Bonn Convention, and the CBD. These treaties highlight the importance of protecting ecosystems and species, which are essential for sustaining life and ensuring the rights to food, water, and a healthy environment.

By the end of this chapter, students will understand international legal frameworks governing environmental protection and their direct relationship to human rights. They will learn how these treaties regulate environmental threats affecting both ecosystems and human health and safety. Students are expected to recognise the importance of international cooperation in addressing global environmental issues, and how compliance with these treaties enables countries to meet their human rights obligations. This chapter prepares students to critically assess the effectiveness of international treaties in protecting the environment and human rights, and to participate in legal and policy discussions at the global level.

1 A list of the abbreviations used appears at the end of the chapter.

2. Safeguarding Nuclear Safety: Managing Radioactive Waste for Human and Environmental Protection

The connection between energy production and environmental effects is evident, as each energy source has a distinct environmental footprint. Nuclear energy, often classified as a low-carbon solution, has been widely adopted globally to reduce greenhouse gas emissions and address climate change. The low carbon dioxide emissions from nuclear power plants make them a potential option for emission reduction. However, nuclear energy presents specific environmental and safety challenges, primarily related to the management of radioactive waste and the risk of nuclear accidents. Although nuclear energy offers the potential to reduce carbon emissions, it requires careful management to prevent harm to human health and the environment. Improperly managed spent nuclear fuel and radioactive waste from nuclear power plants pose significant risks, as they can contaminate land and water for thousands of years. The development of safe, sustainable solutions for the permanent disposal of radioactive waste remains a fundamental concern for the international community, with ongoing efforts directed towards this objective.

International attention to the peaceful use of nuclear energy increased after the 1986 Chernobyl disaster. The consequences were extensive and transnational, demonstrating that nuclear safety concerns are inherently cross-border. This event highlighted the necessity of international cooperation, as national regulation alone could not prevent such disasters. Countries with developed nuclear industries quickly recognised that failing to promote nuclear safety from the outset would endanger both their populations and others globally.

This chapter examines two major international agreements adopted under the auspices of the IAEA that form the basis for nuclear safety and effective radioactive waste management: The Convention on Nuclear Safety and The Joint Convention. These agreements have been central to accident prevention, the safe operation of nuclear installations, and ensuring that nuclear power is used with full regard for health, safety, and environmental rights. They reflect the international community's commitment to achieving the highest standards of nuclear safety, thereby protecting present and future generations from the potential risks of nuclear energy.

2.1. The Convention on Nuclear Safety

The IAEA, established in 1957, aimed to accelerate and expand the contribution of atomic energy to global peace, health, and prosperity.[2] The IAEA has played a crucial role in establishing numerous legally binding nuclear safety principles and non-binding safety standards, with several international treaties adopted under its auspices. Among the first significant treaties are the Convention on Early Notification of a Nuclear Accident (1986) and the Convention on Assistance in the Case of a Nuclear

2 Statute of the IAEA, Article 2.

Accident or Radiological Emergency (1986), both adopted in response to the Chernobyl reactor explosion. This discussion will focus on the Convention on Nuclear Safety, which is the cornerstone of the framework for ensuring the safety of nuclear power plants. This international treaty was drafted and adopted on 17 June 1994, entered into force on 24 October 1996, and currently has 95 Parties, including Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Bulgaria, Ukraine, and Bosnia and Herzegovina.

The Convention on Nuclear Safety has three primary objectives, which form the foundation for its international framework: (1) First, it aims to achieve and maintain a high level of nuclear safety worldwide by enhancing national safety measures and fostering international cooperation, including, where necessary, technical collaboration related to safety; (2) The convention seeks to establish and maintain effective defences in nuclear installations to protect individuals, society, and the environment from the harmful effects of ionizing radiation; (3) Lastly, it focuses on preventing accidents with radiological consequences and mitigating the impact of such accidents should they occur, ensuring that potential risks are minimized and managed effectively.[3]

Parties to the Convention on Nuclear Safety are subject to several obligations. A key requirement is to establish and maintain a comprehensive legislative and regulatory framework governing the safety of nuclear installations. This framework comprises specific elements intended to protect human health and the environment from risks associated with nuclear power: (1) First, Parties are required to establish national safety requirements and regulations for all nuclear facilities; (2) Second, they must implement a system of licensing for nuclear installations, prohibiting operation without a valid licence; (3) Third, the convention obliges member states to establish a system for regulatory inspections and assessments of nuclear installations to ensure compliance with safety regulations and licence conditions; (4) Finally, the framework must include mechanisms to enforce regulations and licence conditions, enabling authorities to suspend, modify, or revoke licences if necessary to ensure safety. These obligations provide a structured approach to nuclear safety, ensuring that all nuclear installations operate within a clear legal and regulatory framework, and thereby protect the public and the environment from potential risks.[4]

Each contracting Party must establish or designate a regulatory authority[5] responsible for implementing the legislative and regulatory framework specified in Article 7. This authority must have sufficient powers, expertise, financial support,

3 Convention on Nuclear Safety, Article 2.

4 Convention on Nuclear Safety, Article 7.

5 In Hungary, the Hungarian Atomic Energy Authority is responsible; in Poland, the National Atomic Energy Agency; in the Czech Republic, the State Office for Nuclear Safety; in Slovakia, the Nuclear Regulatory Authority of the Slovak Republic; in Romania, the National Commission for Nuclear Activities Control; in Slovenia, the Slovenian Nuclear Safety Administration; in Croatia, the State Office for Radiological and Nuclear Safety; in Bulgaria, the Nuclear Regulatory Agency of the Republic of Bulgaria; and in Ukraine, the State Nuclear Regulatory Inspectorate of Ukraine.

and human resources to perform its duties effectively and ensure compliance with nuclear safety standards.[6] Contracting Parties are also required to prioritise safety by taking appropriate steps to address general safety considerations. For example, they must ensure adequate financial and human resources,[7] implement quality assurance programmes,[8] carry out comprehensive and systematic safety assessments,[9] ensure that radiation exposure to workers and the public remains as low as reasonably achievable,[10] and establish both on-site and off-site emergency preparedness plans.[11]

Another set of duties concerns the safety of installations. In this context, the siting of nuclear installations must be carefully assessed, considering factors that could affect safety throughout the facility's projected lifetime. These considerations include potential effects on individuals, society, and the environment.[12] The design and construction of nuclear facilities must include multiple reliable layers of protection against the release of radioactive materials. Technologies used in design and construction must be either proven through operational experience or validated through rigorous testing and analysis. The design should also ensure that operations are reliable, stable, and easily managed.[13]

Despite the apparent robustness of this international agreement, it has been criticised for several shortcomings. First, the Convention on Nuclear Safety does not require uniform international safety standards and contains no provisions enabling the IAEA to enforce its standards through sanctions.[14] Second, the Convention lacks enforcement mechanisms, relying solely on peer reviews without sanctions, which makes it difficult to compel states to adopt stringent safety measures, as there are no penalties for non-compliance. Third, the Convention uses vague language, granting countries considerable discretion in implementing safety standards. Terms such as 'reasonably practicable' and provisions regarding shutdown timelines are open to broad interpretation, resulting in inconsistent enforcement of safety practices among states.[15]

2.2. The Joint Convention on Spent Fuel and Radioactive Waste

The second international treaty discussed in this subchapter is the Joint Convention, adopted on 5 September 1997 and entering into force on 18 June 2001. Currently, it has 90 Parties, including Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia. The Joint Convention applies to both spent

6 Convention on Nuclear Safety, Article 8.
7 Convention on Nuclear Safety, Article 11.
8 Convention on Nuclear Safety, Article 13.
9 Convention on Nuclear Safety, Article 14.
10 Convention on Nuclear Safety, Article 15.
11 Convention on Nuclear Safety, Article 16.
12 Convention on Nuclear Safety, Article 17.
13 Convention on Nuclear Safety, Article 18.
14 Marples and Cerullo, 2000; McMillan, 2001.
15 Faruque, 2013, p. 568.

fuel management and radioactive waste disposal, and has three primary objectives: (1) It aims to achieve and maintain high safety standards worldwide in spent fuel and radioactive waste management by strengthening national measures and promoting international cooperation; (2) It seeks to ensure effective protection at all stages of waste management to safeguard individuals, society, and the environment from the harmful effects of ionising radiation, both now and for future generations; (3) It focuses on preventing radiological accidents and mitigating their effects during any stage of waste management, ensuring robust defences are in place to minimise risks.[16]

The main structure and principal provisions reflect those of the Convention on Nuclear Safety. The Parties' fundamental responsibility is to ensure protection by taking appropriate actions at all stages of spent fuel management to safeguard people and the environment from radiological hazards. To meet this obligation, each Party must: (1) ensure that criticality and removal of residual heat during spent fuel management are properly addressed; (2) minimise radioactive waste generation, keeping it as low as practicable according to the adopted fuel cycle policy; (3) provide effective protection for individuals, society, and the environment by implementing suitable protective measures in line with national regulations and internationally recognised standards; (4) seek to avoid placing undue burdens on future generations, ensuring their exposure to risks is no greater than that of the current generation.[17]

The Joint Convention requires Parties to establish and maintain a comprehensive legislative and regulatory framework to ensure the safety of spent fuel and radioactive waste management. This framework includes a facility licensing system that specifies standards for the siting, design, construction, operation, closure, and safety assessment of both existing and proposed facilities. The Joint Convention also sets general requirements for the safe operation of spent fuel and radioactive waste management installations. Furthermore, it establishes a notification and consent regime for the transboundary movement of radioactive waste, consistent with the principles in the 1990 IAEA Code of Practice on the International Transboundary Movement of Radioactive Waste.

Unfortunately, similar to the first treaty, the Joint Convention also has several shortcomings related to its scope of application. First, spent fuel held at reprocessing facilities as part of a reprocessing activity is included only if the Contracting Party declares reprocessing to be part of spent fuel management.[18] Second, spent fuel and radioactive waste from military or defence programmes are excluded unless the relevant state Party declares them, or if these materials are permanently transferred to and managed within exclusively civilian programmes.[19]

16 Joint Convention, Article 1.
17 Joint Convention, Article 4 and 11.
18 Joint Convention, Article 3(1).
19 Joint Convention, Article 3(3).

3. Combatting Air Pollution: Legal Frameworks for Cross-Border Clean Air

Air pollution has long posed significant risks to both human health and the environment. Transboundary air pollution presents a particular challenge because pollutants emitted in one country can easily cross borders and affect the air quality of neighbouring countries. Despite substantial progress in air quality improvement, this issue remains critical in the European Union, where an estimated 300,000 people in Europe die prematurely each year due to air pollution.[20] Central and Eastern European (CEE) countries, with their history of industrial emissions and reliance on fossil fuels, have been among the most affected regions. The international community has established several frameworks to address these challenges, with the CLRTAP being a key framework for tackling this issue at both regional and global levels.

The CLRTAP was the first international legally binding agreement to address pollution on a broad regional scale. Over time, it incorporated several protocols targeting specific pollutants, and now serves as a comprehensive framework to minimise emissions of sulphur, nitrogen oxides, volatile organic compounds, and particulate matter, which cause acid rain, smog, and other air quality issues.

3.1. The Convention on Long-Range Transboundary Air Pollution

The only major multilateral international treaty addressing the regulation and control of transboundary air pollution is CLRTAP, adopted on 13 November 1979 and entering into force on 16 March 1983. Currently, it has 51 Parties, including Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia. In this treaty, states affirmed their willingness to strengthen international cooperation, develop appropriate national policies, and coordinate national action to combat air pollution, including long-range transboundary air pollution.

Under the CLRTAP, Parties are required to 'endeavour to limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution'.[21] States that are Parties must also, without undue delay, develop policies and strategies to combat the discharge of air pollutants.[22] Additionally, Parties are obliged to contribute to reducing air pollution, including long-range transboundary air pollution, by exchanging information and reviewing their policies, scientific activities, and technical measures aimed at addressing air pollution.[23]

Despite its relatively soft obligations, the CLRTAP has served as a valuable framework for cooperation and the development of more specific measures and commitments. It has provided a basis for research and monitoring of problematic emissions,

20 European Parliament, 2024.
21 CLRTAP, Article 2.
22 CLRTAP, Article 3.
23 CLRTAP, Article 4.

as well as for coordination, information exchange, and consultation among countries. Since its entry into force in 1983, it has supported the development of eight protocols,[24] three of which are notable[25] for introducing cost-sharing arrangements for scientific monitoring and for pioneering flexible regulatory techniques and compliance controls – approaches that have become central to international environmental law.[26] Through these protocols, the CLRTAP has established a dynamic, science-based approach to addressing air pollution. This international treaty and its protocols have contributed to emission reductions across Europe and North America, and have supported scientific collaboration, technological innovation, and policy harmonisation among Parties.

4. Protecting the Ozone Layer: Global Treaties and Their Impact on Health and Environment

The depletion of the ozone layer has been a significant environmental issue since its identification in the 1970s. The ozone layer absorbs UV radiation from the sun in the Earth's stratosphere, protecting life on the planet. Without this layer, higher levels of UV radiation would reach the Earth's surface, causing serious health risks such as skin cancer, cataracts, and immune system suppression, as well as environmental damage to ecosystems, marine life, and agriculture. The ozone agreements are notable as the first international efforts to address a long-term issue in which present actions cause damage, but the full effects may not appear for decades. Decisions were made based on probable outcomes, given the delayed manifestation of harm.

In response to this global threat, the international community enacted the Vienna Convention and later the Montreal Protocol. These two agreements, regarded as among the most successful environmental treaties, led to a significant reduction in the production and consumption of ozone-depleting substances such as chlorofluorocarbons. The phasedown and eventual phase-out of these substances provided a stronger foundation for ozone layer recovery. Consumption of ozone-depleting substances has decreased by more than 99%, and scientists have confirmed that the ozone hole over Antarctica is shrinking and could disappear by 2050.[27] This chapter

24 The protocols to the CLRTAP are: (1) Geneva Protocol on Long-Term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe, 1984; (2) Helsinki Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30%, 1985; (3) Sofia Protocol Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, 1988; (4) Geneva Protocol Concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, 1991; (5) Oslo Protocol on Further Reduction of Sulphur Emissions, 1994; (6) Aarhus Protocol on Heavy Metals, 1998; (7) Aarhus Protocol on Persistent Organic Pollutant, 1998; (8) Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone, 1999.
25 Ibid.
26 Galizzi, 2013, p. 483.
27 Ortiz-Ospina, 2024.

discusses the provisions of the Vienna Convention and Montreal Protocol and their effects on human rights, emphasising the importance of ozone layer protection for CEE countries.

4.1. Vienna Convention for the Protection of the Ozone Layer

The Vienna Convention is considered the first international treaty specifically addressing a global environmental issue under international environmental law. It was adopted after five years of negotiation under the auspices of UNEP on 22 March 1974 and entered into force on 22 September 1988. Notably, it achieved universal support, with all industrialised and developing nations becoming Parties by 2009.[28] The Vienna Convention establishes a framework with four key categories of measures to protect people and the environment from ozone depletion, outlining the basic obligations for each Party: (1) Cooperate through systematic observations, research, and information exchange to better understand and assess the impact of human activities on the ozone layer, as well as the effects of ozone layer changes on human health and the environment; (2) Adopt appropriate legislative or administrative measures and collaborate in harmonizing policies to control, limit, reduce, or prevent human activities under their jurisdiction that may have, or are likely to have, adverse effects due to ozone layer modification; (3) Collaborate in the development of agreed measures, procedures, and standards for implementing the Vienna Convention, with the aim of adopting protocols and annexes to further its objectives; (4) Work with relevant international bodies to ensure effective implementation of the Vienna Convention and any protocols to which they are Party.[29]

The Vienna Convention serves as a framework convention, without specific obligations to reduce or limit ozone-depleting substances, because Parties could not agree on such measures at the time. Nevertheless, the Vienna Convention was one of the first treaties to explicitly address global environmental protection, broadly defining adverse effects to include changes to the climate and ecosystems that harm human health and natural productivity. It also reflects an early adoption of the precautionary principle, supporting preventive action before conclusive evidence of harm – an approach more progressive than earlier pollution treaties such as the CLRTAP.[30]

4.2. The Montreal Protocol on Substances that Deplete the Ozone Layer

The Montreal Protocol, a legally binding agreement adopted on 16 September 1987 as a protocol to the Vienna Convention, committed countries to specific actions to phase out the production and consumption of ozone-depleting substances. While the Vienna Convention established the basis for international cooperation to protect the ozone layer, the Montreal Protocol advanced this by requiring concrete measures. It entered into force on 1 January 1989 and has become one of the most successful

28 Sands, 2018, p. 279.
29 Vienna Convention, Article 2(2).
30 Birnie, Boyle and Redgweel, 2009, pp. 350–351.

environmental treaties, with near-universal ratification by 198 Parties, including many Central and Eastern European countries such as Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia. The Protocol's effectiveness is due to its translation of the Vienna Convention's framework into specific, enforceable commitments for ozone layer protection.

The amendments to the Montreal Protocol are essential because they enable the treaty to respond to new scientific evidence and address emerging environmental threats to the ozone layer. By adding new controlled substances, accelerating phase-out schedules, and broadening the treaty's scope to include climate-related issues, these amendments have reinforced global efforts to protect both the ozone layer and the climate. Although there are numerous amendments and adjustments to the Montreal Protocol, five are particularly significant and prominent: (1) The London Amendment (1990) introduced a phase-out schedule for chlorofluorocarbons and other ozone-depleting substances, and established the Multilateral Fund to assist developing countries; (2) The Copenhagen Amendment (1992) accelerated the phase-out schedule for chlorofluorocarbons and halons, added hydrochlorofluorocarbons to the list, and enhanced the financial mechanism for developing countries; (3) The Montreal Amendment (1997) introduced a licensing system for the import and export of controlled substances and added methyl bromide to the list with a phase-out schedule; (4) The Beijing Amendment (1999) added controls for bromochloromethane and strengthened restrictions on the production and trade of hydrochlorofluorocarbons; (5) The Kigali Amendment (2016) targeted the phase-down of hydrofluorocarbons and hydrochlorofluorocarbons, addressing their effects on climate change with staggered timelines for developed and developing countries.

The Montreal Protocol is widely considered one of the most successful environmental treaties in history. Its strong framework and effective amendments have resulted in a significant reduction in the consumption of ozone-depleting substances. This reduction has contributed to the gradual recovery of the ozone layer and limited climate change, because many of these substances are greenhouse gases. The Montreal Protocol primarily aims to protect the health and food resources of current generations, based on the belief that humanity can address and reverse environmental harm before it becomes irreversible.[31] The success of the Montreal Protocol provides a model for international cooperation in addressing complex environmental issues.

5. Hazardous Waste Management: International Efforts to Safeguard Health and Ecosystems

The generation and disposal of hazardous waste present significant risks to human health and environmental safety. Hazardous waste includes materials such as toxic

31 Lawrence, 2012, p. 32.

chemicals, medical waste, electronic waste, and industrial by-products, which can cause soil and water contamination, air pollution, and long-term ecological harm if not managed appropriately. The transboundary movement of hazardous waste, particularly from developed to developing countries, increases these risks because many countries lack the necessary infrastructure and regulatory frameworks for safe handling and disposal. The Basel Convention seeks to reduce hazardous waste generation and regulate its transboundary movement to ensure environmentally sound management.

5.1. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

The Basel Convention, established to create a global framework for controlling the international movement of hazardous and other wastes, was negotiated under UNEP and based on the work of a group that used the Cairo Guidelines as a foundation. It was adopted on 22 March 1989 by the Conference of Plenipotentiaries in Basel, Switzerland, and entered into force on 5 May 1992. Currently, it has 191 Parties, including Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia. The treaty is structured around three main objectives: (1) reducing the generation of hazardous waste and promoting its environmentally sound management, regardless of disposal location; (2) restricting transboundary movements of hazardous waste, unless these comply with the principles of environmentally sound management; (3) implementing a regulatory system for cases in which transboundary movements are permitted.

The Basel Convention provides a comprehensive definition of 'hazardous wastes'. To determine what is considered 'hazardous', it is first necessary to define 'wastes' under this treaty. The Convention defines wastes as 'substances or objects which are disposed of, are intended to be disposed of, or are required to be disposed of by the provisions of national law'.[32] A waste is considered hazardous if it is listed in Annex I, unless it does not possess any of the characteristics specified in Annex III (e.g. flammability, explosivity, or toxicity). Additionally, waste not covered by this definition but classified or regarded as hazardous under the domestic laws of the exporting, importing, or transit Party is also considered hazardous.[33]

The contracting Parties may prohibit the import of hazardous wastes or other wastes for disposal under the Basel Convention, which requires other Parties to prohibit or not permit the export of such wastes. Article 4(5) also prohibits the export of hazardous waste to countries that are not Parties, unless a bilateral, multilateral, or regional agreement ensures environmentally sound management.

The Prior Informed Consent procedure, set out in Articles 6 and 7 of the Basel Convention, is a central mechanism for regulating the transboundary movement of

32 Basel Convention, Article 2(1).
33 Basel Convention, Article 1(1).

hazardous wastes. Under this procedure, any Party intending to export hazardous waste must notify the receiving country and provide detailed information about the shipment, including its nature, composition, and disposal methods. The receiving country must then give explicit consent, conditional consent, or denial before the export can proceed. Transit countries must also be notified and must provide their consent. This process ensures that hazardous waste is not transferred without the knowledge and approval of all involved states, preventing illegal dumping and supporting safe, environmentally sound management.

The Basel Convention condemns illegal trafficking of hazardous waste and establishes a response mechanism to address it. It includes provisions requiring re-import of hazardous waste if the disposal contract cannot be fulfilled. In these cases, the state of export must ensure that the exporter retrieves the waste if no alternative environmentally sound disposal arrangements are possible.[34]

The contract mechanism of the Basel Convention remains active, and since its adoption, several significant developments have occurred. In September 1995, the third Conference of the Parties to the Basel Convention in Geneva adopted the Basel Ban Amendment. This amendment, which entered into force on 5 December 2019 after a lengthy delay, imposes a broader ban on waste shipments. It specifically prohibits all hazardous waste shipments from wealthy countries – primarily OECD members and EU countries listed in a new Annex VII –to countries not included in Annex VII. For waste shipments intended for recycling or recovery, the amendment requires a phase-out of such transfers from Annex VII countries to destinations outside this group.[35]

Another significant development in this regime was the adoption of the Basel Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal in 1999, however, it has not yet entered into force. The protocol regulates civil liability for damages resulting from the transboundary movement of hazardous and other wastes, including incidents caused by illegal trafficking.

6. Preserving Biological Diversity: International Agreements for Ecosystem and Human Welfare

The protection of biological diversity is essential for both ecosystem health and human well-being. Biodiversity supports food security, water supply, climate regulation, and overall ecosystem resilience. Rapid biodiversity loss due to human activities, such as land conversion, climate change, pollution, and unsustainable exploitation of natural resources, directly threatens these benefits and the rights of current and future generations.

34 Basel Convention, Article 9.
35 Wirth and Sachs, 2021, p. 584.

In response to these global problems, several international agreements have been adopted to safeguard biological diversity on Earth. Four of the most significant treaties are the Ramsar Convention, CITES, the Bonn Convention, and the CBD. These agreements regulate and protect various aspects of biodiversity, aiming to preserve ecosystems and species essential for human health and livelihoods.

6.1. The Ramsar Convention on Wetlands of International Importance

The first habitat-based treaty, the Ramsar Convention, was adopted on 2 February 1971 in the Iranian city of Ramsar and entered into force on 21 December 1975. Currently, 172 states are Parties to this international treaty. The list of Parties includes, among others, Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, Bulgaria, Ukraine, Moldova, and Georgia. The Ramsar Convention recognises the essential ecological functions of wetlands[36] as regulators of water regimes and as habitats supporting characteristic flora and fauna, especially waterfowl. It aims to protect these vital ecosystems and the many species they support. Wetlands are critical for maintaining ecological balance, providing habitats for diverse flora and fauna, and supplying resources for various needs within local communities.

The Ramsar Convention requires each Party to designate suitable wetlands within its territory for inclusion in the List of Wetlands of International Importance.[37] Wetlands are selected for this list based on their international significance in ecology, botany, zoology, limnology, or hydrology, with initial priority given to those essential for waterfowl during any season. Notably, inclusion of a wetland in the list does not affect the exclusive sovereign rights of the Party where the wetland is located.[38] The treaty requires any country seeking to become a Party to the Ramsar Convention to designate at least one wetland for inclusion in the List when signing or upon depositing its instrument of ratification or accession.[39] The Ramsar Convention highlights the principle of 'wise use', which promotes sustainable wetland management to maintain their ecological character. This principle requires aligning local community conservation concerns with economic development to ensure wetlands continue to provide essential functions and resources. In this way, the Convention balances protection and human use to maintain wetland health and viability in the long term.

The Wetlands Conservation Fund, established under the Ramsar Convention, is a financial mechanism that supports the conservation and sustainable use of wetlands

36 According to Article 1(1) of the Ramsar Convention, wetlands are defined as areas of marsh, fen, peatland, or water – whether natural or artificial, permanent or temporary – with static or flowing water that is fresh, brackish, or salt, including marine areas where the water depth at low tide does not exceed 6 m.

37 The Ramsar List is the world's largest network of protected areas. There are over 2,400 Ramsar Sites on the territories of 172 the Ramsar Convention Contracting Parties across the world, covering more than 2.5 million square kilometres.

38 Ramsar Convention, Article 1(1)–(3).

39 Ramsar Convention, Article 2(4).

in developing countries and countries with economies in transition. The fund provides financial assistance for projects that promote the wise use of wetlands, enhance habitat restoration, strengthen Ramsar Convention implementation, and support community-based conservation initiatives. Through this support, the Wetlands Conservation Fund addresses challenges such as habitat degradation, biodiversity loss, and the adverse effects of climate change on wetland ecosystems, contributing to the long-term preservation and sustainable management of wetlands worldwide.

6.2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora

CITES is a landmark international agreement designed to ensure that international trade in wild animals and plants does not threaten their survival. Adopted on 3 March 1973 in Washington, D.C., it entered into force on 1 July 1975 and currently has 184 Parties, including Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia.

Animal and plant species are classified into three appendices under CITES, according to the level of protection required. This three-tiered system enables different degrees of regulation, tailored to the specific conservation needs of each species group: (1) Appendix I includes species that are threatened with extinction, prohibiting their international trade except under exceptional circumstances;[40] (2) Appendix II lists species that are not currently threatened with extinction, but may become so if trade is not closely controlled;[41] (3) Appendix III covers species that are protected in at least one country, which has requested assistance from other CITES Parties to regulate trade.[42]

A core feature of CITES is its permitting system, which requires Parties to obtain permits for the export, re-export, import, and introduction from the sea of specimens covered by the treaty. This process ensures that international trade in listed species is legal, sustainable, and traceable. Permits are granted only if specific conditions are met, such as confirming that the trade will not threaten the species' survival. The system regulates trade in protected species and provides essential data for monitoring and conservation. Each Party to CITES must designate at least one Management Authority to grant permits or certificates on its behalf, and at least one Scientific Authority.[43]

Note that CITES provides sanctions for non-compliance. Although the non-compliance system is not detailed in a single article, it is primarily governed by Article XIII, which authorises the Secretariat to investigate issues such as illegal trade or permit misuse and to consult with the relevant Party. Cases of persistent non-compliance

40 See CITES, Article 3.
41 See CITES, Article 4.
42 See CITES, Article 5.
43 CITES, Article 9(1).

are referred to the Standing Committee, which may take measures such as providing technical assistance, issuing formal notifications, or recommending trade restrictions to encourage corrective action. This system prioritises cooperation and transparency, using trade suspensions only as a last resort to ensure adherence to CITES provisions.

6.3. Bonn Convention on Migratory Species

Adopted on 23 June 1979 in Bonn, Germany, the Bonn Convention addresses the conservation of migratory species and their habitats across international borders, recognising that these wild animals require coordinated action by all States within whose jurisdictional boundaries they spend any part of their life cycle.[44] The Convention entered into force on 1 November 1983 and currently has 133 Parties, including many Central and Eastern European countries such as Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia.

Like many wildlife conservation instruments (e.g. CITES), the Bonn Convention uses a listing system; however, the appendices in this international treaty function differently and are not incompatible.[45] It has two appendices that list migratory species requiring conservation measures: (1) Appendix I lists species that are endangered and require strict protection. Parties are required to provide immediate protection for these species, including conserving and, where feasible and appropriate, restoring their habitats; preventing, removing, compensating for, or minimising adverse effects of activities or obstacles that seriously impede or prevent their migration; and preventing, reducing, or controlling factors that endanger or are likely to further endanger these species; (2) Appendix II lists species with an unfavourable conservation status that would benefit from international cooperation. Although these species are not governed by specific provisions of the Bonn Convention, they are intended to be included in future regional or international agreements.[46]

The Bonn Convention has developed into a comprehensive framework through the adoption of multiple agreements and memoranda of understanding on specific species, enabling targeted measures to address the varied threats to migratory species. This international treaty is now a key component of global biodiversity conservation efforts, complementing other treaties such as the CBD.

6.4. The Convention on Biological Diversity

One of the main legally binding outcomes of the 1992 Earth Summit in Rio de Janeiro was the CBD. Developed in response to increasing recognition of biodiversity's essential role in ecological balance and human well-being, the treaty was adopted on 22 May 1992 and entered into force on 23 December 1993. It now includes 196 Parties,

44 Preamble to the Bonn Convention.
45 Wiersema, 2021, p. 562.
46 Bonn Convention, Article 4.

among them many Central and Eastern European countries, such as Hungary, Poland, Czech Republic, Slovakia, Romania, Slovenia, Serbia, Croatia, Montenegro, Albania, Bosnia and Herzegovina, North Macedonia, Bulgaria, Ukraine, Moldova, and Georgia. As one of the most comprehensive international agreements on biodiversity, the CBD establishes a global framework for protecting ecosystems, species, and genetic diversity, primarily through three key objectives: (1) The conservation of biological diversity. Article 6 of the CBD requires Parties to develop national strategies, plans, or programmes to promote the conservation and sustainable use of biological diversity. This provision emphasises the integration of biodiversity considerations into national planning and decision-making, ensuring that conservation is a core element of development policies; (2) The sustainable use of its components. Article 10 addresses the promotion of sustainable biodiversity use. It requires Parties to implement economically and socially viable measures that support conservation and meet human needs. This includes supporting customary practices and traditional knowledge relevant to the sustainable management of natural resources; (3) Access to Genetic Resources. Article 15 establishes the principle of Access and Benefit-Sharing, emphasising the fair and equitable distribution of benefits resulting from the use of genetic resources. This provision requires that benefits from genetic resources be shared with the countries providing them, especially with local and indigenous communities possessing traditional knowledge. Its objective is to prevent exploitation and encourage conservation efforts.

Overall, the CBD is central to international efforts to address the ongoing biodiversity crisis. By emphasising conservation, sustainable use, and equitable benefit-sharing, it offers a comprehensive approach to preserving global biological resources for future generations.

7. Protecting Human Rights Through Environmental Treaties: The Central and Eastern European Perspective

The international treaties discussed in this chapter are fundamentally connected to human rights protection. These agreements aim to safeguard the right to a healthy environment, prevent harm to human health, and ensure the sustainable use of natural resources. For CEE countries, these treaties offer essential frameworks to address specific environmental challenges and promote regional cooperation in environmental protection, thereby directly supporting the human rights of their populations.

One of the most direct links between these treaties and human rights is the prevention of environmental harm. Conventions on nuclear safety and radioactive waste management, for example, play a crucial role in protecting the rights to health and life by reducing risks associated with nuclear energy. Implementation of these treaties in CEE countries, many with a history of nuclear power use, has significantly improved nuclear safety practices and radioactive waste management. These

measures minimise the potential for nuclear accidents, ensuring the safety of current and future generations from harmful radiation exposure. In this way, they fulfil the countries' obligations to protect the basic human rights of their citizens.

Similarly, CLRTAP addresses the right to clean air – a fundamental human right – by reducing the adverse effects of air pollution on human health and the environment. Air pollution is a transboundary issue that particularly affects CEE countries, which have experienced significant industrial pollution during their economic transitions. By participating as Parties to this international agreement, CEE countries have adopted measures to improve air quality, thereby directly enhancing citizens' well-being and upholding the right to a healthy environment.

Ozone layer protection, regulated by the Vienna Convention and the Montreal Protocol, is essential for reducing the harmful effects of UV radiation on human health. Ozone depletion increases UV exposure, which raises the risk of skin cancer and cataracts. By committing to phase out ozone-depleting substances, CEE countries have supported global efforts to restore the ozone layer. These measures protect the environment and directly uphold the right to health and a safe environment for individuals and communities. Furthermore, financial mechanisms established by these treaties, such as the Multilateral Fund, have supported CEE countries in transitioning away from harmful chemicals, illustrating how international cooperation enables states to fulfil their human rights obligations.

The Basel Convention is a key instrument for protecting human rights. Effective hazardous waste management and disposal are necessary to prevent environmental contamination and safeguard public health, ensuring communities have access to a clean and safe environment. Many CEE countries, with histories of industrial activity, have encountered challenges in managing hazardous waste. By adopting the Basel Convention, these countries have regulated the transboundary movement of hazardous wastes, reduced their generation, and promoted environmentally sound disposal. This commitment supports human rights principles by reducing environmental and health risks and advancing the right to a clean environment for all.

Treaties related to biological diversity, such as the Ramsar Convention, CITES, the Bonn Convention, and the CBD, link environmental conservation with the right to a favourable environment. Biodiversity is essential for ecosystem services, food security, and cultural heritage, directly affecting the rights to health, food, and cultural integrity. In CEE countries, where diverse ecosystems, forests, and wetlands are central to local livelihoods and traditions, these treaties preserve the natural heritage that sustains both human well-being and environmental health. The CBD's emphasis on Access and Benefit-Sharing ensures that local and indigenous communities receive fair compensation for their traditional knowledge and resources, supporting their cultural and economic rights while advancing conservation.

In summary, the international treaties discussed in this chapter collectively uphold human rights by addressing environmental protection, public health, and resource sustainability. For CEE countries, these agreements are especially relevant, guiding the region in managing environmental challenges while promoting citizens'

well-being and rights. By participating in these treaties, CEE countries affirm their commitment to global environmental efforts and work to fulfil their obligations to protect fundamental human rights related to a clean, safe, and sustainable environment.

Table 1. Abbreviations and their meanings

Abbreviation	Meaning
Basel Convention	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)
Bonn Convention	The Bonn Convention on Migratory Species (1979)
CBD	The Convention on Biological Diversity (1992)
CEE	Central and Eastern European Countries
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973)
Convention on Nuclear Safety	The Convention on Nuclear Safety (1994)
CLRTAP	The Convention on Long-Range Transboundary Air Pollution (1979)
EU	European Union
IAEA	International Atomic Energy Agency
Joint Convention	The Joint Convention on Spent Fuel and Radioactive Waste Management (1997)
Montreal Protocol	The Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
Ramsar Convention	The Ramsar Convention on Wetlands of International Importance (1971)
UNEP	United Nations Environment Programme
UV	Ultraviolet
Vienna Convention	The Vienna Convention for the Protection of the Ozone Layer (1985)

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CITES (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora. Articles 3–5, 9(1).

CLRTAP (1979) Convention on Long-Range Transboundary Air Pollution. Articles 2–4.

Convention on Nuclear Safety (1994) Convention on Nuclear Safety. Articles 2, 7–8, 11, 13–18.

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