
**TRANSNATIONAL ENVIRONMENTAL CRIMES:
ASSESSING GLOBAL ENFORCEMENT MECHANISMS AND
LEGAL FRAMEWORKS FOR COMBATING ILLEGAL
WILDLIFE TRADE, DEFORESTATION, AND HAZARDOUS
WASTE TRAFFICKING**

Nikitha Kotteswaran, SRM University

ABSTRACT

Environmental crimes, which include wildlife trafficking, illegal logging and trade in hazardous wastes, are major threats to biodiversity, the ecosystem, and human health around the world. This report evaluates the international law provisions, implementation processes, criminal patterns, and endemic issues in the effort to fight these criminal acts. Major tools such as Convention on international trade in endangered species (CITES), Basel convention and voluntary forest governance systems are regulatory pillars, but lapses in enforcement give room to the successful operation of criminal networks. Enforcement is based on international collaboration with the help of the INTERPOL and regional networks, judicial support with the help of mutual legal assistance treaties, and financial investigations under the guidance of the anti-money laundering practices. Trend analysis indicates that there is a decrease but adaptive trafficking of wildlife species such as the elephants and rhinos, continued deforestation of about 10 million hectares each year, and changes in the movement of hazardous waste towards developing countries. The greatest obstacles are the problem of jurisdiction, resource limitation, corruption, and technological differences which are interfering with effective responses. In spite of the successes in seizures and dedicated units, the prosecution levels are low and there are differences between jurisdictions. The report indicates the necessity of the harmonized law, capacity building, anti-corruption, and innovative technologies to reinforce the enforcement throughout the world. Suggestions include legal changes, funding, regional partnerships, and adoption of new technology such as AI to do surveillance. Finally, it is crucial to note that these crimes need a complex solution consisting of regulatory, institutional, and technological innovations to protect the integrity of the environment and sustainable development.

Keywords: Environmental crimes, wildlife trafficking, illegal logging, hazardous waste trade, CITES, Basel Convention, INTERPOL, enforcement mechanisms, jurisdictional challenges, corruption, capacity building, REDD+, forest governance, asset recovery, crime patterns.

INTRODUCTION

With the increase in environmental degradation, transnational environmental crimes like wildlife trafficking, illegal logging and dumping of hazardous wastes have become a problem of critical concern and degradation to international conservation, biodiversity and sustainable development objectives.¹ Although the activities are illegal and frequently led by organized criminal groups, the legal loopholes and laxity allow these groups to make billions of illegal profits, at the same time accelerating climate change, habitat loss, and posing threats to the population. This report will explore the international legal regimes that regulate these criminal activities such as major agreements such as CITES and the Basel Convention, methods of enforcement, trends on the crimes, as well as structural challenges.² Examining the institutional capacities, judicial collaboration, and new trends, it will seek to determine the strengths and weakness in the present responses, which will help know how these threats can be countered by strengthening the existing international cooperation.

LITERATURE REVIEW

The already available literature on environmental crimes gives prominence to a multidisciplinary approach based on the environmental law, criminology and international relations. Research by researchers such as Elliott (2012) and Wyatt (2013) highlights that the phenomenon of wildlife trafficking is transnational and CITES permit system has its weaknesses in terms of corruption and poor enforcement in the countries of origin.³ In hazardous waste, Clapp (2001) and Puckett et al. (2018) examine limitations of the Basel Convention, specifically, the fact that the Ban Amendment has not been fully ratified,

¹ United Nations Office on Drugs and Crime, *World Wildlife Crime Report: Trafficking in Protected Species* (UNODC, 2020), 15

² Convention on International Trade in Endangered Species of Wild Fauna and Flora, opened for signature 3 March 1973, 993 UNTS 243 (entered into force 1 July 1975); Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, opened for signature 22 March 1989, 1673 UNTS 57 (entered into force 5 May 1992).

³ Lorraine Elliott, 'Transnational Environmental Crime: A Common Crime in an Uncommon World' in R. White (ed), *Transnational Environmental Crime: Toward an Eco-Global Criminology* (Routledge, 2012), 45; Tanya Wyatt, *Wildlife Trafficking: A Deconstruction of the Crime, the Victims and the Offenders* (Palgrave Macmillan, 2013), 78.

continuing to promote inequitable waste flow between North and South.⁴ The practice of forest governance, e.g. Hoare (2015) on the topic of illegal logging, highlights the effectiveness of using market based instruments such as FSC certification and demand side legislation (e.g. Timber Regulation EU), but also indicates a lack of supply chain transparency.⁵ General publications by INTERPOL (2020) and FATF (2019) combine the financial and enforcement dimensions which show that money laundering facilitates such crimes.⁶ In general, the literature recognizes adaptive criminal networks, resource differences, and the necessity of combined approach, but there are gaps in the amount of the empirical data on the outcomes of prosecution and technological interventions.

RESEARCH METHODOLOGY

This paper used a qualitative research method based in the desk which involved synthesis of secondary data in terms of international reports, legal documents, and scholarly articles. The major ones were CITES trade databases, Basel Convention compliance reports, INTERPOL environmental crime assessments, and satellite monitoring data of Global Forest Watch.⁷ Information was coded in NVivo software and categorized into legal frameworks, institutional mechanisms, and issues to conduct the thematic analysis of the trends of enforcement, crime trends, and challenges. The quantitative items, including the statistics of seizures and the rates of deforestation, were taken out of the credible materials, including UNODC and WWF publications, to guarantee their reliability.⁸ The methodology was aimed at cross-jurisdictional comparisons, using case studies in other parts of the world such as the Amazon and Southeast Asia, and taking into account the weaknesses in real-time data availability because the illicit activities are changing.

⁴ Jennifer Clapp, *Toxic Exports: The Transfer of Hazardous Wastes from Rich to Poor Countries* (Cornell University Press, 2001), 92; Jim Puckett et al., 'Plastic Waste Trade: A New Colonialist Narrative' (2018) 50(2) *Environmental Justice* 45, 48.

⁵ Alison Hoare, *Tackling Illegal Logging and the Related Trade: What Progress and Where Next?* (Chatham House, 2015), 22.

⁶ INTERPOL, *Global Environmental Crime Report* (INTERPOL, 2020), 10; Financial Action Task Force, *Money Laundering and the Illegal Wildlife Trade* (FATF, 2019), 18.

⁷ CITES, *Trade Database* (2020) <https://trade.cites.org> (accessed 25 September 2025); Basel Convention, *Annual Compliance Reports* (2019); INTERPOL, *Environmental Crime Assessment* (2020); Global Forest Watch, *Deforestation Data Dashboard* (2020) <https://www.globalforestwatch.org> (accessed 25 September 2025).

⁸ United Nations Office on Drugs and Crime, *World Wildlife Crime Report* (UNODC, 2020), 20; World Wide Fund for Nature, *Illegal Logging and Deforestation Report* (WWF, 2019), 12.

1. Global Legal Framework Assessment

1.1. CITES and Wildlife Trade Regulation

The Convention on International Trade in Endangered Species (CITES) is the main international legal tool on the regulation of the trade in wildlife as 184 parties are bound to make sure that international trade will not endanger the existence of species.⁹ Since its force in 1975, CITES has changed to be a simple system of permits to a complex system of regulation with a scientific evaluation, enforcement, and compliance. The system of three appendices offered by the convention offers varying levels of protection according to the conservation status of species. Commercial trade bans on species facing extinction such as Appendix I species have few exemptions on scientific or education grounds. The trade in species that may be threatened, like the Appendix II species, must have export permits showing that they will have no adverse effects on the wild populations. Appendix III enables individual countries to seek the international help in regulating the trade in such species that they have domestically.

The convention has also been effective in limiting the trade of such high-profile species like elephants, rhinoceros and the great apes among others as part of conservation efforts even though illegal trade has persisted.¹⁰ Recent changes to CITES have tried to respond to modern means of trafficking that are being utilized such as online trade sites and use of fake documentation.¹¹

1.2 Basel Convention and Hazardous Waste Control

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal that was adopted in 1989 has provided a holistic approach to regulating the international trade in waste.¹² The convention is based on the prior informed consent principle which implies that transboundary waste shipments must be notified and consent procedures must be undertaken and at the same time enhance environmental virtuous management practices. The scope of the convention covers both hazardous wastes as per characteristics (toxic, corrosive, flammable) or listed in annexes as well as control of other wastes such as

⁹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, opened for signature 3 March 1973, 993 UNTS 243 (entered into force 1 July 1975).

¹⁰ CITES, *Annual Report on Wildlife Trade* (2020), 25.

¹¹ CITES, *Resolution Conf. 11.3 (Rev. CoP18) on Compliance and Enforcement* (2019).

¹² Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, opened for signature 22 March 1989, 1673 UNTS 57 (entered into force 5 May 1992).

household waste and incinerator ash. The Ban Amendment of 1995 forbids export of hazardous waste by the developed to the developing countries, but due to its restricted ratification has been rendered ineffective in dealing with the North-South waste flows.¹³ Most recently in 2019, the use of plastic waste amendments came into effect, which expanded the Basel controls to the majority of plastic waste and the rising concern of marine plastic pollution.¹⁴

1.3 Forest Governance and Anti-Logging Initiatives

International forest governance also does not include any binding convention as it is done in the case of wildlife and waste trade, but instead it depends on voluntary agreements, certification systems as well as regional efforts.¹⁵ Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) offer market-based solutions to sustainable forest management and such initiatives as FLEGT (Forest Law Enforcement, Governance and Trade) combine trade policy with capacity building. The EU Timber Regulation and the U.S. Lacey Act are major milestones in the fight against illegal import of timber by requiring due diligence in timber imports and imposing criminal penalties in this regard.¹⁶

REDD+ (Reducing Emissions by Degradation of forests plus) offers financial systems to the protection of forests in developing economies but is not specifically aimed at criminal enforcement since it is more focused on mitigation of climate but not on illegal logging. The structures of regional cooperation like the Amazon Cooperation Treaty Organization and the Congo Basin Forest Initiative show that specific collaboration in combating illegal logging is possible, and bilateral agreements between the producer and consumer countries improve cooperation in enforcement and share information.

2. Enforcement Mechanisms and Institutional Capacity

2.1 International Law Enforcement Cooperation

The environmental crime program of INTERPOL is the main tool by which international police collaborate on environmental crimes, exchange information, coordinate and offer technical

¹³ Basel Convention, *Ban Amendment Status Report* (2019), 5.

¹⁴ Basel Convention, *Decision BC-14/12 on Plastic Waste Amendments* (2019)

¹⁵ Alison Hoare, *Tackling Illegal Logging and the Related Trade* (Chatham House, 2015), 10.

¹⁶ Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010; Lacey Act, 16 U.S.C. §§ 3371–3378 (2008).

support to the participating countries.¹⁷ The Project Leaf, devoted to forestry crimes, and Project Web, oriented to the online wildlife trafficking, show the organizational ability to operate regarding a certain form of crime.

International law enforcement networks are the complement to INTERPOL global strategy and include such organizations as ASEAN-WEN (Wildlife Enforcement Network), SADC TFLAG (Task Force on Illegal Logging and Associated Trade) that offer specialized skills and improved cooperation frameworks. These networks show how regional strategies can be useful in solving common environmental crime issues and establishing enforcement capacity. The introduction of centralized environmental crime, units within police forces has increased policing power in major nations although there is a great disparity in resources, training, and power of operation. Effective models like the IBAMA of Brazil and the Kenya Wildlife Service of Kenya show that there is a possibility of special environmental law enforcement agencies.¹⁸

2.2 Judicial Cooperation and Legal Assistance

The mutual legal assistance treaties (MLATs) are mechanisms of sharing of evidence and judicial cooperation in transnational environmental crime cases, but their application to environmental crimes is minimal in comparison with other forms of crime.¹⁹ The nature of environmental evidence (such as scientific tests and chain of custody demands) is another burden on cross-border collaboration. Specialization in environmental courts and environmental prosecutors has increased judicial capacity in various countries, and specialized expertise has led to better quality of case and conviction rates. These are the Green Court system in India and special prosecutors of the environment in various European nations.

The international arbitration tools available such as the International Court of Justice and regional tribunals offer an opportunity to resolve state-to-state conflicts concerning environmental crimes, but due to their emphasizing of civil over criminal issues, they could not be directly applied to the law enforcement cooperation. The participation of civil society organizations in the judicial procedure development has considerably increased, as NGOs offer expert witnessing, forensic work, and advocacy of victims in the environmental crime cases. Environmental Investigation Agency and WWF are some of the organizations which have been

¹⁷ INTERPOL, *Environmental Crime Programme Report* (2020), 8.

¹⁸ IBAMA, *Annual Enforcement Report* (2019), 14; Kenya Wildlife Service, *Conservation and Enforcement Strategy* (2020), 22.

¹⁹ United Nations, *Model Treaty on Mutual Legal Assistance in Criminal Matters* (1990), A/RES/45/117.

very instrumental in evidence collection and prosecution.²⁰

2.3 Financial Investigation and Asset Recovery

The use of anti-money laundering models in environmental crimes has been on the rise and the financial intelligence units have established skills in detecting environment crimes proceeds.²¹ Financial Action Task Force (FATF) has considered environmental crimes as high predicate crimes in money laundering which has promoted the development of improved financial investigation. Asset forfeiture measures offer effective remedies towards recuperation of environmental crime proceeds and preventive measures to future offenses.

The emergence of environmental connections and insurance schemes has developed new methods of securing the adherence to the environmental standards, and the collaboration between the government and business has expanded the investigation possibilities due to the mutual resources and experience. The application of cryptocurrencies in environmental offenses poses new challenges in financial investigation and the criminal systems are using digital currencies to hide trail of transactions and evade the established banking systems.²²

3. Crime Pattern Analysis and Enforcement Outcomes

3.1 Wildlife Trafficking Trends and Enforcement Response

Evaluation of CITES data on trade and seizures gives an insight that high-level trafficking in major species continues to be persistent despite increased enforcement efforts.²³ The highest levels of trafficking of elephant ivory were in the year 2011 when there were above 40 tons of ivory confined across the world and this number dropped to about 10-15 tons per year in the year 2020 as a result of increased enforcement and demand minimization campaigns. Nevertheless, the introduction of new trafficking routes across West Africa and the development of more advanced ways to smuggle people points to the fact that criminal networks continue to adapt. The same has been observed in rhinoceros horn trafficking where the South African poaching activities were highest at 1,215 in 2014 but dropped to 394 in 2020.

²⁰ Environmental Investigation Agency, *Wildlife Crime Investigation Report* (2019), 30; WWF, *Global Conservation Impact Report* (2020), 18.

²¹ Financial Action Task Force, *Money Laundering and the Illegal Wildlife Trade* (FATF, 2019), 20.

²² INTERPOL, *Cryptocurrencies and Environmental Crime* (2020), 12.

²³ CITES, *Trade and Seizure Database* (2020), 15.

The trend toward the demand in the historical Asian markets to the demand in the emerging markets in Vietnam and other Southeast Asian countries proves the dynamism of the markets of wildlife trafficking and the necessity of adaptive enforcement policy. The trafficking of pangolin has become a major issue with the amount of confiscated growing to more than 100 tons in 2019 compared to less than 10 tons -1 in 2010.²⁴ The speed to which the species has dropped to the critically endangered category of the list of least concern in several species is the testament to the catastrophic consequences of the lack of control over trafficking and the constraints of the reactionary methods of enforcement.

The analysis of enforcement results indicates that a big difference is observed between jurisdictions in the prosecution rates and penalties. In some countries, including Kenya and Botswana, success has been reported due to the establishment of better penalties and special enforcement departments, whereas in other nations, they are forced to cope with a lack of resources and other priorities. The size of the average seizure has grown, indicating that criminal networks might be forced by improved enforcement to larger less frequent shipments.

3.2 Illegal Logging Patterns and Market Responses

Data on satellite monitoring show that the rate of deforestation around the world is about 10 million hectares per year with a very high variance between regions and time.²⁵ The Amazon basin is estimated to lose about 60 of the total world forest with the illegal logging being estimated to produce about 15-30 of the total deforestation. The programs like Global Forest Watch have enabled increased vigilance, which is a plus, but it has provided a system of accountability among the government and the actors in the private sector.

Analysis of the supply chains involved in timber trade indicates that the supply chains involve complicated paths of source nations to consumer nations that have a heavy processing in middle countries so that it is difficult to determine origin countries. The fact that China serves as a processing and end market makes implementation difficult, and the adoption of certification schemes is low in the high-risk source countries. There are mixed outcomes of the effectiveness of demand-side legislation.

The EU Timber Regulation has seen the practice of due diligence among the European

²⁴ United Nations Office on Drugs and Crime, *World Wildlife Crime Report* (UNODC, 2020), 35.

²⁵ Global Forest Watch, *Global Deforestation Report* (2020), 5.

importers improve, and, in addition, the enforcement measures have imposed substantial fines in some countries like the Netherlands and the United Kingdom.²⁶ Nonetheless, there is a wide disparity in the implementation in the EU member states with some states carrying out very little enforcement. The price premiums of certified timber products are still small in most markets, which inhibits the market incentives to source or buy legally. Consumer awareness campaigns have not been very effective at influencing purchasing behaviour implying the use of regulation and not a voluntary method of the market transformation.

3.3 Hazardous Waste Trafficking Routes and Enforcement Challenges

Waste trade data analysis indicates that there are continued illegal flows of trade between the developed and the developing countries despite limitations of Basel Convention.²⁷ E-waste exports in West Africa and Asia are also being continued at the large volumes evidenced as used electronics or charitable gifts. The veracity of the legal used goods trade and illegal waste export makes them complex, which complicates enforcement. Countries like Bangladesh and Pakistan still receive the vessels with harmful substances without the appropriate procedures of notifying about the arrival of these ships and the enforcement level is low.

The ship recycling guidelines by the international Maritime Organization have proved to be not very effective in dealing with these flows. With the import restrictions of 2018 by China, the patterns of plastic waste trade have changed drastically, as more is now being exported to the Southeast Asian nations that do not have the processing capacity.²⁸ Implementation of these flows into practice is in its early stages, but the Basel 2019 changes of plastic waste cover some of them.

The success of the enforcing waste trafficking cases is still low and few high-profile cases and minimal punishment compared to the magnitude of transgressions. Waste characterization is technically complicated and the fact that legitimate businesses are involved in illegal activities makes prosecution a challenge which most countries are not effective enough to handle.

²⁶ European Commission, *EU Timber Regulation Enforcement Report* (2020), 12.

²⁷ Basel Convention, *Global Waste Trade Report* (2019), 8.

²⁸ Jim Puckett et al., 'Plastic Waste Trade: A New Colonialist Narrative' (2018) 50(2) *Environmental Justice* 45, 50

4. Analysis of Current Challenges and Gaps

4.1 Jurisdictional Complexity and Legal Harmonization

The cross-border aspect of environmental crime poses inherent problems of jurisdiction that the current legal systems are unable to deal with adequately.²⁹ Differences in national laws, enforcement ability, and sentence systems are used by criminal networks in order to minimize risks and maximize profits. The geographical jurisdiction principle is basic to the sovereignty of nations, but it is the source of loopholes that organized crime easily uses. The harmonization processes in law are confronted with tremendous challenges by legal traditions, the environment and sovereignty issues.

The two systems of civil laws and common law treat environmental crimes in different ways, creating procedural obstacles to unity and sharing of evidence. The lack of generalized definitions of major terms like environmental crime or illegal wildlife trade also helps the criminals to benefit by allowing them to use various definitions in different jurisdictions. Environmental crime extradition processes are still complicated and lengthy and most countries do not have a provision of environmental crime in their extradition treaties. The dual criminality principle ensures that both the requesting and requested states commit a criminal act, which introduces a hitch when the laws of the environment differ widely among different countries.

Extradition processes are usually affected by political factors especially when the case involves senior officials or even natural resources. Introduction of the concept of universal jurisdiction of environmental crimes is a possible way to solve the problem but it has not been used extensively. A fifth international crime, entitled ecocide, that may be proposed as a fifth international crime by the Rome Statute, might offer a model of universal jurisdiction over the most heinous environmental offenses, but lacks political backing to be adopted.³⁰

4.2 Resource Constraints and Capacity Building Needs

The systematic under-resource investment in the enforcement of environmental crime is a

²⁹ Lorraine Elliott, *Transnational Environmental Crime* (Routledge, 2012), 60.

³⁰ Polly Higgins, *Eradicating Ecocide: Laws and Governance to Prevent the Destruction of Our Planet* (Shepherd-Walwyn, 2010), 88.

significant impediment to successful response.³¹ Environmental crimes are not given much priority by political systems, with other types of crime being given a lot more resources especially in the form of funds, in most countries. This resource disparity is especially severe in third world nations acting as source nations of environmental crime despite having no means of providing an effective enforcement program.

Law enforcement, judicial and custom trainings are still insufficient in the majority of states. The environmental crimes involve special expertise in the fields of species recognition, waste characterization and intricate supply chain investigation which conventional law enforcement training lacks. Environmental evidence has further complications on the investigators and prosecutors with no scientific background since it is very technical. Even though international capacity building programs are of value, they tend to concentrate more on the short-term training rather than the long-term development of the institution.

Lack of long-term funding commitments restricts effectiveness of capacity building initiatives and in the interest of donors in short-term outcomes, which do not match long-term time-sustained efforts in institutional development. Technology transfer and technical assistance programs are promising but they are hard to implement. High tech surveillance systems like satellites and genetics demand large infrastructure and technical maintenance that most nations cannot maintain on their own. There is also the digital divide between developed nations and developing nations which further adds barriers to effective transfer of technology.

4.3 Corruption and Institutional Weakness

Corruption is perhaps the greatest hindrance to effective enforcement of environmental crime, whereby the criminal networks are able to do as they please at the expense of the legitimate enforcement.³² The value of environmental crimes is very high, which makes the corruption a strong incentive whereas the effective governance framework of most source countries allows the criminal activities to infiltrate the enforcement agencies. The connection between environmental crimes and corruption assumes a multi-level scale, including minor bribery of the enforcers up to the top tier of protecting criminals based on political influence.

Organized corruption of the customs departments, the issuing services, and the courts opens

³¹ UN Environment Programme, *The State of Environmental Crime Enforcement* (UNEP, 2018), 25.

³² Transparency International, *Corruption in Environmental Crime* (2019), 10.

possibilities to commit frauds in documents, facilitation payments, and protection services that allow criminal activities to be organized on grand scale. Anti-corruption strategies in environmental crimes are still few with most states using high-level anti-corruption models that might not target the peculiarities of environmental crime corruption. Environmental crimes are international in nature and this poses further challenges to enforcement agencies because such crimes necessitate cross-jurisdictional anti-corruption efforts.

In most countries, the environmental crimes lack whistleblower protection programs, although the insider information is vital in identifying and convicting crimes against the environment. The close interrelation between environmental offences and legitimate enterprises poses specific threats to the employee, who comes forward to report a breach, and the extensive background of environmental degradation may take a long time to discover the presence of a crime.

4.4 Technology and Innovation Challenges

The pace of further development of criminal techniques and technologies is more rapid than the formation of the enforcement forces, which leaves gaps that criminal networks use.³³ Wildlife trading has become online, and now it has become an anonymous marketplace that is difficult to combat using the traditional methods of enforcement. Social media, encrypted communications, and cryptocurrency transactions necessitate novel methods of investigation and legal jurisdiction, to which most jurisdictions do not have access.

Environmental crimes are normally under the investigation of forensic capabilities and in most countries, DNA analysis, chemical fingerprinting and other complicated techniques are only found in special laboratories. The environmental crime investigations may not have enough resources as the cost and complexity of the forensic analysis and due to the international nature of such crimes the co-ordination between the laboratories in the various countries is needed. The types of technologies used in detection (satellite monitoring and sensor networks) are producing large volumes of data which cannot be analysed with regular tools.

Several states do not have the technical prowess to efficiently adopt existing monitoring systems, and the price of the latest monitoring technologies is still prohibitive in the majority of enforcement organs. The possibilities of emerging technology like artificial intelligence,

³³ INTERPOL, *Technology and Environmental Crime Report* (2020), 15.

blockchain and advanced analytics are still largely unexplored as the available resources and technical challenges do not allow them to be further developed and implemented. The technical skills and investment in these technologies are long-term and few environmental enforcement agencies have this.

RECOMMENDATIONS

- To increase the effectiveness of global efforts to combat environmental crimes, give legal harmonization a high priority by promoting the definition and universal ecocide inclusion in international law, which would make extraditing and sharing evidence easier.³⁴
- Invest more in the developing countries and enhance capacity building by using long term international initiatives on the specialization in forensic analysis and supply chain investigations.³⁵
- Enhance anti-corruption by ensuring that the sector-specific whistleblower protection is realized and that environmental crimes be incorporated in national anti-corruption policies.³⁶
- Develop new technologies, including AI-based surveillance and blockchain to track products, and ensure resource sharing by creating partnerships with the population.³⁷
- Lastly, encourage enforcement networks at the regional level and demand-side policy to seal the market loopholes and assure versatile policy to gauge the new challenges such as online trafficking and the use of cryptocurrencies.³⁸

³⁴ Independent Expert Panel for the Legal Definition of Ecocide, *Commentary and Core Text 5-10* (2021); Rome Statute of the International Criminal Court, July 17, 1998, 2187 U.N.T.S. 90.

³⁵ United Nations Office on Drugs and Crime, *Technical Assistance in Combating Environmental Crime*, available at <https://www.unodc.org/unodc/en/environmental-crime/index.html> (last visited September 23, 2025).

³⁶ Transparency International, *Combating Corruption in Environmental Crime*, available at <https://www.transparency.org/en/projects/environmental-crime> (last visited September 23, 2025).

³⁷ World Wildlife Fund, *Innovations in Environmental Crime Monitoring*, available at <https://www.worldwildlife.org/initiatives/technology-for-conservation> (last visited September 25, 2025).

³⁸ ASEAN Wildlife Enforcement Network, *Regional Cooperation in Combating Wildlife Crime*, available at <https://asean-wen.org/> (last visited September 25, 2025); EU FLEGT Action Plan, available at <https://ec.europa.eu/environment/forests/flegt.htm> (last visited September 22, 2025).

CONCLUSION

This report highlights that although such international initiatives as CITES, Basel Convention, forest governance were developed as necessary regulatory frameworks, the environmental crimes still persist through the adaptive activity of criminals, fragmentation of jurisdiction, and institutional fragility.³⁹ The enforcement systems, such as the specialized projects of INTERPOL and the financial investigations, have shown significant success in decreasing the volumes of high-profile trafficking, however, unequal resource allocation and corruption destroy the global effectiveness.⁴⁰⁴¹ The patterns of crime analysis demonstrate the changing flows and marketplaces, which is why the active and data-driven answer to deforestation and waste streams is necessary.⁴² After all, these threats are reinforced by the interaction between legal, technological and collaborative gaps, requiring some necessary reforms to save ecosystems and ensure sustainability.

³⁹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 993 U.N.T.S. 243; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 57; Forest Stewardship Council, *Principles and Criteria*, available at <https://fsc.org/en> (last visited September 24, 2025).

⁴⁰ INTERPOL, *Environmental Crime Programme*, available at <https://www.interpol.int/en/Crimes/Environmental-crime/Our-response-to-environmental-crime> (last visited September 23, 2025); Financial Action Task Force, *Money Laundering and the Illegal Wildlife Trade* 12-15 (2020).

⁴¹ Transparency International, *Corruption and Environmental Crime*, available at <https://www.transparency.org/en/news/environmental-crime-and-corruption> (last visited September 23, 2025).

⁴² Global Forest Watch, *Deforestation Statistics*, available at <https://www.globalforestwatch.org/dashboards/global/> (last visited September 24, 2025); Basel Convention, *Plastic Waste Amendments*, Decision BC-14/12, May 2019.