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Criminal Policy on Environmental Crimes in Vietnam: Development Directions and Fundamental Solutions

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Abstract

Environmental crime creates substantial challenges for ecological security, public health, and sustainable development in Vietnam. This article examines criminal policy on environmental offences, analyses Chapter XIX of the 2015 Penal Code and subsequent amendments, and considers practical barriers to enforcement. The study combines doctrinal legal analysis with historical discussion, a limited literature-based comparison, and a descriptive examination of enforcement information. Verification of the aggregate statistics identifies their coverage as 2010–2020, while the separate author-provided annual series is labelled 2018–2025 and contains totals that do not agree with its annual entries. These sources are therefore distinguished, and the annual series is treated as provisional. The legal analysis identifies difficulties involving offence-specific thresholds, proof of environmental harm where required, scientific evidence, and the attribution of liability to commercial legal entities. It also distinguishes the sanctions legally available from their actual frequency of application, which cannot be established without sentencing records. The article recommends clearer implementation guidance, proportionate preventive offences, effective corporate accountability, specialist professional training, stronger forensic capacity, and coordinated international cooperation. Public participation and secure reporting procedures are considered complementary means of identifying concealed violations. The central argument is that criminal enforcement should connect statutory precision, evidentiary reliability, institutional competence, and environmental remediation. These recommendations are presented as reform proposals rather than as demonstrated effects of the enforcement statistics. Reliable conclusions about crime incidence, prosecution rates, and deterrence require reconciled administrative records with consistent reporting periods and clearly defined units of observation.

Keywords: environmental crimes; criminal policy; environmental criminal law; corporate criminal liability; law enforcement; Vietnam

1. INTRODUCTION

Vietnam faces substantial environmental pressures associated with industrial development, urbanisation, resource use, and changes in production and consumption. Pollution, biodiversity loss, and climate-related risks affect public health and complicate the pursuit of sustainable development. Criminal law is an important instrument within the wider system of environmental protection, alongside administrative regulation, civil remedies, monitoring, and public participation. Scholarship on Vietnamese environmental criminal policy emphasises the relationship between criminalisation and sustainable development [1]. The present analysis examines Chapter XIX of the 2015 Penal Code, using the 2025 consolidated text to identify the relevant provisions [2]. The amendments adopted under Law No. 86/2025/QH15 are particularly relevant to environmental offences and took effect on 1 July 2025 [3]. The consolidated document also records the 2024 juvenile-justice legislation, whose stated commencement is 1 January 2026; enactment and commencement should therefore not be treated as interchangeable dates.

Three concerns motivate the analysis. First, environmental offending may involve concealed, repeated, or organised conduct whose effects are cumulative and difficult to reverse. Second, applying criminal provisions requires reliable proof of the specific statutory elements, including quantitative thresholds or harmful consequences where the relevant offence requires them. Third, Vietnam's participation in international environmental and criminal-justice cooperation raises questions about the compatibility of domestic enforcement with cross-border evidence sharing, wildlife protection, and control of hazardous movements. These concerns justify examining both the legal design of environmental offences and the institutional conditions needed for their implementation. They do not, however, establish that every environmental violation warrants criminal prosecution or that increases in penalties automatically produce stronger deterrence.

On that basis, this article focuses on clarifying the following issues:

(1) Clarifying the concept and legal characteristics of environmental crimes;

(2) Examining the legislative history and analysing the constituent elements of specific offences under Chapter XIX of the 2015 Penal Code;

(3) Assessing the current state of law enforcement, including challenges encountered by investigative, prosecutorial, and judicial authorities;

(4) Proposing recommendations for amending and supplementing statutory provisions, as well as solutions to enhance enforcement efficacy.

2. RESEARCH METHODOLOGY

The study uses doctrinal legal analysis, supported by historical discussion, a limited comparison of the reviewed literature, and descriptive examination of enforcement information. The legal inquiry addresses the relationship between environmental protection objectives and the statutory requirements for individual and corporate liability. Its purpose is to identify problems of legal interpretation and implementation, rather than to estimate a causal effect of criminal punishment on environmental quality.

First, documentary and historical analysis traces the development of environmental criminalisation and examines how the relevant provisions define prohibited conduct, protected interests, fault, and punishable actors. The current consolidated Vietnamese text is distinguished from earlier commentary and English translations. Comparative observations are confined to the jurisdictions and institutional approaches actually discussed in the cited literature; the article does not claim to have conducted a systematic comparison of every United States, German, or ASEAN environmental statute. This distinction is necessary because a general discussion of international practice cannot establish legal equivalence between particular offences, sanctions, or evidentiary rules.

Second, analytical and integrative methods are used to examine the elements of environmental offences and their relationship to enforcement problems. Conduct, consequences, causation, fault, and the identity of the responsible person are considered separately before the findings are brought together. The analysis also distinguishes current law from recommendations for legislative amendment. Proposals to broaden liability, remove a consequence requirement, or establish a specialist institution are therefore assessed as possible reforms, rather than described as powers that authorities already possess. This approach preserves the distinction between a policy objective and the legal authority required to pursue it.

Third, descriptive analysis considers two different sets of enforcement information. The aggregate figures are traceable to a 2021 account that identifies the period as 2010–2020. A separate annual table supplied with the manuscript is labelled 2018–2025, but its underlying reports, extraction procedure, and unit definitions have not been provided. Its annual entries are retained for examination, and their arithmetic sums are displayed separately from the conflicting totals supplied with the table. Neither series is treated as a linked cohort of violations moving through investigation, prosecution, and trial. The source description also mentions questionnaires and expert interviews, but gives no sample, instrument, dates, recruitment procedure, or interview findings. No independent empirical conclusion is therefore attributed to those methods in this

article.

The evidentiary limits are material to the interpretation. Administrative violations are not necessarily criminal offences, cases are not equivalent to persons, and criminal investigation is distinct from prosecution or adjudication. Differences between aggregate counts cannot be interpreted directly as attrition without linked records. The annual table also covers selected offences rather than the whole of Chapter XIX. Changes in recording practice, coverage, or reporting completeness may affect the displayed trends. These limitations are addressed explicitly when discussing enforcement, and they should be resolved before the series is used to evaluate policy effectiveness.

3. DISCUSSION AND ANALYSIS

This section undertakes an in-depth examination of significant issues concerning environmental crimes under Vietnamese criminal law, grounded in theoretical perspectives and practical enforcement.

3.1. CONCEPTUAL FRAMEWORK AND LEGAL CHARACTERISTICS OF ENVIRONMENTAL OFFENCES

Environmental crime has become an increasingly important subject of legal and criminological inquiry as environmental damage has acquired greater public and institutional visibility. The development of specialised policy reflects concern about pollution, biodiversity loss, resource exploitation, and the involvement of organised networks in environmentally harmful activities. Recent scholarship on Vietnam connects these concerns with both domestic criminal law and international legal responses to climate-related environmental risks [4]. Historical discussion is useful for explaining why the subject has expanded, but it does not establish a single universal date at which the concept was created or a uniform definition accepted by every jurisdiction.

Definitions differ according to their purpose. A broad policy definition may encompass unlawful activities involving damage to ecosystems, exploitation of natural resources, illicit wildlife trade, or the movement of hazardous materials. The UNEP–INTERPOL assessment treats environmental crime as a collective category that can include serious and transnational organised offending [5]. This broad usage helps explain the interaction between environmental damage and financial incentives. It must nevertheless be distinguished from a criminal-law definition, under which liability depends on an applicable offence, the required elements, and the safeguards governing investigation and adjudication.

From a criminal-law perspective, environmental crime concerns conduct prohibited by the applicable penal legislation and connected with the protection of environmental or associated public interests. Environmental harm alone does not establish criminal responsibility. The prosecution must identify the statutory offence and prove the elements required for the particular accused person. A legally relevant definition must therefore distinguish the physical conduct, any necessary consequence, the required form of fault, and the class of persons capable of committing the offence. This avoids treating environmental concern as a substitute for the principle that criminal liability must have a specific legal basis.

In Vietnam, doctrinal analysis places environmental offences within the broader relationship between economic development, public welfare, and legal regulation. The protected interests include environmental quality, human health, ecological security, and the lawful management of natural resources. These interests are related, but the precise object of protection differs between pollution offences, forest destruction, wildlife offences, and disease-related provisions. A definition intended for comparative discussion should acknowledge this variation. The grouping of offences within Chapter XIX is a legislative classification and should not be assumed to mean that every provision requires the same proof of damage, intention, or corporate involvement.

The relevant actors also differ. Natural persons may incur criminal responsibility when the applicable age, capacity, conduct, and fault requirements are satisfied. Commercial legal entities can incur responsibility only within the statutory scope and attribution conditions. Their liability should not be expressed as a general rule applying to every organisation or every environmental offence. Equally, an organisation's involvement does not automatically exclude the responsibility of individuals who directed, approved, or carried out criminal conduct. These distinctions are central to interpreting the environmental provisions consistently and to avoiding either blanket corporate immunity or liability based solely on organisational association.

For this article, environmental crimes are understood as acts or omissions prohibited by the applicable Penal Code provisions that infringe protected environmental and associated public interests and satisfy the offence-specific requirements for criminal liability. This working definition includes conduct-based offences and offences requiring specified consequences. It also accommodates individual and commercial-entity responsibility where the legislation expressly provides for each. The definition is analytical rather than an additional legal rule: the wording of the relevant statutory provision remains decisive in determining what must be proved in an individual case.

A useful doctrinal analysis examines four related dimensions: the protected legal interests; the external elements of the prohibited conduct; the required fault; and the person or entity capable of incurring liability. These dimensions

organise the discussion without replacing the text of the Penal Code. In particular, a general description of environmental danger cannot dispense with an offence-specific threshold or a required causal link. The analysis below therefore uses this structure to distinguish the different questions investigators, prosecutors, and courts must address when assessing an alleged environmental offence.

First, regarding the object of the crime.

The general protected interests include the sustainable development of the nation, safeguarding the quality of the living environment, and protecting the human right to live in a clean and healthy environment. Regarding the direct object, environmental crimes directly infringe upon three important groups of social relations. The first group concerns relationships involving the natural and man-made environment, such as land, water, air, and subsurface resources. The second group concerns infringements of the state management order in the field of environmental protection, thereby disrupting the normal functioning of competent authorities and eroding public trust. The third group concerns the lawful and sustainable use of natural resources, including the protection of forests, aquatic resources, rare and precious animals, and the safety of hydraulic works. This range of protected interests provides a basis for considering how domestic criminal law interacts with wider environmental-protection commitments, while the content of each obligation must still be examined separately.

Second, regarding the objective elements of environmental crimes.

The objective elements concern the external features of an offence. Depending on the provision, these may include prohibited conduct, a specified consequence, a causal relationship, and other legally relevant conditions. Consequences and causation should be required only where they form part of the statutory definition.

The external conduct covered by these offences is diverse and may involve prohibited actions or failures to fulfil legally prescribed duties. The following groups organise the discussion analytically:

- Socially dangerous acts that infringe upon elements of the natural and artificial environment. These are acts that directly impact the land, water, and air environments, such as the offence of causing environmental pollution (Article 235). There are also acts committed by failing to properly comply with regulations or lacking responsibility that cause serious consequences, such as the offence of violating regulations on prevention, response to, and remediation of environmental incidents (Article 237); the offence of bringing waste into the territory of Vietnam (Article 239); and the offence of importing or spreading invasive alien species (Article 246). This group includes acts such as discharging smoke, dust, toxic substances, or other harmful elements into the air; emitting radiation or radioactive substances exceeding permissible standards; burying or discharging toxic substances exceeding permissible standards into the land in violation of location restrictions or technical procedures for environmental protection; discharging wastewater that has not been treated to meet environmental standards; discharging toxic, radioactive, and other hazardous substances into the soil or water sources; importing machinery, equipment, scrap, chemicals, biological preparations, or means of transport that fail to satisfy environmental standards; and unlawful importation or transit of waste where the applicable offence requirements are satisfied. These examples describe potential forms of environmental misconduct; criminal responsibility still depends on the relevant legal conditions.

- Socially dangerous acts that infringe upon state management activities in the environmental sector, as described in offences such as the offence of violating regulations on hazardous waste management (Article 236); the offence of spreading dangerous infectious diseases to humans (Article 240); or the offence of spreading dangerous infectious diseases to animals and plants (Article 241). This group of offences includes acts such as permitting or carrying out the burial, disposal, or discharge of hazardous waste in violation of legal regulations, particularly hazardous waste containing specially hazardous components exceeding the prescribed thresholds; introducing into or removing from disease-affected areas animals, plants, animal and plant products, or other items capable of transmitting dangerous diseases to humans; importing or transiting animals, plants, or animal and plant products subject to quarantine without complying with legal quarantine requirements, including infected products or products carrying dangerous pathogens capable of transmission to humans; and other conduct meeting the elements of the relevant disease-related offence. Food-safety offences under Article 317 are regulated separately and should not be counted as Chapter XIX offences merely because they may also affect public health.

- Socially dangerous acts that infringe upon the regime of rational use of resources and nature, as described in offences such as the offence of violating regulations on the safety of hydraulic engineering works, dykes, and natural disaster prevention and control; and violating regulations on the protection of riverbanks and riverbeds (Article 238); the offence of destroying aquatic resources (Article 242); the offence of destroying forests (Article 243); the offence of violating regulations on the protection of animals on the list of endangered, precious, and rare species (Article 244); and the offence of violating regulations on the management of nature reserves (Article 245). This group of crimes includes acts of illegally constructing houses or works, damaging hydraulic engineering works, dykes, natural disaster prevention and control works, protective works, and facilities for the exploitation, use, observation, and monitoring of water resources, as well as works for the prevention, control, and remediation of consequences caused by water; acts of using toxic substances, explosives, other chemicals, electric currents, or prohibited methods and fishing gear to exploit aquatic resources or destroy aquatic

resources, or fishing during prohibited seasons or in prohibited quantities as prescribed by law; acts of destroying or illegally exploiting forests and natural resources; and exploiting, trading, consuming, or using plant and animal species on the prohibited list prescribed by competent state authorities; infringing upon natural heritage; and importing or spreading alien species [6].

The consequences relevant to environmental offences may include ecological damage, loss of property, remediation costs, and injury to human health or life. Their legal significance depends on the specific provision. Some offences use quantities, technical exceedances, protected-species classifications, prohibited locations, or prior sanctions as elements of liability, while others also require specified harmful consequences. Offence completion must therefore be assessed under each provision, rather than inferred from a general description of environmentally dangerous conduct. The correct inquiry is whether every element of the particular offence has been established. Technical regulations and treaty-linked classifications may assist that inquiry where the domestic provision incorporates them; international environmental commentary does not itself supply the domestic elements of an offence. Brack's discussion provides broader context for the cross-border dimensions of environmental crime rather than evidence of the content of a particular Vietnamese article [7].

Third, regarding the subjective elements of the crime.

The fault requirement must be identified for each offence and for each accused person. Intention, knowledge, negligence, and responsibility for a specified consequence should not be collapsed into a general claim that environmental offending is always profit-driven or deliberate. A commercial motive may explain some conduct, but it is not a universal substitute for proof of the prescribed mental element. Conversely, negligence cannot be established simply because an environmental incident occurred or because natural processes were difficult to predict. Investigators must examine the relevant duty, the person's conduct and knowledge, and the statutory basis for attributing the consequence.

Fourth, regarding the subjects of the crime.

For the offences discussed here, individual responsibility is assessed under the Penal Code's rules on age and capacity. Commercial legal-entity liability is governed by the additional conditions and offence list in Articles 75 and 76. Nine of the twelve Chapter XIX offence articles fall within the commercial-entity list; the others should not be included by analogy. Attribution requires more than showing that an employee caused environmental harm: the statutory conditions concerning the entity's name, interests, direction or approval, and limitation period must be considered. Corporate responsibility also does not exclude individual responsibility. The Vietnamese scholarship on corporate environmental liability is directly relevant to these questions [8]. This distinction requires an offence-specific analysis of attribution and participation.

3.2. ANALYSIS OF THE CURRENT STATE OF LEGAL ENFORCEMENT

The enforcement information requires careful separation by source and period. Table 1 presents aggregate figures identified in a published account as covering 2010–2020 [9]. These historical aggregates should not be treated as observations for the separate 2018–2025 series. The figures are presented as a secondary summary attributed there to environmental police and court statistics; the underlying administrative reports have not been independently reconstructed here.

Table 1. *Historical aggregate summary of environmental enforcement, 2010–2020.*

Indicator	Historical summary
Detected environmental violations	170,875 matters
Administrative handling	141,000 matters
Administrative fines	97,000 matters; VND 1,166 billion
Criminal cases initiated	2,624 cases; 4,357 accused persons
Cases tried	2,237 cases; 4,145 defendants
Environmental share of criminal cases tried	0.37%

Source: Historical figures attributed to police and court records in Ngo Ngoc Diem and Nguyen Thi Minh Nhat's 2021 account [9].
Note: The published summary identifies 2010–2020. The entries are not a linked cohort; administrative categories may overlap, and fines stated do not establish amounts actually collected.

The figures in Table 1 indicate that administrative handling was much more frequent than criminal case initiation within the historical aggregate summary. This difference is relevant to policy analysis but cannot, by itself, establish unlawful under-enforcement. The categories do not represent a verified sequence of the same matters moving through the justice system. Nor should the number of fined matters be added to all administratively handled matters, because the groups may overlap. The amount of fines recorded is not equivalent to verified budget receipts unless collection has also been documented. Likewise, the trial count should not be interpreted as a conviction count without a definition of the reported court outcome.

Several explanations may be consistent with a comparatively small recorded criminal caseload. Some environmental violations may not satisfy the statutory conditions for criminal liability and may properly attract administrative measures.

Other conduct may remain undetected or difficult to establish because it is concealed, repeated, technically complex, or distributed across several responsible actors. A further possibility is that evidence sufficient to prove a particular threshold or causal consequence is unavailable. These explanations are analytically distinct. The aggregate figures do not identify their relative importance, and a low recorded proportion should not automatically be equated with either successful prevention or a failure to prosecute.

A separate author-provided series, labelled 2018–2025, appears in Table 2. It covers five selected offence articles and includes annual numbers of cases and defendants. The annual entries are preserved, but their column sums do not match the supplied total row. Both are therefore displayed so that the discrepancy is visible. Until the underlying records and definitions are verified, the table supports only a provisional description of the listed entries and not a validated estimate of national environmental-crime incidence.

Table 2. *Author-provided annual entries for selected environmental offences, labelled 2018–2025.*

Year	Art. 243		Art. 244		Art. 240		Art. 245		Art. 242	
	C	D	C	D	C	D	C	D	C	D
2018	209	435	97	124	1	1	2	4	1	1
2019	255	532	98	114	1	1	2	4	1	1
2020	297	481	107	87	1	1	1	4	1	1
2021	116	133	176	258	72	62	1	1	79	85
2022	251	303	280	303	1	2	0	0	86	92
2023	186	222	319	417	0	0	0	0	103	128
2024	150	226	313	438	0	0	0	0	27	27
2025	86	119	165	227	0	0	0	0	62	70
Annual sum	1550	2451	1555	1968	76	67	6	13	360	405
Supplied total	2515	4186	917	1084	18	23	25	40	17	29

Note: C = cases; D = defendants. Annual entries and supplied totals are retained from the manuscript; the "Annual sum" row is calculated directly from those entries. The sums disagree with the supplied totals. Underlying report identifiers, definitions, and complete-year coverage require author verification.
Source: Author-provided compilation attributed to court and environmental-police information; the original records were not supplied. This provisional series is distinct from Table 1.

The annual entries in Table 2 are concentrated in Articles 243 and 244. For Article 243, the largest displayed number of cases is 297 in 2020, while the largest number of defendants is 532 in 2019. These are different peaks and should not be conflated. From 2021 onward, the displayed Article 244 case count exceeds the Article 243 count in each year. Article 244 reaches 319 cases in 2023 and 438 defendants in 2024. This pattern describes the composition of the supplied series; it does not establish a change in underlying offending without evidence about reporting coverage, detection, and legal classification.

The other selected articles show different numerical patterns. Article 240 rises to 72 cases and 62 defendants in 2021, compared with one case and one defendant in each of the preceding three years. The timing may motivate examination of the pandemic-era enforcement context, but no case-level evidence is supplied to establish the cause. Article 242 concerns aquatic resources, rather than waste-treatment violations; its displayed counts increase from 2021 and reach 103 cases and 128 defendants in 2023. Article 245 has small positive entries before 2022 and zero entries thereafter. A zero in this series means that no cases are recorded in the supplied table, not that the relevant conduct ceased to occur.

Adding the five displayed case columns produces annual totals that peak at 618 in 2022; the corresponding defendant columns peak at 767 in 2023. The summed entries decline in the final two displayed years. This is a descriptive calculation from the table, not an independently verified national trend. The 2025 entries require confirmation that they cover a complete calendar year and use the same classification as earlier observations. Changes in case initiation, court processing, recording practice, or reporting completeness may also affect the series. Consequently, the decline cannot be attributed to deterrence, prevention, or improved enforcement on the basis of these counts alone.

The statutory categories of penalties are summarised qualitatively in Figure 1. The diagram distinguishes sanctions applicable to individuals from those available for commercial legal entities, subject to the relevant offence and general sentencing provisions. It does not represent sentencing frequencies. No independently assessable numerical distribution of penalties is available for the present analysis. Claims that particular custodial or non-custodial penalties predominate therefore cannot be independently established. A valid sentencing analysis would require case-level dispositions, the applicable offence version, sentence length, principal and additional penalties, and the treatment of multiple defendants or multiple offences. Judicial measures addressing consequences should also be distinguished from punishments and from administrative sanctions. The diagram accordingly provides a legal classification that can guide later empirical analysis, while avoiding an unsupported estimate of actual sentencing practice.

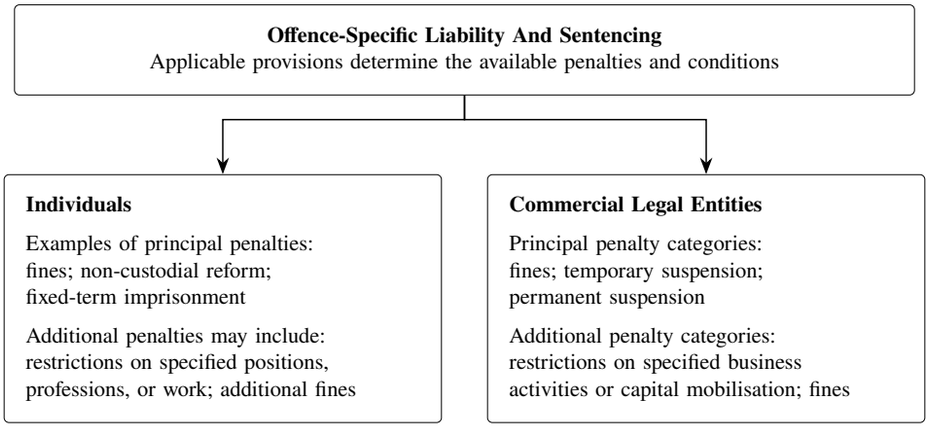


Figure 1. *Qualitative distinction between individual and commercial-entity penalty categories.*

Note: The diagram summarises selected statutory categories; it does not show their frequency of application. Availability depends on the offence and applicable sentencing provisions. Judicial measures addressing consequences are distinct from penalties.
Source: Penal Code, Articles 32–33 and the relevant environmental offence provisions [2].

3.3. CHALLENGES AND SHORTCOMINGS IN THE PRACTICAL APPLICATION OF CRIMINAL LAW

Although the 2015 Penal Code has introduced significant improvements, its practical application continues to encounter numerous challenges, creating substantial obstacles to the imposition of criminal liability:

First, determining the relevant threshold or consequence may be difficult. The evidentiary requirement is not identical across all environmental offences: technical exceedances, waste quantities, protected status, causation, and legally defined damage may require different forms of proof. Where the legislation already provides numerical criteria, the problem may concern measurement or interpretation rather than a complete absence of statutory guidance. The distinction between administrative and criminal responsibility must therefore be examined provision by provision. Vietnamese research on industrial water-pollution control provides a more relevant basis for discussing that boundary than an unsupported generalisation about every environmental offence [10].

Second, criminal prosecution against corporate legal entities faces numerous procedural and evidentiary difficulties. Specifically, proving the criminal intent of the legal entity (rather than merely individual acts) and the complexity of separating the criminal liability of the legal entity from that of the individuals involved in the same violation constitute major legal bottlenecks. Furthermore, the effectiveness of fines and operational suspension imposed on legal entities needs to be re-evaluated, as enforcement will encounter severe obstacles if the legal entity no longer possesses assets or undergoes a restructuring of its business model [8].

Third, the environmental forensic appraisal system remains underdeveloped. Forensic appraisal is a decisive factor in determining the statutory elements of the offence (the degree of pollution and hazardous nature). However, the current environmental forensic appraisal system suffers from several issues: slow processing speed, high costs, and, most importantly, a lack of consistency among different appraisal agencies, which directly affects investigative progress and the accuracy of incriminating evidence.

Fourth, offence classification and institutional recording may complicate the visibility of environmental wrongdoing. A matter may involve environmental, property, economic, or corruption offences, and the applicable charge depends on the statutory elements proved. It cannot be assumed that using another offence is always an improper downgrading, nor that administrative handling is necessarily an evasion of criminal responsibility. The possibility of misclassification nevertheless warrants examination using decisions and linked administrative records. Huisman and van Erp analyse opportunities for environmental crime and situational prevention [11]; their work informs the broader prevention discussion but does not provide Vietnamese court statistics or establish the charge that should be used in a particular domestic case.

3.4. RECOMMENDATIONS FOR IMPROVING THE CRIMINAL LAW FRAMEWORK AND ENHANCING THE EFFECTIVENESS OF ITS ENFORCEMENT

The following recommendations connect clearer law, reliable evidence, specialist competence, and public participation. They are proposals for assessment rather than assertions that every measure is already required by Vietnamese law. Their implementation should preserve legality, proportionality, procedural fairness, and the distinction between administrative and criminal enforcement. Legislative change should be based on identifiable enforcement problems and accompanied by evaluation, rather than justified solely by an unreconciled difference between recorded violations and criminal proceedings.

First, competent authorities should consider issuing legally authorised guidance on unresolved questions concerning

the elements of particular offences. The provisions governing pollution, hazardous waste, environmental incidents, and protective infrastructure do not all use the same thresholds. Guidance should identify where the difficulty concerns interpretation, technical measurement, causal attribution, or the relationship between criminal and administrative liability. It should not replace statutory elements with broader policy language or suggest that all relevant articles lack quantitative criteria. Judicial guidance and inter-agency instruments should be adopted only through the procedures and powers available under Vietnamese law.

Coordination should involve the Supreme People's Court, the Ministry of Public Security, the Ministry of Justice, and the technically responsible ministries as appropriate. The Ministry of Agriculture and Environment follows the institutional arrangement established by Decree No. 35/2025/ND-CP [12]. Disease-related questions may also require Ministry of Health expertise. Scientific input can clarify such matters as the nature of a pathogen, exposure, or environmental measurement, but legal responsibility remains a question for the competent criminal-justice authorities. Guidance should distinguish what can be established by scientific assessment from the legal conclusions that depend on the full evidentiary record. Consistent interpretation requires both technically reliable information and adherence to the wording of the applicable offence.

Second, the legislature should consider amending the relevant provisions by adopting the model of formal offences. Due to the cumulative, long-term, and complex impacts on the ecosystem, requiring proof of a specified harmful consequence may create evidentiary difficulties where effects are delayed, cumulative, or scientifically uncertain [13]. Therefore, the legislature should consider reducing or eliminating material consequence elements for direct intentional acts with high potential hazard to consider a clearly defined conduct-based or endangerment offence. A notable example is Article 237 of the Penal Code 2015, where removing the requirement that the conduct "causes an environmental incident" would help avoid delays in evidence collection and address the limitations of criminal law in responding promptly to environmental disasters that are irreversible in nature. Any movement towards conduct-based or endangerment offences should define the prohibited risk precisely and preserve the prosecution's obligation to prove all remaining elements. Removing a harm requirement cannot justify punishment for an undefined possibility of damage or reverse the burden of proof. The effect on prevention and proportionality would need to be assessed after implementation.

Third, corporate accountability should be clarified without treating every business form as a commercial legal entity. Any proposal to extend criminal responsibility to additional organisations must address their legal personality, the statutory attribution rules, and the persons against whom sanctions can lawfully operate. Household businesses or other unincorporated arrangements cannot simply be included by changing terminology in administrative guidance. Legislative assessment should identify whether an existing liability gap is demonstrated and whether individual responsibility, entity liability, or another legal mechanism is the appropriate response.

The liability of managers and other individuals should also be distinguished from that of the entity. Signing, advising on, or approving a document does not by itself establish complicity in an environmental offence; the relevant participation and fault requirements must be proved. Questions involving public officials or public bodies may require consideration of other offences and cannot be resolved through a general presumption of corporate guilt. Sanctions and remedial orders should address lawful attribution, proportionality, the recovery of environmental consequences where authorised, and the practical execution of decisions. Concerns about asset depletion or business restructuring should be examined through the relevant legal procedures rather than assumed to justify punishment outside the statutory scope.

Fourth, the criminal justice system and supporting judicial institutions responsible for environmental matters should be comprehensively specialised. The effectiveness of translating the norms of criminal law into the investigation and prosecution of environmental offences directly depends on the professional expertise of the law enforcement personnel. This is because criminal acts in this field are becoming increasingly sophisticated, frequently using high technology to evade the law or unlawfully tamper with monitoring data. Consequently, the State needs to establish targeted specialist training and build a system of dedicated units, including environmental police, environmental prosecutors, and environmental judges. This force not only requires precise legal reasoning but must also be equipped with an extensive, interdisciplinary knowledge base in environmental science, biology, epidemiology, and modern technology. The coordinated specialisation of the judicial system, spanning from receiving crime reports and initiating proceedings through investigation, prosecution, and adjudication, serves as an important prerequisite to guarantee accuracy and timeliness, while minimising errors in offence classification and preventing the inappropriate substitution of administrative sanctions for criminal liability.

Fifth, modernising forensic appraisal and establishing a standardised coordination mechanism to determine ecological damage. Within the legal structure of environmental crimes, technical forensic evidence can be central to determining whether the constituent elements of a crime exist. Practical application indicates that the shortage of modern equipment and independent appraisal mechanisms currently stands as a major barrier, causing many cases to be "prolonged or deadlocked" while awaiting quantitative analysis results. Therefore, the State needs to focus heavily on investing in infrastructure, automated ecological monitoring technology, and enhancing the capacity of dedicated forensic appraisers. Concurrently, it is urgent to establish a unified, interdisciplinary coordination mechanism between police authorities and

specialised ministries, such as the Ministry of Agriculture and Environment and the Ministry of Health, to standardise the procedures of collecting, preserving, and analysing medical specimens and hazardous waste. A comprehensive, independent, and scientifically reliable forensic system could reduce avoidable delays, improve the use of resources, and provide more reliable evidence to support judicial decision-making.

Sixth, expanding and enhancing the efficiency of international cooperation in the fight against transnational environmental crimes. Environmental crime in the Asia-Pacific region has evolved from localised violations into non-traditional security threats that demand specialised policing, harmonised legal frameworks, and intelligence sharing across borders [14]. In the wake of global free trade trends, environmental crimes in Vietnam are evolving in a highly complex manner with numerous cross-border elements, turning Vietnam into a transit hub for illicit networks trafficking endangered wild fauna and flora, as well as a destination for the relocation of hazardous waste and obsolete technologies from developed nations. To safeguard national ecological security, strengthening international cooperation is an objective necessity. Investigative bodies and the Environmental Crime Prevention and Control Police force must proactively and closely coordinate with INTERPOL, other competent international bodies, and appropriate non-governmental organisations in sharing operational intelligence, performing mutual legal assistance in investigations, and cooperating in lawful searches for internationally wanted persons.

Seventh, public awareness and legal education should be strengthened in order to transform public perceptions and foster environmental legal consciousness. Social prevention is a root solution aimed at eliminating the conditions that give rise to crime by fostering a culture of respect for the law within the community. Competent authorities need to provide clear and systematic information about environmental criminal law to individuals, businesses, and the wider community. Public information must shift decisively away from mere formalism, focusing on visually emphasising severe legal consequences (such as imprisonment, large-scale fines, or permanent operational suspension) combined with the repercussions on the living environment and public health. Alongside legal instruments, public communication, community activities, and locally appropriate educational methods can support lawful environmental behaviour, thereby transforming public indifference into voluntary compliance with environmental protection laws [15].

Eighth, a transparent and secure reporting mechanism should be established to encourage and protect public participation in reporting environmental crimes. Due to the high "hidden nature" of environmental crimes and the extremely sophisticated methods used to conceal waste discharge, public monitoring can provide information that would otherwise remain unavailable. The State needs to build a transparent, feasible, and practically effective mechanism to encourage the reporting of environmental crimes. This mechanism must mandate technological and legal measures to protect confidentiality to the extent permitted by law and ensure the safety of whistleblowers. Concurrently, it is essential to establish regulations on appropriate recognition and financial incentives for individuals and organisations with outstanding achievements in detecting violations. Restructuring the relationship between citizens and the state under this co-management model not only exerts psychological pressure on actors with ecological profiteering motives, but also provides timely crime reports to support investigative bodies in preventing consequences right from the risk stage. The combination of robust whistleblower protection and effective incentive mechanisms would establish a resilient system of social crime prevention, thereby contributing to the protection of environmental security and advancing the strategic objective of building a rule-of-law state in Vietnam.

3.5. CONDITIONS FOR IMPLEMENTING AND EVALUATING REFORM

Reform should begin with a clear account of the problem being addressed. A case that fails because a required sample was not collected presents a different issue from an offence whose threshold does not capture the relevant conduct. Likewise, a company that cannot be identified as a commercial legal entity presents a different issue from inadequate proof that an offence was committed in its interests. Combining these difficulties under a single claim that criminal law is ineffective may lead to measures that increase penalties without improving investigation. A diagnostic assessment should therefore distinguish substantive law, evidentiary practice, institutional resources, and the execution of final decisions.

The same distinction applies to environmental remediation. Punishment, compensation, restoration, and preventive measures serve related but different purposes. An order requiring remediation should identify the responsible person, the action required, the time allowed, and how compliance will be assessed. The feasibility of restoring an ecosystem may differ from the feasibility of stopping a continuing discharge or preventing additional exposure. Financial penalties should not be treated as a substitute for every remedial objective, and remediation should not automatically extinguish responsibility for a completed criminal offence. The appropriate relationship must be specified in the governing law and in the court's decision.

Institutional coordination should also preserve evidentiary independence. Joint working arrangements can help investigators obtain technical information promptly, but the role of an expert should remain distinct from that of the authority deciding whether to prosecute. Records should identify the question submitted, the methods used, the assumptions made, and the limits of the conclusion. An environmental measurement does not necessarily establish who authorised the conduct,

and proof of corporate involvement does not establish the quantity or harmfulness of a discharge. Effective coordination brings these forms of evidence together without allowing one to stand in place of the other.

Evaluation requires more than counting prosecutions or comparing successive annual totals. A coherent recording system should distinguish detected incidents, administrative matters, initiated criminal cases, accused persons, defendants, judgments, and sanctions actually executed. It should also document the reporting period, offence version, territorial coverage, and treatment of cases involving several offences. These definitions would allow a later study to examine whether delays arise during detection, investigation, charging, trial, or enforcement of judgments. Without such information, an apparent rise may reflect improved detection and an apparent decline may reflect incomplete reporting.

Public participation should be evaluated with similar care. A reporting platform may increase the number of alerts without increasing the number of substantiated offences. Authorities therefore need procedures for triage, protection of confidential information, referral of urgent hazards, and communication with reporting persons where lawful. Confidentiality should be described accurately rather than promised absolutely when disclosure may be required by criminal procedure. Recognition or rewards should follow transparent criteria and should not create incentives for false allegations. The objective is to support reliable information and lawful investigation while protecting the rights of both reporting persons and those accused.

Finally, the proposed measures should be assessed against environmental outcomes as well as criminal-justice activity. More severe sanctions do not, on their own, demonstrate cleaner water, restored habitats, or reduced exposure. Conversely, a low number of prosecutions does not necessarily imply that preventive regulation has failed. An evaluation design would need appropriate time periods, comparable records, and attention to alternative explanations. This article identifies these requirements as priorities for future investigation; it does not claim that the available historical summary and provisional annual table already provide that evaluation.

4. CONCLUSION

The analysis supports a coordinated approach to environmental criminal policy in Vietnam. Chapter XIX provides an important legal basis for protecting ecological interests, natural resources, and public health, while the rules on commercial legal entities extend accountability beyond natural persons in the offences expressly listed by law. The central policy challenge is to connect those provisions with precise interpretation, reliable evidence, capable institutions, and enforceable decisions. Environmental protection therefore requires both appropriate criminal responsibility and effective interaction with administrative, civil, and remedial measures.

The enforcement information does not support an unqualified conclusion about national crime incidence or the deterrent effect of particular penalties. The aggregate figures belong to 2010–2020, while the separate annual series is labelled 2018–2025 and contains unresolved totals and source limitations. The frequency of individual sentencing outcomes has not been established. These qualifications limit the empirical conclusions but do not remove the importance of the doctrinal questions concerning thresholds, attribution of responsibility, forensic evidence, and institutional coordination.

For Vietnamese criminal law to function as an effective instrument of environmental protection, a comprehensive and coordinated reform strategy is required. This entails a transformation spanning from statutory provisions (through the timely and detailed guidance of constituent elements) to practical operational mechanisms (through the specialisation of criminal-justice personnel and the enhancement of forensic appraisal capacity). Only by addressing these structural challenges can criminal law fully realise its preventive and punitive functions, thereby providing a solid legal foundation for sustainable development and supporting Vietnam's transition towards a green economy.

Author Contributions

All authors contributed equally to this study, read and approved the final manuscript, and agreed to its submission for publication.

Conflict Of Interest

The authors declare no conflicts of interest.

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Data Availability

The documentary materials and statistical compilations supporting this study are available from the corresponding author upon reasonable request.

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