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Ecocide and restorative justice: towards the construction of state criminal responsibility for systemic environmental crimes from the perspective of justice as fairness

Ecocídio e punição restaurativa: rumo à construção da responsabilidade penal do estado por crimes ambientais sistêmicos na perspectiva da justiça como equidade

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Abstract

This article aims to propose a new construction of the State's criminal responsibility for ecocide, integrating the concept of restorative punishment from the perspective of Justice as Fairness, according to John Rawls. Phenomena of systemic environmental crimes, such as forest fires and cross-border pollution, show the existence of State involvement or negligence that results in large-scale ecological damage. Civil and administrative accountability mechanisms have proven inadequate to restore ecological and social justice. Through a legal-normative approach and a comparative analysis of practices in various jurisdictions, this article develops a legal model that balances elements of punishment and obligation to repair through reparatory fines, positive responsibility, and symbolic recognition by the state. This concept asserts that restorative punishment not only enforces substantive justice but also strengthens the state's responsibility for environmental sustainability and the human rights of future generations. Thus, ecocide should be recognized as an international crime that can hold the perpetrating state accountable.

Keywords: Ecocide. Criminal responsibility of the state. Restorative punishment. Justice as fairness. Systemic environmental crimes.

Resumo

Este artigo tem como objetivo propor uma nova construção da responsabilidade penal do Estado por ecocídio, integrando o conceito de punição restaurativa na perspectiva de Justiça como Equidade, segundo John Rawls. Fenômenos de crimes ambientais sistêmicos, como queimadas em florestas e poluição transfronteiriça, mostram a existência de envolvimento ou negligência do Estado que resulta em danos ecológicos em grande escala. Os mecanismos de responsabilização civil e administrativa se mostraram inadequados para restaurar a justiça ecológica e social. Por meio de uma abordagem jurídico-normativa e de uma análise comparativa das práticas em várias jurisdições, este artigo desenvolve um modelo jurídico que equilibra elementos de punição e obrigação de reparação por meio de multas reparatórias, responsabilidade positiva e reconhecimento simbólico do Estado. Este conceito afirma que a punição restauradora não apenas faz cumprir a justiça substantiva, mas também fortalece a responsabilidade do Estado em relação à sustentabilidade ambiental e aos direitos humanos das gerações futuras. Dessa forma, o ecocídio deveria ser reconhecido como um crime internacional que pode responsabilizar o Estado perpetrador.

Palavras-chave: *Ecocídio. Responsabilidade penal do Estado. Punição restaurativa. Justiça como equidade. Crimes ambientais sistêmicos.*

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1. Introduction

The phenomenon of systemic environmental crimes involving or permitted by the state has become a serious concern in the last decade. Massive forest fires that cause transboundary haze, large river pollution due to industrial activities, and exploitation of natural resources without adequate supervision indicate a pattern of state-enabled environmental crime (Rismanto; Bayunarendro, 2024, p. 399). In many cases, this ecological damage not only causes material losses, but also threatens the basic human right to a healthy and sustainable environment (Aini; Pelleng; Tambingon; Veda; Kamal, 2025, p. 12330). The state, which should act as a protector of the environment, often becomes a direct perpetrator or indirectly contributes through permissive policies and negligence in law enforcement.

The legal mechanisms currently available, both in the civil and administrative spheres, have not been able to provide adequate deterrence or restoration. Civil lawsuits are generally limited to individual financial compensation, while administrative sanctions often only take the form of fines or revocation of permits without restoring the environment to its original condition (Putri, 2023, p. 361). As a result, ecological justice is not achieved because there is no mechanism capable of restoring the balance between humans, the state, and nature. In this case, a new legal approach is needed that can hold the state more firmly and substantively accountable for large-scale environmental crimes.

At the international level, the discourse on ecocide has begun to emerge as a form of serious environmental crime comparable to genocide or crimes against humanity (Saleh; Setyawan; Indriani; Rahman; Mariaty; Khalid, 2019, p. 57-58). Although it has not yet been formally adopted in the Rome Statute of the International Criminal Court (ICC), the concept of ecocide has gained widespread support from academics, environmental activists, and several countries (Ardhiansyah; Ardhiansyah, 2024, p. 82). However, most discussions still focus on the responsibility of individuals or corporations, rather than the accountability of the state as a legal entity. In fact, in many cases, systemic ecological damage would not be possible without state policy or negligence.

This can be seen, for example, in the case of recurring forest and land fires in Indonesia, where weak permitting oversight and law enforcement contribute to transboundary haze that harms other countries. Similarly, the Deepwater Horizon oil spill disaster in the Gulf of Mexico in 2010 involving BP not only reflects corporate negligence but also regulatory and state oversight failures in ensuring industry safety standards (Arazea; Mourinho, 2025, p. 3). In addition, the acceleration of Amazon deforestation during Jair Bolsonaro's administration demonstrates how environmental deregulation policies and weakening forest protections can directly accelerate global ecosystem damage (Poerwantika; Hatami, 2019, p. 188-189). Another example can be found in the pollution of the Ogoni region in Nigeria due to Shell's activities, which the United Nations Environment Programme assessed as one of the most serious cases of environmental damage, where the state was considered to have failed to protect its people and environment (Azura, 2018, p. 1-2). This series of cases shows that ecocide in practice is often the result of the interaction between state policies, institutional weaknesses, and economic activities, thereby reinforcing the argument that the state cannot be exempted from the construction of criminal liability in systemic environmental crimes.

The main issue that arises is how to develop a legal framework that allows states to be held criminally liable for systemic environmental crimes without violating the principle of sovereignty. Classical international law doctrine has not explicitly recognized states as subjects of criminal law (Azhar; Halim, 2020, p. 18). However, the development of the concept of state crime opens up opportunities to reconstruct this paradigm, especially in the context of crimes that have an impact on humanity and the sustainability of the planet. This is where the relevance of John Rawls' idea of Justice as Fairness becomes important, as it provides a philosophical basis for the restructuring of distributive justice and the moral responsibility of the state towards current and future generations.

In addition, criminalization theory has also shifted from a retributive paradigm to a more restorative approach (Rumagit, 2025, p. 201). In ecocide, punishment that is solely oriented towards retribution is ineffective because it does not address the actual ecological damage (Admin, 2021). The concept of restorative punishment is then offered as a synthesis between punishment and restoration, which not only demands the state's acknowledgment of wrongdoing, but also demands concrete actions such as ecosystem restoration, reparations to affected communities, and the development of an independent environmental monitoring system (Ribeiro, 2025). Thus, punishment is directed at repairing, not merely punishing. From a socio-environmental law perspective, this idea is in line with the principles of sustainable development and third-generation human rights. A healthy environment is a fundamental right that must be guaranteed by the state, and failure to protect it constitutes a violation of socio-ecological justice (Mardiyati, 2025, p. 126-127). Therefore, the integration of criminal law, environmental law, and the ethics of justice is a normative urgency that cannot be ignored. The state can no longer be considered merely a regulator, but also a party that must be held accountable when it violates the principles of sustainability.

Given this complexity, this article stems from the need to formulate a legal construct that recognizes ecocide as an international crime with a state criminal accountability mechanism oriented towards restoration. Through the perspective of Justice as Fairness, this article seeks to bridge the gap between moral principles, theories of justice, and international legal practice to develop a model of restorative punishment for states that commit environmental crimes. This approach is expected to provide a new direction for environmental law enforcement that is not only formally fair, but also substantive and sustainable.

Based on the above description, this article formulates three main issues, namely: 1) how is the construction of state criminal responsibility for systemic environmental crimes regulated in current international law?; 2) how can the concept of restorative punishment be operationalized as a form of sanction against states that commit ecocide?; and 3) how can this legal model be adopted in national and regional legal systems based on the perspective of Justice as Fairness? The main objective of this article is to construct a new legal framework that integrates ecocide as a criminal offense with a restorative punishment approach as its sanction. Academically, this article contributes to bridging criminal law, socio-economic-environmental justice, and Rawlsian justice philosophy, in order to strengthen the paradigm of state accountability in realizing sustainable ecological justice.

2. Literature Review and Theoretical Framework

2.1 State Criminal Liability

State criminal responsibility is a challenging issue in modern international law because it clashes with the classic doctrine that only individuals can be held criminally responsible. In the history of international law, the concept of state responsibility is better known in the realm of civil law or international responsibility for violations of international law (Auli, 2022). However, the development of systemic transnational crimes committed through state policy has necessitated a new approach that allows states to be held criminally responsible.

The concept of state crime arose from criticism of the limitations of the international legal system in addressing crimes committed in the name of the state (Editorial Team, 2025). Many serious violations against humanity, the environment, and the global economy are not committed solely by individuals, but through institutional state policies. Therefore, a number of scholars such as Greem and Ward (2004, p. 208) and Kramer (2010, p. 110) have developed the

theory that the state can become a criminal entity when it uses its power for destructive purposes. In the context of environmental law, the criminal responsibility of the state is relevant because many cases of ecological damage occur as a result of policies that violate the precautionary principle (Ramadhani, 2024, pp. 2-3). For example, granting industrial permits that have the potential to damage the environment without an adequate environmental impact assessment (EIA), or turning a blind eye to large-scale land burning activities. These actions are not merely administrative violations, but crimes that have cross-border and intergenerational impacts.

The principles in the Articles on State Responsibility adopted by the International Law Commission (ILC) do regulate the legal consequences for states that commit acts that violate international law, but they do not include criminal dimensions (International Law Commission, 2001, p. 25, 81). This shows that there's a gap between state responsibility (which is reparative) and state criminal liability (which is repressive). So, the shift towards recognizing criminal liability for states is part of the evolution of modern international law. On a national scale, several legal systems already recognize the principle of corporations as criminal subjects (Putri, 2025). This concept can be used as an argumentative basis that states, as public legal entities, can also be held criminally liable if they commit serious violations of international law, particularly in cases of ecocide.

State criminal liability is not an attempt to replace individual responsibility, but to complement it. In many cases, individual perpetrators are merely representatives of larger political decisions. Thus, criminal enforcement against the state can create a systemic effect that forces structural reform and ensures that public policy no longer repeats destructive actions against the environment. Criticism of this concept usually revolves around issues of sovereignty and the implementation of punishment. However, this argument can be answered through a normative approach that sovereignty is not absolute and is always subject to the principles of jus cogens and peremptory norms in international law, such as the prohibition of genocide and crimes against humanity (Christyanti, 2022, p. 204-205). If environmental violations have global and systemic impacts, then similar principles can be applied to ecocide.

In practice, several international institutions such as the International Court of Justice (ICJ) and the European Court of Human Rights have developed an increasingly broad doctrine of state responsibility (Winerungan; Sumilat; Wongkar, 2025, p. 3). For example, in the Corfu Channel case, the ICJ affirmed the obligation of states not to allow their territory to be used as a means of harming other states (Rizalti, 2021). A similar principle can be extended in the context of the global environment. Therefore, the construction of state criminal responsibility for ecocide can be considered a logical step in the development of international law. This concept fills the legal void between moral responsibility and civil liability, making it an effective tool for prosecuting states for systemic ecological crimes. Thus, it can be asserted that states cannot hide behind the pretext of sovereignty to avoid responsibility for the ecological damage they have caused. Through the construction of state criminal liability, international law can reinforce the principle that states have a criminal obligation to protect, not destroy, environmental sustainability.

2.2 Ecocide as an International Crime

The concept of ecocide arose from global awareness that large-scale environmental damage is not merely an administrative violation or policy error, but rather a crime that has systemic impacts on human life and ecosystems. The term was first coined in the 1970s by Richard A. Falk and Olof Palme in the context of the Vietnam War, when the US military's use of Agent Orange caused the destruction of tropical forests and massive ecological damage (Elia, 2025, p. 2). The idea that the deliberate destruction of the environment or destruction due to gross negligence can be equated with crimes against peace, humanity, or genocide has gained strength with the growing awareness of the climate crisis and the damage to the planet caused by human activities. Thus, ecocide is seen as a new form of international crime that threatens human survival and the ecological balance of the world.

The debate over the legal status of ecocide is rooted in a fundamental question: does the environment have intrinsic value that warrants protection under international law, regardless of its impact on humans? In the context of modern international law, concern for the environment is often anthropocentric, focusing on the harm suffered by humans. However, ecocide broadens this horizon by treating environmental damage as a crime against the life system

itself. This approach places the earth and ecosystems as victims on par with humans, a legal paradigm shift that demands a redefinition of the subjects and objects of international legal protection.

Efforts to codify ecocide as an international crime began to gain momentum after the establishment of the International Criminal Court (ICC) through the Rome Statute in 1998 (Ausath, 2022, p. 117). However, in the initial formulation, crimes against the environment only appeared implicitly in the context of war crimes, for example in Article 8 Paragraph (2) b iv, which prohibits actions that cause widespread and long-term environmental damage. Academics, activists, and environmental organizations such as the Stop Ecocide Foundation then proposed adding ecocide as the fifth crime in the Rome Statute, alongside genocide, crimes against humanity, war crimes, and aggression (Deliyanthi, 2025, p. 6-7). This idea aims to provide a clear legal basis for prosecuting individuals or state entities that cause global-scale ecosystem damage.

However, the recognition of ecocide as an international crime still faces political and conceptual resistance. Many countries are concerned that such recognition could open the door to prosecution of national development policies that have a major impact on the environment, such as fossil fuel exploitation or large-scale land clearing (Ismail; Thaba, 2024, p. 20). In addition, the issue of mens rea or intent in ecocide crimes poses a particular challenge, as not all environmental damage is caused by malicious intent; most arises from systemic negligence or misguided policies. Therefore, the construction of ecocide in international law must be able to distinguish between ordinary negligence and extreme intent or indifference to ecological risks.

One crucial point in the development of the concept of ecocide is the debate over who can be held accountable. In international criminal law, the traditional focus has been on individual responsibility, particularly that of high-ranking state officials or military leaders (Leme, 2025). However, in the context of ecocide, the main perpetrators are often not individuals, but rather state institutions or corporations that adopt policies that damage the environment (Rosso, 2020, p. 50-51). Therefore, there is a need to expand the principle of state criminal liability, which has not been explicitly recognized in the international legal framework. This approach allows states to be held accountable as entities that have the moral and legal capacity to make destructive decisions regarding the environment.

In recent decades, a number of cases and international legal instruments have begun to point toward the recognition of ecocide. For example, the principles set out in the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities by the International Law Commission (ILC) affirm the responsibility of states for transboundary environmental damage. Similarly, the Inter-American Court of Human Rights and the European Court of Human Rights have begun to include the right to a healthy environment as part of human rights (Diz; Costa; Lopez, 2019, p. 141-142). Although it has not yet reached the point of direct criminalization, this trend strengthens the moral and legal legitimacy for the emergence of ecocide as a separate international crime.

In addition to legal aspects, ecocide also has strong philosophical and ethical dimensions, reflecting the transition from the dominant paradigm of domination over nature to harmony with nature (De Revista Digital Ecocídio, 2025). From this perspective, environmental protection is not merely a legal obligation, but a moral responsibility of humankind towards future generations. By placing ecocide in the realm of international crimes, the law serves as a normative instrument to internalize the values of sustainability and ecological justice into the global political structure. This is particularly relevant in the Anthropocene era, where human activity has become the dominant force changing the earth. As an international crime, ecocide not only serves as an instrument of punishment but also as a preventive mechanism. By imposing severe legal consequences on states or corporations responsible for environmental destruction, a stronger deterrence effect will be created than with administrative sanctions or civil compensation. The recognition of ecocide at the international level can strengthen the position of environmental victims, in this case indigenous coastal communities and younger generations, who have been marginalized in traditional legal processes. Thus, ecocide becomes a gateway to the recognition of ecological justice as an integral part of global justice.

In terms of implementation in the field, several national jurisdictions have begun to take progressive steps. For example, in 2021 France passed a law that includes ecocide as a serious environmental crime in its domestic legal system, albeit in a limited form (French Republic, 2021). On the other hand, Latin American countries such as Bolivia and Ecuador have recognized the “rights of nature” in their constitutions, which opens up opportunities for the

application of criminal sanctions based on ecological responsibility. This experience shows that despite global resistance, international law is increasingly leaning towards formal recognition of ecocide. Thus, ecocide as an international crime is not only a normative discourse, but a moral and juridical necessity to respond to the existential threat to the earth. The legal framework proposed in this article places ecocide as an offense that can be criminally prosecuted by both states and individuals, with restorative sanctions. This approach is in line with John Rawls' principle of Justice as Fairness, which emphasizes the importance of substantive justice and the balance of rights between humans, states, and the environment. In the long term, the recognition of ecocide as an international crime will be an important milestone for a global legal civilization that protects not only humans but also the Earth as our shared home.

2.3 Criminalization Theory and Restorative Justice

The history of the development of punishment theory in criminal law shows a significant philosophical evolution from the classical to the contemporary era. In the early stages, punishment theory was dominated by a retributive approach that emphasized the principle of jus talionis or retribution for crimes committed. This view, as formulated by Immanuel Kant and Hegel, placed punishment as a moral imperative, meaning that criminals must be punished solely because they have committed a crime, not for any other purpose (Kant, 199, p. 100-102). This theory gave rise to a rigid legal system oriented towards the state's revenge against perpetrators, without considering socio-economic conditions or the environmental impact caused. Although it provides legal certainty, the retributive paradigm often fails to create substantive justice because it ignores the aspect of restoration to victims and society.

As modern society develops and awareness of human rights increases, utilitarian theories of punishment have emerged, such as the theory of deterrence (Bentham, 1996, p. 170-171). This approach views punishment as a means of deterring people from committing similar crimes. Punishment is considered effective if it is able to provide a deterrent effect, both for the perpetrator (specific deterrence) and the general public (general deterrence). However, this theory has faced serious criticism, mainly because it assumes that humans are always rational in their actions, when in fact many crimes occur in a structural context, such as poverty, inequality, or exploitation of nature that is legitimized by state policy. In the context of environmental crime, this type of prevention seems irrelevant, because the perpetrators are often not individuals, but large entities such as corporations or states that have economic motives and cause damage.

The second weakness of this theory led to a new paradigm known as restorative justice. Unlike retributive punishment, which is oriented toward punishment, and deterrent punishment, which focuses on prevention, restorative justice seeks to restore the social balance that has been damaged by crime. Its main principle is restoration for victims, perpetrators, and society, by involving all parties in the resolution process. In environmental crimes, this paradigm is particularly relevant because crimes not only harm individuals, but also communities and ecosystems at large. Restoration here does not only mean financial compensation, but also includes ecosystem rehabilitation, local community economic recovery, and moral and political recognition of the wrongdoing that has occurred.

In the context of systemic environmental crimes, especially ecocide, restorative justice requires an expansion of meaning and application. It is not enough to simply bring perpetrators and victims together in a social mediation forum; it is necessary to develop a form of restorative punishment that combines the essence of punishment with the obligation to restore. The concept of restorative punishment rejects the traditional dichotomy between punishment and restoration, and instead considers the two to be complementary. Punishment is no longer understood merely as suffering imposed on the perpetrator, but as an instrument for building the perpetrator's moral and legal responsibility to restore the damage they have caused. Thus, criminal punishment does not stop at the imposition of sanctions, but develops into a corrective mechanism that brings about social and ecological transformation.

The restorative punishment model has several important dimensions. First, the reparative dimension, which requires the perpetrator, in this case the state or corporate entity, to provide funds for environmental restoration and support the socio-economic rehabilitation of the affected communities. Second, the transformative dimension, which encourages structural change through policy reform, transparency in natural resource management, and the establishment of independent supervisory institutions. Third, the symbolic dimension, in which the perpetrator is

required to publicly acknowledge their wrongdoing, either through an official statement or symbolic actions such as designating an environmental restoration day. This dimension plays an important role in restoring the dignity of victims and affirming the moral value of ecological justice (Pali; Tepper, 2022, p. 27).

From a theoretical perspective, restorative punishment bridges the moral paradigm and the utilitarian paradigm in criminal law. It recognizes the need for sanctions as a form of responsibility and deterrent, but rejects destructive or unproductive punishment. This approach also demands the redistribution of responsibility, not only to individuals, but also to collective entities such as the state, which has failed to manage public resources sustainably. In the context of ecocide, this concept allows for the enforcement of criminal law that not only punishes the perpetrator state, but also returns it to its moral role of restoring the damaged environment. In other words, restorative punishment does not eliminate the dimension of punishment, but rather directs it towards constructive and just goals.

In light of the above explanation, the shift towards a restorative punishment paradigm is also in line with John Rawls' principle of Justice as Fairness (Sunaryo, 2022, p. 4-8). In this framework, justice is not defined solely as the enforcement of formal law, but as a balance between rights, responsibilities, and collective welfare. Restorative punishment reflects distributive justice, in which the benefits and burdens of environmental damage are shared fairly, as well as collective justice, which ensures that perpetrators are responsible for restoring the socio-ecological balance. Through this synthesis, the criminal justice system can move from being merely a repressive instrument to a reconstructive tool that upholds human dignity and environmental sustainability simultaneously. Thus, restorative sentencing theory is not only a conceptual alternative but also an ethical foundation for the formation of environmental criminal law that is just and oriented towards planetary sustainability.

2.4 Economic and Socio-Environmental Law

The development of modern economic law has undergone a fundamental transformation as global awareness has grown that economic activity cannot be separated from environmental sustainability and social justice. In the old paradigm, economic law focused on regulating production, investment, and trade activities to promote national growth without regard for natural carrying capacity. However, the socio-environmental paradigm then emerged to balance economic interests with ecological and social interests. This approach emphasizes that the law must regulate not only the utilization of economic resources, but also how their use impacts the balance of ecosystems and human life. Therefore, socio-environmental law requires the integration of economic policy, environmental protection, and social equity as a single legal system that is just and sustainable.

The principle of sustainable development is the main foundation for the integration of economic law and environmental law. Since the 1978 Our Common Future report and the 1992 Rio de Janeiro Declaration, sustainable development has been defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1997, p. 43; United Nations, 1992). This principle has given rise to international legal norms such as the polluter pays principle, the precautionary principle, and intergenerational equity, which are now widely adopted in national policies. In the context of systemic environmental crimes, such as ecocide, the principle of sustainability asserts that economic growth cannot be used as an excuse to justify environmental destruction. Socio-environmental law thus serves not only as an instrument of control, but also as a corrective mechanism to ensure that economic activities remain within fair and rational ecological limits.

In line with this, the third generation of human rights has emerged, namely the right to a healthy, clean, and sustainable environment. This right is collective and intergenerational, because environmental damage not only affects individuals today, but also threatens the survival of humanity in the future. Instruments such as the 1972 Stockholm Declaration, the 1998 Aarhus Convention, and the 2018 Escazú Agreement confirm that every individual has the right to enjoy a decent environment, as well as the right to participate in and access information on environmental decision-making (Yurika, 2022). Thus, environmental justice is not only related to the distribution of resources, but also to public

participation in determining the direction of development. In the context of ecocide, violations of the right to a healthy environment also constitute fundamental violations of human rights.

State responsibility is key to ensuring economic, social, and environmental sustainability. The state not only acts as a regulator, but also as a manager of public economic resources with a constitutional obligation to protect the ecological interests of its people. From an international law perspective, this responsibility is embodied in the principle of state responsibility for environmental harm, which obliges states to prevent, mitigate, and restore environmental damage caused by activities within their jurisdiction (Sasake; Wattimena; Waas, 2022, p. 322). States that negligently or deliberately allow destructive activities such as massive forest burning, uncontrolled mining, or transboundary pollution can be considered in violation of international law. Therefore, the socio-environmental framework encourages states to not only comply with legal norms but also to act proactively in ensuring ecological sustainability as part of their social justice mandate.

The socio-environmental approach also implies a redistribution of responsibility in natural resource management. Not only the state, but also corporations and communities have an important role to play in ensuring ecologically just economic practices (Redação, 2024). The state is obliged to enforce policies that promote transparency, accountability, and the implementation of green economic instruments such as carbon taxes, environmental certification, and ecological compensation. The principle of common but differentiated responsibilities (CBDR), which is recognized in international environmental law, is relevant here, emphasizing that every country has a shared responsibility but at different levels according to its economic capacity and contribution to global environmental damage (Sumartini; Salidja, 2022, p. 236). With mechanisms such as this, socio-environmental law serves to correct global inequalities between developed and developing countries and ensure ecological solidarity between nations.

In light of the above, it can be said that economic and socio-environmental law are not two separate domains, but rather two sides of one grand objective: to achieve sustainable socio-ecological justice. The integration of the two creates a normative framework that allows the economy to grow without damaging the environment and without depriving vulnerable groups of their rights to resources. In the context of ecocide, this approach emphasizes that environmental damage is not merely a moral or administrative failure, but a structural violation of the principles of justice and humanity. Thus, the state's criminal responsibility for ecocide is not merely an attempt to punish, but also a means to restore the balance between economic development, the protection of human rights, and nature conservation, in line with the spirit of Justice as Fairness, which places justice as the foundation for a civilized and sustainable social order.

2.5 John Rawls' Perspective on Justice as Fairness

John Rawls's idea of Justice as Fairness is one of the most influential contributions to modern political and legal philosophy, particularly in establishing a conceptual basis for social justice and the equitable distribution of rights. In his monumental work A Theory of Justice (1971), Rawls rejected the utilitarian view that sacrifices individual rights for the collective good, and proposed a principle of justice rooted in the moral equality of all human beings (Saragih, 2024). According to Rawls, justice cannot be measured solely by end results or social benefits, but by how the basic structure of society is designed to provide fair opportunities for all parties. He introduced two main principles of justice: first, everyone has the same right to equal basic freedoms; second, social and economic inequalities can only be justified if they provide the greatest benefit to those who are least fortunate (the difference principle) (Saragih, 2024).

In the context of environmental law and governance, the concept of Justice as Fairness opens up space for reinterpreting justice not only as a relationship between humans, but also between humans and the environment (Admin STIH Adhyaksa, 2023). Rawls emphasizes that a just society must be built on the original position and veil of ignorance, a hypothetical condition in which each individual designs principles of justice without knowing their social, economic, or power position (Admin STIH Adhyaksa, 2023). If this principle is applied to environmental issues, then humans who do not know whether they will be born as the current generation or future generations will design a legal system that preserves the earth. Thus, ecological justice within the Rawlsian framework is a form of intergenerational

moral responsibility: justice that guarantees the sustainability of natural resources for all, without discrimination based on time and place.

Justice as Fairness provides a normative basis for the integration of social, economic, and environmental justice in modern legal systems. Rawls rejects inequalities that arise from exploitative economic structures and emphasizes the need for just institutions. In the context of ecocide, this principle can be interpreted as a call for states and corporations not to accumulate wealth at the expense of ecosystem balance and the rights of vulnerable communities. Rawls' principle of difference requires that any economic policy that has a negative impact on the environment must be compensated by remedial measures that provide tangible benefits to the most affected groups. In this way, justice is not merely a matter of profit sharing, but also of responsibility for the ecological damage caused by economic and political systems.

The concept of Justice as Fairness is also relevant in underpinning the theory of restorative punishment in environmental criminal law. Rawls rejects the idea of justice that is solely punitive or retributive, as this does not remedy structural inequalities. Instead, he emphasizes procedural justice that guarantees transparency, participation, and moral rationality in the decision-making process. In the context of state punishment for ecocide, Rawls' principle demands that sanctions be not only repressive, but also restorative, restoring the damaged socio-ecological balance. This means that the state's criminal responsibility must be directed towards restoring the rights of victims, rehabilitating the environment, and reconstructing institutions that prevent the recurrence of similar crimes in the future.

Justice as Fairness can be understood as an ethical paradigm that connects legal justice with ecological justice. Rawls does not explicitly discuss the environment, but his principles are highly relevant in addressing the challenges of global justice and the ecological crisis. In a world order marked by economic inequality and systemic environmental degradation, fair justice requires legal restructuring to protect the weak, both humans and nature. Thus, Rawls' perspective not only provides a moral basis for restorative punishment in the context of ecocide, but also offers a philosophical direction for the development of laws that are socially, economically, and environmentally just, in line with the ideals of sustainability and universal humanity.

3. Methodology

This study uses normative legal research, which is legal research based on the study of positive legal norms, legal principles, and relevant legal doctrines (Muhaimin, 2020, p. 45). This approach was chosen because the focus of the research lies in conceptual development and normative construction regarding state criminal responsibility for ecocide through the application of the concept of restorative punishment. Thus, this study not only describes the applicable legal provisions but also attempts to interpret and reorganize the legal framework to be in line with the demands of ecological justice and the state's moral responsibility for environmental sustainability.

The approaches used include conceptual and comparative approaches (Muhaimin, 2020, p. 54-57). The conceptual approach is used to build and deepen understanding of restorative punishment as a new model in the penal system, which integrates elements of punishment with the obligation to restore the environment and affected communities. This approach relies on legal theories, the philosophy of justice, and the moral values contained in John Rawls' concept of Justice as Fairness. Meanwhile, the comparative approach is carried out by comparing international and national legal developments, policies, and jurisprudence related to environmental crimes and ecocide. This comparison is intended to identify patterns, principles, and best practices that can serve as the basis for the construction of a more adaptive and progressive national law.

The data sources in this study consist of primary and secondary legal materials. Primary legal materials include international legal instruments such as the Statute of the International Criminal Court (Rome Statute), various international environmental conventions such as the Stockholm Declaration (1972), Rio Declaration (1992), and Paris Agreement (2015), as well as international and domestic court decisions relevant to environmental crimes. Secondary legal materials include scientific books, academic journals, legal articles, and previous research results discussing issues

of environmental crimes, theories of justice, and state criminal responsibility. These two types of legal materials will be processed systematically to produce a comprehensive and argumentative analysis (Muhaimin, 2020, p. 59).

Data analysis was conducted qualitatively with an emphasis on legal interpretation and doctrinal analysis (Muhaimin, 2020, p. 67). This technique was used to interpret existing legal norms, identify conceptual weaknesses, and propose legal arguments that could fill gaps or inconsistencies in norms in the context of ecocide. The analysis was conducted by linking Rawls' theory of justice, the principle of sustainable development, and the mechanism of state responsibility in international law. The analysis process also included deductive and inductive reasoning to produce a coherent and normatively applicable legal construct.

4. Discussion

4.1 Accountability Deficit: A Critical Analysis of Existing Legal Mechanisms

Systemic environmental crimes or ecocide reflect a form of legal violation that goes beyond the conventional legal framework. Until now, the legal mechanisms available in national and international systems have focused on civil, administrative, and human rights dimensions, each of which has structural limitations in responding to the complexity of ecocide. In civil law, the perpetrator's responsibility is often limited to financial compensation for losses suffered by individuals or specific groups (Widiyastuti, 2020, p. 48-50). However, ecocide not only causes individual losses but also systemic damage to ecosystems and life across generations. Compensatory civil mechanisms are unable to accommodate comprehensive ecological restoration, let alone deter state actors or corporations involved in environmental destruction.

Furthermore, in administrative law, environmental regulations in many countries, including Indonesia, tend to be oriented towards compliance-based approaches rather than substantive restoration or punishment. When pollution or damage occurs, administrative sanctions such as license revocation, administrative fines, or restoration orders are often not commensurate with the magnitude of the ecological damage that has occurred (Pasaribu; Febriana; Hasibuan; Ramadhan, 2024, p. 603-604). Furthermore, administrative sanctions are non-penal in nature and therefore do not impose moral or criminal responsibility on public officials or corporate entities that commit negligence. In many cases of forest fires, oil spills, or water pollution, administrative responsibility only extends to the company, while the state, as the supervisor and licensor, escapes substantive responsibility. This demonstrates the weak effectiveness of administrative sanctions in enforcing the principle of state responsibility for the environment.

In light of the above, within the framework of international human rights law, the issue of ecocide is often considered an indirect violation of human rights. For example, environmental pollution is often categorized as a violation of the right to health, the right to life, or the right to an adequate standard of living. However, this approach is still fragmentary because it positions environmental damage only as a derivative of human rights violations, not as a primary violation in its own right. As a result, human rights mechanisms place greater emphasis on compensation for human victims without addressing the root cause of systemic environmental exploitation. The lack of explicit recognition of ecocide as a structural human rights violation means that the responsibility of states and corporations remains symbolic rather than substantive.

Another weakness in the existing legal accountability system lies in jurisdictional fragmentation. In international practice, environmental crimes are not included in the jurisdiction of the International Criminal Court (ICC) as are genocide, war crimes, crimes against humanity, or aggression (Auli, 2023). As a result, countries that systematically destroy the environment cannot be prosecuted criminally at the international level, unless such actions are linked to other crimes. This fragmentation creates a serious legal gap, whereby large-scale ecological damage does not have an adequate forum of justice to hold states criminally accountable. At the national level, environmental law enforcement is also often hampered by conflicts of interest between law enforcement agencies, government institutions, and economic actors.

This condition is reflected in a number of real cases where environmental destruction occurs systematically, yet cannot be prosecuted as a crime under international law. One prominent example is the acceleration of deforestation in the Amazon rainforest in Brazil during Jair Bolsonaro's administration, where deregulation policies, the weakening of environmental oversight institutions, and the allowance of large-scale land clearing contributed to increased damage to the tropical rainforest ecosystem, which has a vital role in global climate stability (Poerwantika; Hatami, 2019, p. 188-189). Although its impacts are cross-border and affect the interests of the international community, there is no international criminal law mechanism that can prosecute the state for such policies. Another example can be seen in the environmental disaster of the Aral Sea caused by large-scale irrigation policies during the Soviet era, which diverted river flows for cotton production without considering ecological sustainability, resulting in the drastic shrinking of one of the world's largest lakes (Ungalov; Budiastuti; Komariah, 2015, p. 84-86). Similarly, in the case of pollution in the Ogoni region in Nigeria involving Shell's operations, the state was considered to have failed in fulfilling its obligations to protect the environment and the rights of local communities, even though the damage that occurred has been widely recognized by the United Nations Environment Programme as very severe and having long-term impacts (Azura, 2018, p. 1-2). These cases show that even if there is state involvement or negligence that directly contributes to systemic ecological damage, the absence of recognition of ecocide in the international criminal law regime results in states remaining outside the reach of global criminal accountability, thereby highlighting a significant legal gap in the existing system.

In addition, there are epistemological and institutional problems in understanding ecocide under the existing legal framework. The legal paradigm, which is still anthropocentric or centered on human interests, ignores the intrinsic dimension of the environment as a moral and legal subject. As a result, destruction of nature is considered a violation against humans, not against the ecological system itself. This paradigm makes the law reactive and compensatory rather than preventive and transformative. Existing legal institutions are not designed to deal with crimes involving collaboration between states and corporations, so criminal responsibility often stops at the individual or operational level, rather than at the power structures that actually initiate destructive policies.

Criticism of this accountability deficit points to the need for normative and paradigmatic reconstruction in environmental law and international criminal law. Ecocide must be treated as a crime against peace and the sustainability of humanity, not merely an administrative or civil offense. By expanding the scope of responsibility to include states and corporations, and incorporating aspects of ecological restoration into accountability mechanisms, the legal system can function not only as a tool of punishment, but also as a means of moral and social reconstruction. This provides the basis for the development of a restorative punishment model in the context of Justice as Fairness, which places ecological justice as an integral part of social justice and the human rights of future generations.

4.2 The Legal Construction of Ecocide: From Moral Concept to Criminal Offense

The concept of ecocide initially emerged as a moral call to oppose large-scale environmental destruction that threatens the sustainability of the earth and human life. The term was first used by biologist Arthur Galston in the 1970s to describe the destruction of ecosystems caused by the spraying of Agent Orange during the Vietnam War (Galston, 1970). Since then, ecocide has evolved into an ethical idea that demands legal recognition of environmental destruction as a crime against humanity. However, for decades, this concept remained only in the moral realm, without any binding legal force. The shift towards recognizing ecocide as a new international legal offense began to gain momentum after the emergence of a global movement urging the Rome Statute of the International Criminal Court (ICC) to add ecocide as the “fifth international crime,” alongside genocide, crimes against humanity, war crimes, and aggression (Auli, 2023).

To make ecocide a criminal offense, clear and measurable elements of the crime must be formulated. Based on the draft definition proposed by an independent panel led by the Stop Ecocide Foundation (2021), ecocide is defined as a deliberate and unlawful act that causes serious, widespread, or long-term damage to the environment. Key elements in this definition include: (1) the existence of intentional acts or omissions; (2) causing serious damage to the environment; (3) the damage being large-scale or long-term in nature; and (4) the perpetrator being aware of the

potential consequences but continuing with their actions nonetheless. The element of mens rea or malicious intent in the context of ecocide is complex because it requires proving conscious and deliberate negligence of the risk of ecological damage (Stop Ecocide Foundation, 2021, p. 4-6). Thus, proving ecocide requires a scientific approach that integrates environmental data, technology, and the testimony of ecological and international legal experts.

The standard of proof in ecocide crimes also presents its own challenges due to its multidimensional nature. Unlike conventional crimes that focus on individuals and direct victims, ecocide concerns the causal relationship between policies, economic activities, and ecological impacts that may only be felt after decades. Proving large-scale environmental damage requires credible scientific evidence, such as measurements of biodiversity degradation, climate change, transboundary pollution, and disruption to ecosystem balance. In addition, the relationship between perpetrators and consequences is often indirect, as policy decisions or corporate actions usually involve many parties and administrative layers. Therefore, proving ecocide must rely on the principle of multi-layered responsibility, which involves individuals, corporations, and states as a unified system of perpetrators.

The biggest challenge in criminalizing ecocide lies in state immunity and sovereignty issues. Under current international law, states are still considered immune from criminal jurisdiction except in cases of serious human rights violations such as genocide or war crimes (Wahyuni, 2024). As a result, destructive actions carried out by states in the name of economic development or resource exploitation often cannot be classified as criminal acts. In fact, many cases of ecocide occur precisely because of state policies that are permissive towards extractive industries or because of negligence in enforcing environmental laws. The recognition of ecocide as an international crime would challenge the traditional dogma of state sovereignty by placing collective criminal responsibility for actions that threaten the lives of future generations.

In addition to the issue of sovereignty, there is also the challenge of determining the subject of criminal law in the context of ecocide. The international criminal justice system still focuses on individuals (individual criminal responsibility), while environmental crimes are often committed by collective entities such as states or multinational corporations. To address this, a concept of state criminal liability is needed, which would allow states to be held criminally responsible for systemic policies or actions that cause ecological damage. This mechanism can be operationalized through international courts with special jurisdiction over ecocide, or through the strengthening of regional and national mechanisms that recognize state responsibility. This approach is in line with John Rawls' principle of Justice as Fairness, whereby justice means not only punishment, but also ensuring a proportional distribution of responsibility for the social and ecological impacts caused.

It is also important to highlight the restorative aspect in the construction of ecocide law. The recognition of ecocide as a criminal offense is not solely aimed at punishing perpetrators, but also at restoring the ecological damage that has been done. Therefore, a restorative punishment approach must be integrated into the sanction mechanism, whereby perpetrators, including states, are required to repair environmental damage, compensate affected communities, and take preventive measures to prevent recurrence of destruction. This approach not only provides a deterrent effect, but also restores the balance between humans and nature as a form of ecological justice.

Thus, the legal construction of ecocide marks a paradigm shift in international criminal law: from merely punishing individual perpetrators to mechanisms of collective responsibility and ecological restoration. The recognition of ecocide as a criminal offense will broaden the horizons of justice, placing environmental sustainability on par with human rights and world peace. However, to achieve this, political courage and comprehensive legal reconstruction are needed, so that justice is not only on the side of humans, but also on the side of the earth that sustains the lives of all generations.

4.3 Restorative Punishment in Action: Designing Criminal Sanctions for States

The concept of restorative punishment offers a new paradigm in the punishment of states that commit ecocide, one that is oriented not only toward punishment but also toward restoration. Unlike the retributive punishment system, which emphasizes legal revenge, restorative punishment places ecosystem restoration and community welfare at the core of justice. This approach combines the aspects of accountability and responsibility, namely the responsibility to

acknowledge mistakes and the obligation to repair the consequences (Pali; Tepper, 2022, p. 27). In the context of systemic environmental crimes, the state is not only a passive actor but also an active actor that can direct destructive policies. Therefore, restorative punishment must be designed to encourage the state to fulfill its moral and legal obligations to repair the ecological, social, and economic impacts it has caused.

One concrete form of restorative punishment is reparative fines, which are financial mechanisms specifically aimed at ecosystem restoration (Pali; Tepper, 2022, p. 27). Unlike administrative fines, which generally go into the state coffers with no guarantee of ecological use, reparative fines are earmarked and can only be used for environmental restoration purposes. These funds can be focused on reforestation, coastal and river ecosystem rehabilitation, and the development of ecological disaster mitigation systems. In the international context, reparative fines can be managed by special institutions or global funds supervised by independent bodies such as UNEP or the International Criminal Court (Robalo, 2020, p. 1147). Thus, any country proven to have committed ecocide is required to pay tangible ecological compensation, not just symbolic fines. This ensures that environmental restoration is an integral part of the criminal justice process, not just an administrative action after the verdict.

In addition to reparative fines, restorative punishment also emphasizes the positive obligation of the state to take concrete steps to restore the affected environment and community. This obligation includes rebuilding damaged ecosystems, eliminating sources of pollution, and implementing community-based rehabilitation programs. The state must also establish an independent monitoring system involving non-governmental organizations, academics, and local communities to ensure transparency and accountability in the restoration process. Forms of social reparation such as health programs, environmental education, and sustainable economic empowerment must be part of the sanctions package. The goal is not only to restore the physical ecosystem, but also to repair the social justice that has been disrupted by ecological damage.

This approach is in line with the principle of distributive justice in John Rawls' theory of Justice as Fairness, whereby every individual has the right to fair access to resources and opportunities for a decent life. In the context of ecocide, environmental damage has undermined the structure of social justice because poor communities and indigenous peoples are often the most affected. Thus, restorative punishment serves not only as punishment, but also as an instrument of socio-ecological justice redistribution. The perpetrator state is required to allocate funds and policies for the empowerment of affected communities, including guarantees of rights to land, clean water, and a healthy environment. This approach makes punishment a means of social transformation, not merely a reaction to legal violations.

Another very important aspect of restorative punishment is the symbolic acknowledgment by the state of its wrongdoing. This acknowledgment has great moral and political value, as it is a form of public accountability that can restore public trust and restore the integrity of the law. Symbolic recognition can take the form of an official apology in an international forum, the publication of a public report on the remedial measures taken, or the establishment of a national day of remembrance for victims of ecocide. This recognition is not merely a political gesture, but rather part of the psychological and moral recovery of the affected community, while also affirming that the state has accepted responsibility for its actions.

However, the implementation of restorative punishment against countries that commit ecocide requires a strong institutional structure. Without independent oversight, restorative sanctions can be reduced to administrative formalities without any substantive impact. Therefore, it is necessary to establish a transnational or regional supervisory body tasked with assessing the effectiveness of sanctions, ensuring the transparent use of reparative funds, and evaluating the success of restoration programs. Strengthening the role of civil society and local communities is also crucial to ensure that sanctions truly address the needs on the ground, rather than merely fulfilling formal legal requirements.

Thus, restorative punishment marks a paradigm shift in the international legal system towards substantive ecological justice. Through a combination of reparative fines, positive obligations, and symbolic recognition, the punishment of states that commit ecocide is not only a means of punishment, but also a holistic mechanism for recovery. This approach emphasizes that justice does not end with a verdict, but is realized through the active responsibility of the state to repair the ecological, social, and moral impacts it has caused, which is a step towards harmony between law, humans, and nature.

4.4 Comparative Study: Lessons from Various Jurisdictions

A comparative study of various jurisdictions around the world provides a rich picture of how legal systems in different regions respond to ecological crises and how the concepts of ecocide and restorative punishment can be adapted into national and regional legal frameworks. Each region demonstrates a different approach to integrating environmental justice into their legal systems, whether through the recognition of the rights of nature, the application of human rights principles to the environment, or the establishment of ecological restoration mechanisms. This analysis is important for understanding the direction of international law's evolution towards a more just and sustainable system of accountability, as well as for examining the potential for integrating ecocide as an international crime with a restorative justice approach.

The comparative study in this article is not merely descriptive, but is designed as an analytical instrument to identify normative and institutional patterns relevant to the development of state criminal accountability for ecocide. The selection of jurisdictions—Latin America, Europe, and Asia—is based on three main criteria: (i) the presence of normative innovations in the recognition or protection of the environment; (ii) the existence of practices or jurisprudence linking environmental damage with state responsibility; and (iii) the representation of diverse legal systems (civil law, common law, and supranational regional systems). Thus, these three regions were not chosen randomly, but rather as representative models reflecting the spectrum of global approaches to ecological justice.

In Latin America, a highly progressive approach has emerged through the “Rights of Nature” initiative. Countries such as Ecuador and Bolivia have explicitly incorporated this principle into their constitutions, affirming that nature is not merely an object of law, but a subject with rights that must be respected, protected, and restored. The Ecuadorian Constitutional Court, in the Vilcabamba River case (2011), even recognized that rivers have the right to their own existence and ordered the government to take environmental restoration measures. At the regional level, the Inter-American Court of Human Rights has also taken a progressive stance in a number of cases, such as Lhaka Honhat v. Argentina (2020), in which the court ordered the state to provide ecological and social reparations to indigenous communities harmed by destructive development policies. This approach shows that environmental restoration can be an integral part of human rights restoration.

Meanwhile, Europe presents a model of environmental law enforcement based on the human rights legal system and supranational regulations of the European Union (EU). The European Convention on Human Rights (ECHR) does not explicitly include the right to a healthy environment, but the jurisprudence of the European Court of Human Rights (ECtHR) has developed an evolutionary interpretation that links environmental damage to violations of the right to private and family life (Article 8 ECHR). The cases of Lopez Ostra v. Spain (1994) and Fadeyeva v. Russia (2005) are important milestones, in which the court affirmed the state's obligation to protect citizens from pollution that threatens their health and well-being. In addition, the European Union has implemented very strict environmental regulations through the European Green Deal and the Environmental Liability Directive, which regulate the legal responsibility of polluters, including the obligation to restore the environment. This European legal approach demonstrates a balance between human rights instruments and a strong administrative legal system, thereby closing the gap in state accountability for ecological damage.

Unlike Latin America and Europe, Asia still faces significant dynamics and challenges in implementing ecological justice and recognizing ecocide. However, there are a number of national cases that show significant potential for progress. In Indonesia, for example, the Supreme Court, through several citizen lawsuit and class action decisions, has begun to assert the responsibility of the state and corporations for forest fires and oil pollution, as in the cases of PT National Sago Prima and Pertamina Balikpapan Oil Spill. However, law enforcement is still hampered by weak implementation and political conflicts of interest. In the Philippines, the case of Oposa v. Factoran (1993) set an important precedent, in which the Supreme Court recognized the concept of intergenerational responsibility, whereby the current generation has a legal responsibility to protect the environment for future generations. This ruling confirms the great potential for Asia to develop a normative basis for broader ecological justice.

However, the legal approach in Asia still relies heavily on the political awareness and institutional capacity of each country. Many countries in the region still prioritize the exploitation of natural resources as a pillar of economic

development, so environmental policies are often sacrificed for the sake of investment. Another obstacle lies in the absence of a regional legal framework, such as those in Europe or Latin America, that can oversee the implementation of state responsibility for environmental damage. Therefore, integrating the principles of restorative punishment and the recognition of ecocide into national legal systems could be an important alternative for Asian countries to strengthen ecological accountability without having to wait for the formation of supranational institutions.

Although these three regions have different contexts, this comparative analysis shows the presence of an important normative convergence pattern, namely the recognition that environmental damage can no longer be viewed merely as an administrative violation, but rather as a matter of justice involving state responsibility. Nevertheless, the transferability of findings from each jurisdiction is not automatic. The 'rights of nature' model from Latin America, for example, faces challenges in implementation in countries with a more positivist legal tradition. Similarly, the European model based on supranational institutions is difficult to replicate in regions like Asia that do not yet have comparable regional mechanisms. Therefore, the adoption of a comparative approach must take into account the social, political, and institutional context of each country.

Considering these limitations, the main value of this comparative study lies in its ability to identify principles that can be contextually adapted, rather than directly transplanted. Principles such as the recognition of the intrinsic value of the environment, the state's obligation to carry out ecological restoration, as well as the integration of intergenerational justice dimensions, can serve as a basis for the development of the concepts of ecocide and restorative punishment in international law. Within the framework of Justice as Fairness, these findings reinforce the argument that the distribution of ecological burdens and state responsibilities must be designed fairly and rationally, taking into account the interests of present and future generations. Thus, this comparative study not only provides an empirical illustration but also strengthens the methodological and normative foundation for proposals of state criminal accountability for ecocide.

4.5 Proposal for a Legal Framework: Integrating Ecocide and Restorative Punishment into National and International Legal Systems with a Perspective of Justice as Fairness

The legal framework proposed in this section not only combines the concepts of ecocide and restorative punishment but also explicitly employs John Rawls's theory of "Justice as Fairness" as an analytical tool for designing the structure of a state's criminal liability. In this context, Rawls's theory is no longer positioned as a general normative justification but rather as an operational foundation for determining how responsibility, the distribution of ecological burdens, and the form of sanctions should be designed in the context of systemic environmental damage. The concepts of the "original position" and the "veil of ignorance" provide a foundation for assessing the legitimacy of state criminal liability in ecocide cases. If the parties were to design principles of justice without knowing their own positions—whether as developed or developing nations, as perpetrators or victims, or as present or future generations—they would rationally choose a legal system that provides maximum protection against the risk of irreversible ecological damage. In this context, recognizing ecocide as an international crime and establishing the possibility of state criminal liability becomes a rational choice to minimize intergenerational injustice and ecological risk inequality.

Furthermore, the difference principle serves as the basis for designing mechanisms to redistribute burdens and benefits in environmental law. This principle requires that environmental policies and sanctions provide the greatest benefits to those most adversely affected. In the context of ecocide, this means that sanctions against the state are not sufficient if they consist solely of financial penalties; rather, they must be directed toward concrete restoration for affected communities and damaged ecosystems. Therefore, restorative punishment is implemented through obligations for environmental rehabilitation, social reparations, and the establishment of an ecological restoration fund that is prioritized for vulnerable groups and areas suffering the most severe damage. Based on this framework, at the national level, this integration can be achieved through the enactment of legislation that explicitly defines the crime of ecocide by incorporating the state's liability as a legal entity. The design of sanctions in this legislation must reflect Rawlsian principles, namely: (i) guaranteeing the fundamental right to a healthy environment as part of equal basic liberties, (ii)

directing sanctions toward restoring the conditions of those most harmed in accordance with the difference principle, and (iii) ensuring that law enforcement mechanisms are not biased against specific groups. Institutionally, this can be supported by specialized environmental courts and an independent ecological restoration agency with a mandate based on scientific indicators.

At the international level, this framework supports amending the Rome Statute to include ecocide as an international crime, while also developing forms of sanctions that go beyond the retributive paradigm. From a Rawlsian perspective, the legitimacy of international sanctions depends not only on retribution but on their ability to restore a balance of justice between states and the global community. Therefore, the International Criminal Court could develop forms of transnational restorative sanctions, such as obligations to rehabilitate the global ecosystem, contributions to an international recovery fund, and recovery programs for affected transboundary communities. However, the application of Rawls's theory in the context of ecological justice also has limitations that must be critically acknowledged. The theory of "Justice as Fairness" is fundamentally anthropocentric, with a primary focus on the distribution of justice among humans, and thus does not fully accommodate the intrinsic value of the environment as a non-human entity. Furthermore, the assumption of rationality in the "original position" does not always reflect the dynamics of global politics, which are rife with power imbalances and economic interests. Therefore, the application of the Rawlsian framework in the context of ecocide must be complemented by an ecocentric perspective and a more progressive approach to environmental law.

The main concept offered in this section is the integration of ecocide as an international crime with the restorative punishment paradigm based on John Rawls' principle of Justice as Fairness. This framework aims to establish a legal system that not only punishes perpetrators of environmental destruction but also restores affected ecosystems and communities. By combining the universal moral idea of ecocide as a "crime against peace" (Higgins, Short, & South, 2013) and Rawls' theory of social justice, the law can move from a retributive paradigm to a comprehensive ecological justice paradigm. At the national level, this model can be realized through the establishment of an Ecocide and Ecological Restoration Law that regulates criminal sanctions as well as environmental restoration obligations. The law needs to be complemented by special environmental courts and an independent Ecological Restoration Supervisory Agency. The sanctions applied include reparative fines, positive obligations such as environmental rehabilitation and social reparations, and symbolic recognition in the form of a statement of state responsibility. This approach ensures that justice does not stop at financial penalties, but touches on moral and social dimensions.

Internationally, this draft supports the amendment of the Rome Statute to include ecocide as the fifth crime under the jurisdiction of the International Criminal Court (ICC). This approach is in line with L. J. Kotzé's (2021) thinking on global environmental constitutionalism, which emphasizes the importance of a constitutional basis for global environmental protection. The standard of proof in ecocide cases needs to combine scientific evidence of ecosystem damage with an analysis of state intent or negligence. The court may also impose cross-border restorative sanctions such as forest rehabilitation, river restoration, or empowerment of affected communities. The perspective of Justice as Fairness provides a philosophical basis for linking social and ecological justice. The principle of equal basic liberties guarantees everyone's right to live in a healthy environment, while the difference principle ensures that environmental policies and sanctions must benefit those most disadvantaged, including poor communities and damaged ecosystems. This approach is reinforced by the jurisprudence of the Inter-American Court of Human Rights, such as in the case of Lhaka Honhat v. Argentina (2020), in which the court not only awarded financial compensation but also ordered ecological and social restoration for indigenous peoples.

In addition, literature in the Revista de Direito Econômico e Socioambiental emphasizes the importance of a socio-environmental approach that combines social, economic, and environmental justice. This legal model encourages the establishment of a multi-level system between national, regional, and global courts to ensure the effective implementation of restorative sanctions. Thus, the integration of ecocide, restorative punishment, and Justice as Fairness forms a new legal paradigm that not only punishes perpetrators but also restores the balance between humans and nature. This is a concrete step towards sustainable ecological justice for current and future generations.

5. Conclusion

5.1 Summary

This article demonstrates that the absence of a criminal accountability mechanism for states in cases of systemic environmental damage is not merely a doctrinal issue, but rather a consequence of the limitations of the international legal framework, which is still oriented towards administrative and individual responsibility. Through an analysis of the weaknesses of the existing legal regime, including the fragmentation between environmental law, human rights law, and international criminal law, and supported by comparative lessons from various jurisdictions, this article identifies a structural need to reconstruct the concept of state accountability in the context of ecocide. The main contribution of this article lies in the development of a state criminal liability model based on restorative punishment, which not only fills the normative gap in international law but also integrates ecological restoration dimensions into the logic of sentencing. Unlike conventional retributive approaches, the proposed model positions ecosystem recovery, social reparations, and institutional transformation as inherent parts of criminal sanctions against the state.

Theoretically, this article expands the application of John Rawls' concept of Justice as Fairness into the realm of ecological justice and international criminal law. The principles of the original position and the veil of ignorance provide a normative basis for justifying intergenerational environmental protection, while the difference principle serves as a foundation for designing the redistribution of ecological burdens and reparations to the most affected groups. Thus, Rawls' theory not only functions as moral legitimacy but also as an analytical framework shaping the design of restorative sanctions and the proposed direction of legal policy. Nevertheless, this article also acknowledges a number of limitations. First, empirically, the proposed model still requires further testing through concrete case studies and quantitative data on the effectiveness of ecological restoration mechanisms. Second, institutionally, the implementation of state criminal liability faces serious obstacles related to the principles of sovereignty, international jurisdiction, and the absence of a court forum that explicitly accommodates ecocide. Third, theoretically, Rawls' approach, which tends to be anthropocentric, requires enrichment to be more compatible with an ecocentric perspective in environmental law.

Considering these findings, it can be concluded that the recognition of ecocide as an international crime and the development of a restorative punishment model for states are conceptually viable and normatively coherent steps, but their implementation depends on broader institutional and global legal-political transformations. Therefore, the contribution of this article is not only prescriptive but also opens up a further research agenda on the operationalization of ecological justice within the international legal system.

5.2 Recommendations

Based on the results of the analysis and the limitations identified, this article proposes several more operational recommendations as follows:

5.2.1 International Level

It is necessary to take gradual steps to integrate ecocide into the international criminal law regime through amendments to the Rome Statute. Specifically, this process can begin with the formation of an intergovernmental working group to formulate an operational definition of ecocide that includes elements of serious, widespread, and long-term damage, or it could also involve the development of environmentally-based scientific evidentiary standards within the framework of the International Criminal Court, or the design of cross-border restorative sanction mechanisms, such as an international ecological reparation fund managed independently to ensure the implementation of recovery.

5.2.2 Regional Level

Regional organizations such as ASEAN and MERCOSUR need to develop more specific legal instruments by establishing regional protocols regarding state responsibility for transboundary environmental damage, creating a joint monitoring body involving states, civil society, and environmental experts, and integrating the principle of restorative punishment into the framework of regional environmental cooperation.

5.2.3 National Level

The government needs to carry out more structured legal reforms through the codification of ecocide offenses in national criminal law by explicitly including elements of state responsibility, establishing specialized environmental courts that have the authority to impose restorative sanctions, developing public litigation mechanisms (citizen lawsuits and class actions) that allow citizens to hold the state accountable, and creating an independent ecological restoration oversight agency with a mandate for evaluations based on scientific indicators.

5.2.4 Strengthening the Empirical and Theoretical Basis

To enhance the validity and utility of the proposed model, further research needs to be directed towards the development of a comparative database on cases of systemic environmental damage and their recovery mechanisms, empirical testing of the effectiveness of the restorative punishment approach in environmental contexts, and enrichment of the theoretical framework by integrating non-anthropocentric perspectives to complement the limitations of Rawls' theory in environmental issues.

Thus, this recommendation is not only normative, but also provides a more concrete and measurable direction for the implementation of a state criminal accountability regime for ecocide within the framework of global ecological justice.

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