



Climate Reparations as Ecological Debt: A Challenge to Distributive Justice Frameworks

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ABSTRACT

The prevailing ethical frameworks for addressing climate change, predominantly rooted in distributive justice, focus on the fair allocation of burdens and benefits for mitigation and adaptation. Principles like “polluter pays” and “ability to pay” guide contemporary climate finance. However, this paper argues that distributive justice models are insufficient because they often fail to adequately account for the historical dimension of climate change, thereby treating it as a contemporary problem of allocation rather than a legacy of historical injustice. This paper proposes the framework of “climate reparations” grounded in the concept of “ecological debt” as a necessary and more robust alternative. It contends that climate finance must be understood not merely as aid or distribution, but as restitution for a debt accrued by industrialized nations through their historical and disproportionate appropriation of the atmospheric commons. The paper will critically analyze the limitations of distributive justice, elucidate the philosophical and economic foundations of ecological debt, and defend the reparations model against charges of being impractical or historically convoluted. Through case studies of demands from the Alliance of Small Island States (AOSIS) and the discourse around “Loss and Damage,” it will demonstrate that the reparative justice framework offers a more morally coherent and politically salient approach, aligning climate action with demands for historical accountability and corrective justice.

Keywords: Climate justice; reparations; ecological debt; distributive justice; historical responsibility; climate finance.

INTRODUCTION

The climate crisis represents the paramount ethical challenge of the contemporary era, posing fundamental questions about global equity, responsibility, and survival (Böhm, *et al.*, 2022). For decades, the international community has struggled to formulate a response that is not only effective in reducing greenhouse gas emissions but also fair in its apportionment of costs (Tyler, *et al.*, 2019). The philosophical underpinnings of these efforts have largely been anchored in theories of distributive justice, which concern the fair distribution of the benefits and burdens of social cooperation. In the climate context,

this has translated into principles such as grandfathering emissions, equal per capita entitlements, and the polluter-pays principle, all aimed at guiding a equitable distribution of emission rights and adaptation funds.

However, as the impacts of climate change accelerate, revealing stark disparities between the global North and South, the adequacy of distributive justice alone is being profoundly questioned. This paper posits that a singular focus on distributive justice provides an incomplete and potentially unjust ethical compass for climate action. By concentrating primarily on forward-looking allocation, it risks obscuring the historical origins of the crisis. The atmosphere is a global commons, and its capacity to safely absorb greenhouse gases has been overwhelmingly appropriated by a minority of the world's population through industrial activity spanning centuries. This historical appropriation constitutes an "ecological debt" owed by the Global North to the Global South.

This paper will systematically argue that the concept of climate reparations, founded on the acknowledgment of this ecological debt, presents a necessary challenge and supplement to dominant distributive justice frameworks. Reparative justice shifts the focus from mere distribution to rectification, from aid to restitution, and from shared responsibility to historical accountability. It demands a reckoning with the past as an indispensable component of achieving justice in the present and future. This framework is not merely an academic exercise; it echoes the long-standing demands of vulnerable nations and communities who frame climate change not as an unfortunate shared problem, but as a direct consequence of industrialized nations' development pathway.

The structure of this paper is as follows. First, it will provide a comprehensive review of the literature on climate justice, delineating the strengths and limitations of dominant distributive models. Second, it will delve into the conceptual foundations of ecological debt, tracing its intellectual history and economic calculations. The third section will construct the philosophical argument for climate reparations, drawing on theories of corrective justice and contrasting it with distributive approaches. The fourth section will address potential objections to the reparations model, such as problems of historical counterfactuals and non-identity. The fifth section will ground the theoretical discussion in real-world politics, analyzing the discourse around the Loss and Damage fund and the historical claims of small island states. Finally, the conclusion will synthesize the arguments, contending that integrating reparative justice is essential for a morally complete response to the climate crisis.

LITERATURE REVIEW: THE DOMINANCE AND LIMITS OF DISTRIBUTIVE JUSTICE IN CLIMATE ETHICS

The scholarly discourse on climate ethics has been dominated by the application of distributive justice principles, primarily drawn from the work of political philosophers like John Rawls. The central problem is framed as how to fairly distribute both the rights to emit greenhouse gases and the costs associated with preventing and coping with climate change. This has generated several prominent frameworks, each with distinct implications for equity. The first major approach is the "polluter-pays" principle. This principle, rooted in tort law, suggests that those who cause harm are responsible for rectifying it. In climate ethics, theorists like Henry Shue (1999) have powerfully argued that the primary duty to act falls on those who have contributed most to the problem. Shue contends that this is a matter of basic justice; to require impoverished nations to bear significant costs for a problem they did not create is a violation of their right to development. The polluter-pays principle provides a clear, causal link between action and responsibility, offering a strong moral basis for demanding action from industrialized nations.

A second influential framework is the "ability-to-pay" principle. This approach, with utilitarian and Rawlsian roots, argues that the costs of climate action should be borne by

those most capable of bearing them, irrespective of their historical responsibility. This perspective, championed by philosophers like Eric Posner and David Weisbach (2010), prioritizes efficiency and the minimization of overall welfare loss. It is often seen as more practical, as it leverages existing economic wealth to solve a global problem without getting mired in complex historical debates. The principle aligns with notions of beneficence and global solidarity.

A third model, which attempts to combine historical and economic considerations, is the “Greenhouse Development Rights” framework. Proposed by scholars like Paul Baer et al. (2008), this framework calculates national responsibility based on cumulative historical emissions and capacity based on income distribution above a “development threshold.” This sophisticated model aims to protect the poor in all countries while assigning responsibility to the wealthy, both across and within nations. It represents a significant advancement in distributive thinking by explicitly trying to address intra-national inequality.

Despite their sophistication, these distributive models share a critical limitation: their treatment of history is often abbreviated or instrumental. The polluter-pays principle, while historical, typically focuses on emissions since a politically convenient baseline like 1990, ignoring the centuries of industrialization that created the wealth and infrastructure of the Global North. This “presentist” bias, as historian Dipesh Chakrabarty (2009) might argue, fails to engage with the “anthropogenic” history of climate change—the fact that it is the result of a specific, historically located mode of human development. Furthermore, distributive frameworks often conceptualize climate finance as a matter of “aid” or “assistance.” This framing, as argued by political theorist Olúfẹ́mi O. Táíwò (2022), carries connotations of charity rather than obligation. It preserves the power dynamic where the Global North is positioned as a benevolent donor rather than a debtor settling an account. This obscures the underlying power relations and historical injustices that have led to the current disparity in vulnerability. The language of distribution, therefore, can inadvertently depoliticize what is fundamentally a historical and political conflict.

The justice of a distribution cannot be evaluated without understanding the history that produced the initial holdings to be distributed. Philosopher Thomas Pogge (2002), while not writing exclusively on climate, has powerfully made this point in the context of global poverty, arguing that the global institutional order is shaped by a history of violence and appropriation that benefits the rich at the expense of the poor. Applying this to climate change suggests that a purely distributive framework is inadequate because it takes the current distribution of wealth and vulnerability as a given, rather than seeing it as the outcome of a process that may itself have been unjust.

This gap in the literature is precisely where the concept of ecological debt and the call for reparations emerges. It challenges the distributive paradigm by insisting that the starting point for justice is not a fair allocation of a shared burden, but the rectification of a historical wrong that has created the conditions of disparity in the first place. The following sections will explore this alternative framework in depth.

THE CONCEPTUAL FOUNDATIONS OF ECOLOGICAL DEBT

The term “ecological debt” emerged from social movements and NGOs in the Global South in the early 1990s. It was a conceptual tool to invert the dominant narrative of financial debt owed by Southern nations to Northern creditors. Instead, it posited that the North was the true debtor, owing a vast, unacknowledged debt for centuries of resource plunder, environmental degradation, and the disproportionate use of the planet’s waste-absorption capacities.

Defining Ecological Debt

Ecological debt can be defined as the cumulative responsibility borne by industrialized countries for the gradual destruction of the Earth's capacity to sustain life through their patterns of over-consumption and pollution, and for the disproportionate appropriation of resources and environmental space for their own development (Martinez-Alier, 2002). It comprises two main components: the debt for resource appropriation and the debt for pollution. The former includes the historical extraction of raw materials (fossil fuels, minerals, timber) often under unequal terms of trade and without adequate compensation for environmental costs. The latter, which is most relevant to climate change, refers to the occupation of the "sink" capacity of the atmosphere for greenhouse gas emissions.

Calculating the Climate-Related Ecological Debt

Quantifying the ecological debt is methodologically complex but crucial for moving the concept from a moral claim to a basis for policy. Economists have attempted calculations based on the social cost of carbon. For instance, one approach estimates the total historical emissions of Annex-I (industrialized) countries since the industrial revolution, multiplies this by the estimated cost per ton of CO₂, and compares it to their share of a sustainable global emissions budget based on population. A study by Rikard Warlenius (2017) applied such methods and concluded that the Global North's climate debt is so large that it effectively cancels out the financial debt of the Global South many times over. These calculations, while necessarily involving uncertainties, provide a powerful empirical backing for the moral argument.

The Atmospheric Commons and Historical Appropriation

The philosophical core of the climate debt argument rests on the atmosphere being a common heritage of humankind. Philosopher Stephen M. Gardiner (2011) describes climate change as a "perfect moral storm" partly because of the intergenerational and theoretical challenges it poses. The historical appropriation of the atmospheric commons by early industrializers represents a form of "theft" or "unjust enrichment." They developed their economies by using a common resource without paying for it, and in doing so, diminished the resource's capacity for future generations and other nations. This creates a clear basis for a claim of restitution, moving beyond the mere distribution of remaining capacity.

FROM DEBT TO REPARATIONS: A REPARATIVE JUSTICE FRAMEWORK

The establishment of an ecological debt, particularly the climate-specific component, marks a critical shift in understanding the relationship between industrialized and developing nations. However, identifying a debt is only the first step; the crucial subsequent question concerns the nature of the obligation this debt creates. This section argues that the most appropriate and morally robust response is not merely a discharge of debt through standard financial transactions, but a comprehensive program of *reparations* grounded in the principles of corrective justice. This framework fundamentally challenges the distributive justice paradigm by centering historical wrongs, the need for rectification, and the restoration of moral and political relationships, rather than merely the equitable allocation of future burdens.

The Philosophical Underpinnings: Corrective Justice vs. Distributive Justice

To understand the distinctiveness of reparative justice, one must first delineate its core from that of distributive justice. Distributive justice, as articulated from Aristotle to John Rawls, is concerned with the fair allocation of benefits and burdens within a society or

cooperative scheme (Lister, 2011). Its focus is primarily on the end-state or pattern of distribution, asking questions like “Who should get what?” and “What is a fair share?”

In the climate context, this translates into debates over emission quotas and adaptation fund contributions based on principles like current responsibility or capacity. Corrective (or rectificatory) justice, also with Aristotelian roots, operates differently. It is not concerned with the ideal pattern of distribution but with rectifying transactions that have wrongfully disturbed a pre-existing just situation. Its central question is not “What is a fair share?” but “How do we correct a wrong?” (Aristotle, trans. 2000). This involves annulling the gain of the wrongdoer and restoring the loss of the victim. Climate reparations, therefore, frame climate change not as a shared problem to be managed fairly, but as a harm inflicted by some parties upon others, creating a duty of repair. Philosopher Roy L. Brooks (2004) emphasizes that reparations are a comprehensive remedy for a sustained and grievous injustice, aiming not just at material compensation but at moral and relational repair, which is precisely what is needed in the fractured global climate context.

The Essential Elements of a Reparative Framework

A full-bodied reparations program, as developed in international law, transitional justice, and scholarship on historical injustices, typically comprises several interconnected components. Applying this structure to climate change transforms abstract debt into concrete obligations.

Cessation and Guarantees of Non-Repetition: The most fundamental element of reparations is the immediate cessation of the harmful activity. In the climate context, this translates to an urgent, deep, and rapid reduction of greenhouse gas emissions by debtor nations. This is the non-negotiable first step; to continue polluting while discussing compensation is to perpetuate the harm. Guarantees of non-repetition involve legally binding commitments, such as ambitious Nationally Determined Contributions (NDCs) aligned with 1.5°C pathways, the dismantling of fossil fuel infrastructure, and a just transition to renewable energy. This element addresses the ongoing nature of the harm, distinguishing it from a historical wrong that has completely ended.

Restitution: The goal of restitution is to restore the victim to the situation they enjoyed before the wrongful act occurred. For climate-vulnerable nations, perfect restitution is often impossible—lost coastlines, extinct species, and submerged cultural heritage sites cannot be fully restored. However, the principle demands actions that approximate this goal as closely as possible. This includes massive investment in adaptation infrastructure—sea walls, climate-resilient agriculture, freshwater management systems—that aims to protect communities and ecosystems from impacts they would not otherwise be facing. It also involves supporting community-led relocation and resettlement programs with dignity when restitution in place is impossible.

Compensation: This is the most recognized form of reparations and addresses losses that cannot be restored through restitution. Compensation must be proportional to the harm suffered. For climate impacts, this requires sophisticated mechanisms for valuing both economic and non-economic losses. Economic losses include damage to infrastructure, lost agricultural productivity, and diminished GDP. Non-economic losses, which are often overlooked in distributive models, are profound and include loss of life, health impacts, displacement, loss of cultural heritage, loss of biodiversity, and the existential threat to national sovereignty faced by small island states. The Loss and Damage fund

established at COP27 is a nascent, though contested, institutional recognition of this need for compensation.

- **Satisfaction:** This element focuses on measures needed to repair the dignity and acknowledge the suffering of the victims. It includes crucial non-material actions such as the formal verification and public acknowledgment of facts—for instance, through historical commissions that detail the causal link between historical emissions and specific climate impacts. A sincere and public apology from the leadership of debtor nations is a key component of satisfaction, serving as a recognition of wrongdoing and a validation of the victims' experience. Other measures can include commemorative acts, educational reforms to include this history in curricula, and symbolic gestures that affirm the moral equality of all parties.
- **Rehabilitation:** This involves providing ongoing care and support to victims to help them heal from the physical and psychological trauma of the injustice. In the climate context, this means ensuring access to healthcare for climate-related illnesses, providing psychosocial support for communities suffering from solastalgia (the distress caused by environmental change), and investing in the cultural and social revitalization of displaced communities. Rehabilitation acknowledges that the harm is not just material but also deeply human and social.

Distinguishing Reparations from “Climate Finance” and “Aid”

The language used to describe financial transfers is politically and morally significant. The dominant terms in international negotiations—“climate finance” and “aid”—are deeply problematic from a reparative justice perspective. “Aid” connotes charity, benevolence, and discretionary giving. It reinforces a power dynamic where the Global North is positioned as a magnanimous donor and the Global South as a supplicant recipient. This framing obscures the underlying obligation and injustice. Similarly, “climate finance” is a technocratic term that suggests a neutral, managerial process of resource allocation, devoid of historical context or moral responsibility. Reparations, by contrast, uses the language of law, justice, and obligation. It frames financial transfers as a *rightful entitlement* of the victims and a *duty* of the perpetrators. This shift in language, as argued by Olúfé' mi O. Táíwò (2022), is empowering and destabilizes the neo-colonial power structures embedded in current climate politics. It moves the discussion from a plea for help to a demand for what is owed.

The Problem of Agency: Who Owes to Whom?

A common objection to climate reparations is the problem of collective agency and inheritance. Can present-day citizens of industrialized nations be held responsible for the actions of their ancestors? This objection, while important, can be addressed through the concept of “beneficiary pays” rather than solely “polluter pays.” Philosopher Daniel Butt (2009) provides a powerful argument for this approach. He contends that even if present generations are not morally culpable for the acts of their forebears, they continue to inherit and enjoy the advantages—the wealth, infrastructure, and political stability—generated by those historical acts of environmental appropriation. To retain these benefits without addressing the ongoing harms they are entangled with is to be complicit in an unjust enrichment. Therefore, the obligation to pay reparations falls on current beneficiaries of the carbon-intensive development pathway, irrespective of their personal fault. This aligns with domestic legal principles where heirs can inherit both the assets and the liabilities of an estate.

THE SCOPE OF HARM: BEYOND ECONOMIC VALUATION

A reparative framework insists on a broad understanding of harm that surpasses the narrow economism often present in distributive models. The harm of climate change is, fundamentally, a harm to human and ecological flourishing. It includes:

- **Sovereignty Harm:** The ultimate harm for a nation-state is the loss of its territorial basis, and with it, its political and cultural sovereignty. For nations like Tuvalu and Kiribati, climate change poses an existential threat that is unprecedented in the modern international system. Reparations must grapple with the question of what is owed to a people whose homeland is rendered uninhabitable. This includes legal recognition of statehood post-submersion, citizenship rights for displaced populations, and the preservation of cultural sovereignty.
- **Cultural and Spiritual Harm:** The land is not just a resource; it is the foundation of identity, culture, and spirituality for countless indigenous and local communities. The loss of sacred sites, traditional knowledge systems, and the intimate connection to a specific place is a profound non-economic loss. A reparative approach would involve mechanisms for communities to define these harms themselves and to determine what forms of restitution or compensation would be meaningful.
- **Intergenerational Harm:** The ecological debt is not only owed to the present generation but to future generations in the Global South whose life prospects are being irreparably diminished. This imposes a dual obligation on debtor nations: to compensate the present generation for current losses and to invest in a future for the Global South that is not constrained by a problem they did not create. This involves funding for clean energy, education, and sustainable infrastructure that allows for development within planetary boundaries.

Case in Point: The Caribbean Community (CARICOM) and the Ten Point Plan

A concrete example of a reparatory framework being applied is the Caribbean Community's (CARICOM) call for reparations for slavery and native genocide. While focused on historical crimes, their "Ten Point Plan for Reparatory Justice" offers a relevant structure for climate claims. The points include a formal apology, debt cancellation, and development programs, but crucially, they also include a "Public Health Crisis" point addressing the psychological trauma of racism and an "Illiteracy Eradication" point addressing the cultural damage of colonialism. This demonstrates a holistic understanding of harm and repair that goes far beyond financial compensation. Applying a similar lens to climate change would mean that reparations are not just a check to build a sea wall, but a comprehensive program that addresses the multifaceted trauma of displacement, cultural loss, and the systemic injustice of being forced to pay for a crisis one did not cause.

Countering the "Divisiveness" Objection

Policymakers often reject reparations talk as "divisive" or "politically unrealistic," arguing that it will alienate the very nations whose cooperation is essential. This objection mistakes the symptom for the cause. The division and injustice already exist; they are material realities for communities on the frontlines of climate change. Reparations discourse does not create this division; it names it and proposes a path toward genuine reconciliation. Basing climate action on a framework that the victims perceive as unjust is a fragile foundation for long-term cooperation. As moral philosopher Christopher J. Preston (2016) notes, a solution perceived as illegitimate is unlikely to be stable or durable. A

reparative approach, while politically challenging, offers the possibility of a more honest and therefore more stable foundation for global climate governance, one based on acknowledged responsibility rather than grudging charity.

The Role of Non-State Actors and Corporations

While the primary focus of reparations is on nation-states as the primary duty-bearers under international law, a comprehensive framework must also grapple with the responsibility of non-state actors, particularly fossil fuel corporations. Investigative journalism and research from organizations like the Climate Accountability Institute have revealed that a handful of major carbon producers have been responsible for a significant percentage of historical emissions, all while knowingly misleading the public about the dangers. This introduces a parallel track of reparative obligation. States owe a debt for their historical and ongoing policy choices, but corporations may also owe a direct debt to affected communities. This is already being pursued through climate litigation lawsuits around the world, where cities, states, and communities are suing fossil fuel companies for damages. A reparative justice framework supports these efforts, viewing them as a necessary component of holding all culpable parties accountable.

Reparations as a Path to Cosmopolitan Solidarity

Finally, it is essential to frame reparations not as a punitive measure but as a constructive one. The goal is not to impoverish the Global North but to establish a just and sustainable foundation for global coexistence. By fully acknowledging and acting upon the ecological debt, industrialized nations have an opportunity to demonstrate genuine global solidarity. This process of acknowledgment, apology, and restitution can build trust and foster a sense of shared destiny, which is a prerequisite for the profound cooperation needed to tackle the climate crisis. In this sense, reparative justice is not an alternative to forward-looking cooperation; it is its essential precondition. It clears the moral air and allows all parties to move forward on a footing of equality and mutual respect, rather than resentment and imposed sacrifice.

The shift from ecological debt to a reparative justice framework represents a necessary evolution in climate ethics. It demands that we stop treating climate change as a technical problem of distribution and start addressing it as a profound historical injustice requiring correction, acknowledgment, and healing. This approach provides a more comprehensive, morally coherent, and ultimately more honest basis for the immense task of building a just and livable world.

CASE STUDIES AND POLITICAL DISCOURSE

The Alliance of Small Island States (AOSIS) and the Marshall Islands

The moral claim for climate reparations is not abstract; it is lived reality for nations facing existential threats. Since the early 1990s, AOSIS has been at the forefront of demanding climate action framed as a matter of justice and survival (Tafon & Saunders, 2025). The Republic of the Marshall Islands, for example, faces inundation from sea-level rise despite having contributed minimally to global emissions. Its leaders, like former Foreign Minister Tony deBrum, have consistently argued that climate change is a direct consequence of other nations' actions and that support for adaptation is not aid but a right. The very existence of such nations is held hostage by historical emissions, making the case for reparations not about money alone, but about sovereignty and survival.

The Warsaw International Mechanism on Loss and Damage

The establishment of the Loss and Damage (L&D) mechanism at COP19 in Warsaw (2013) and its subsequent elevation to a dedicated fund at COP27 (2022) represents a

pivotal moment in the recognition that climate impacts exceed the limits of adaptation. L&D addresses the “residual” impacts that occur when mitigation and adaptation efforts fail. While the official UNFCCC text carefully avoids language of “liability” or “compensation,” the political struggle behind it is fundamentally about reparations. Vulnerable countries see L&D as a mechanism for accountability, while industrialized nations resist it for precisely that reason, fearing it creates a limitless liability. The ongoing negotiations over the funding and governance of the L&D fund are a practical battlefield for the principles of reparative justice.

OBJECTIONS AND REBUTTALS

A proposal as transformative as climate reparations inevitably invites significant critique. Engaging seriously with these objections is not a defensive exercise but a necessary step in strengthening the argument's philosophical and practical rigour. This section addresses the most prominent objections, demonstrating that while they highlight real complexities, they do not invalidate the core moral claim for reparations; instead, they help refine its application.

The Problem of Historical Complexity and Non-Identity

The most sophisticated philosophical challenge to historical reparations is the “non-identity problem,” famously articulated by Derek Parfit (1984). The argument posits that present generations in the Global South cannot claim to be harmed by historical emissions because their very existence is causally dependent on the complex historical chain of events that included industrialization. If the past had been radically different—for example, if the Global North had pursued a low-carbon path—the specific individuals alive today would not exist. Therefore, it seems incoherent to say they are “worse off” due to historical actions, as without those actions, they would not be *at all*.

This objection requires a careful rebuttal. Firstly, the harm of climate change is not a single, completed historical event but an ongoing and accelerating process. The primary drivers of the crisis are not only 19th-century coal emissions but the persistent and knowing overconsumption of the atmospheric commons throughout the late 20th and 21st centuries, long after the scientific consensus was firm. Secondly, the non-identity problem, while logically intriguing, can lead to morally absurd conclusions if applied rigidly. It would seemingly invalidate all claims of intergenerational justice, making it impossible to hold present generations accountable for long-term problems like nuclear waste or biodiversity loss. As philosopher James Woodward (1986) argues, we need a conception of harm that is comparative and focuses on the conditions of life imposed on people, rather than on the specific identity of the individuals. The harm to a current citizen of the Marshall Islands is not that they exist in a climate-altered world instead of not existing, but that the actions of others have imposed upon them a life of existential threat and potential displacement, violating their rights to a secure and sovereign existence.

A more compelling framework sidesteps the problem of culpability altogether: the “beneficiary pays” principle. Developed by theorists like Daniel Butt (2009), this principle argues that individuals can acquire duties of justice when they benefit from injustice, even if they are not personally responsible for causing it. The wealth, infrastructure, and high standards of living in the Global North are, in significant part, the fruits of a carbon-intensive development pathway that appropriated a common resource. To retain these benefits without addressing the harms they produced is to be unjustly enriched. The obligation, therefore, arises not from blame but from the unfairness of profiting from a system that has inflicted costs on others. This shifts the question from “Who is to blame?” to “Who benefits from the injustice, and what must they do to rectify it?”

The Practicality and Political Feasibility Objection

A second, more pragmatic objection contends that reparations are politically untenable. Critics argue that demanding reparations will alienate policymakers and publics in the Global North, triggering a backlash that could stall climate negotiations altogether. They suggest that a more pragmatic, forward-looking approach based on "common but differentiated responsibilities" (CBDR) is the only viable path to progress.

This objection confuses what is politically convenient with what is morally necessary. Conceding to the lowest common denominator of political feasibility has, thus far, resulted in a catastrophic ambition gap in climate action. The existing framework of voluntary pledges and inadequate climate finance has failed to curb emissions or protect the most vulnerable. Continuing on this path is the truly "impractical" course of action. Furthermore, the objection underestimates the motivational power of justice. Framing climate finance as reparations—as a matter of obligation and rectification rather than charity—could provide a more robust and durable political foundation. Appeals to charity are fickle and easily cut during economic downturns; claims of justice, by contrast, are persistent and morally compelling. The movement for slavery reparations, for instance, has endured for centuries because it is rooted in a demand for justice, not pity.

Politically, the reparations framework is already a reality. The entire struggle over the Loss and Damage fund is, in essence, a struggle for reparations by another name. Vulnerable nations have forced the issue onto the agenda against powerful resistance, demonstrating that moral authority can create political feasibility. Refusing to use the conceptually accurate term "reparations" cedes the rhetorical high ground and allows debtor nations to frame the issue on their own terms. As Olúfẹ́mi O. Táíwò (2022) argues, building a powerful political movement requires "taking the words for things," and using the precise language of debt and reparations is a crucial act of political and intellectual self-determination.

The Problem of Measurement and Administration

A third objection points to the immense practical difficulties of quantifying the ecological debt and administering a reparations program. How does one precisely calculate the monetary value of historical emissions, given uncertainties about historical data and the appropriate social cost of carbon? How would funds be distributed fairly among a diverse set of claimant nations and communities? Critics argue that these complexities make the proposal unworkable.

While these challenges are real, they are not insurmountable and are poor excuses for inaction. Firstly, the absence of a perfect metric does not invalidate the underlying moral claim. As legal scholar Martha Nussbaum (2000) argues in a different context, the fact that we cannot perfectly measure a capability does not mean we should not strive to protect it. Scholars like Rikard Warlenius (2017) have already produced credible estimates of the climate debt using established economic models, showing it dwarfs the financial debt of the Global South. These calculations, while requiring methodological choices, provide a reasonable ballpark figure that underscores the magnitude of the obligation.

Secondly, the administration of reparations can be designed through transparent and participatory international institutions. The Green Climate Fund (GCF), despite its flaws, offers a prototype for governance structures that could be adapted and scaled up. A reparations fund could be managed by a board with equitable representation from debtor and creditor nations, alongside civil society, to oversee the distribution of resources based on assessments of vulnerability, historical marginalization, and specific needs. The

complexity of administering justice is a feature of any large-scale legal or ethical endeavor, from post-war reconstruction to domestic welfare states; it is a challenge to be met with careful design, not a reason to abandon the pursuit of justice.

The Objection of Shifting Global Power

A final, more contemporary objection notes that the world of the 21st century is not the same as that of the 19th. Emerging economies like China and India are now major emitters. Critics ask: Does the reparations framework only apply to historical Western powers? Would it not impose an unfair burden on contemporary Western citizens while letting new economic powers off the hook?

This is a crucial objection that requires the reparations framework to be dynamic, not static. The concept of ecological debt is primarily backward-looking, addressing the historical occupation of the atmospheric commons that allowed the West to develop. This debt remains and must be paid. However, a comprehensive justice framework must also incorporate forward-looking responsibilities. China's rapid, coal-fired development since the 1990s has occurred *after* the scientific warnings were clear. This creates a contemporaneous "polluter-pays" responsibility that is distinct from, but concurrent with, the West's historical reparative duty. China, and other major emerging economies, therefore have a significant obligation to contribute to mitigation and adaptation efforts based on their current and recent emissions, even as the Global North bears the primary responsibility for the historical debt. A just framework is not a binary but a spectrum of responsibility that accounts for both historical appropriation and contemporary pollution.

CONCLUSION

This paper has argued that the climate crisis is not merely a technical or economic problem to be managed, but a profound historical injustice that demands a paradigm shift in our ethical and political response. The dominant frameworks of distributive justice, which focus on the fair allocation of emission rights and adaptation costs, have provided valuable but ultimately insufficient guidance. By concentrating on a forward-looking distribution of burdens, they have largely taken for granted the historical processes that created the radically unequal starting positions of nations today. They treat the symptoms of the crisis while ignoring its root cause: the unacknowledged appropriation of a global common resource.

The concept of ecological debt reframes the issue with necessary moral clarity. It identifies the cumulative historical emissions of the Global North as a fundamental act of injustice—an unfair enrichment achieved through the use of a shared sink capacity without payment or consent. This debt is not metaphorical; it is a real, quantifiable, and overdue obligation. Translating this debt into a framework of climate reparations, grounded in the principles of corrective justice, offers a more comprehensive and coherent path forward. Reparations move beyond the limited language of "aid" and "finance" to the more accurate and potent language of obligation, restitution, and repair. This framework demands not just financial compensation, but also cessation of harm, guarantees of non-repetition, formal acknowledgment, and measures for rehabilitation—a holistic approach that addresses the multifaceted nature of the harm inflicted.

The journey from identifying the ecological debt to implementing a reparations program is fraught with challenges, both philosophical and practical. Objections based on historical complexity, political feasibility, and administrative difficulty are serious and must be engaged. However, as this paper has demonstrated, these objections can be met with robust rebuttals. The beneficiary-pays principle sidesteps the problem of ancestral blame; the moral and strategic poverty of the status quo reveals the true impracticality of

inaction; and the complexities of measurement and administration are challenges of design, not insurmountable barriers.

The political momentum for this shift is already building from the ground up. The unwavering demands of small island states for survival, the hard-fought battle for a Loss and Damage fund, and the rising chorus of climate justice movements worldwide are all manifestations of a repressed demand for reparative justice. These movements understand that a solution that is not perceived as just will never be stable or effective. The continued refusal of the Global North to engage honestly with its historical debt is not only a moral failure but a fundamental obstacle to the global cooperation required to avert catastrophe.

Achieving climate justice requires a decisive move beyond the distributive paradigm. It demands that we confront the uncomfortable history of how we arrived at this precipice. Embracing a reparative justice framework is not an act of division, but a necessary precondition for genuine reconciliation and a stable, collaborative future. It is an acknowledgment that the atmospheric commons must be restored, and that those who benefited from its degradation have a duty to lead the repair. The repayment of the ecological debt is not merely a financial transaction; it is the foundational act of ethical repair without which a just and livable world for all remains an impossible dream.

REFERENCES

- Aristotle. (2000). *Nicomachean Ethics* (R. Crisp, Trans.). Cambridge University Press. (Original work published circa 350 BCE).
- Baer, P., Fieldman, G., Kartha, S., & Kemp-Benedict, E. (2008). *The Greenhouse Development Rights Framework: The right to development in a climate constrained world* (2nd ed.). Heinrich Böll Foundation.
- Böhm, S., Carrington, M., Cornelius, N., de Bruin, B., Greenwood, M., Hassan, L., ... & Shaw, D. (2022). Ethics at the centre of global and local challenges: Thoughts on the future of business ethics. *Journal of Business Ethics*, 180(3), 835-861.
- Brooks, R. L. (2004). *Atonement and Forgiveness: A New Model for Black Reparations*. University of California Press.
- Butt, D. (2009). *Rectifying International Injustice: Principles of Compensation and Restitution Between Nations*. Oxford University Press.
- Chakrabarty, D. (2009). The climate of history: Four theses. *Critical Inquiry*, 35(2), 197-222.
- Gardiner, S. M. (2011). *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford University Press.
- Lister, A. (2011). Justice as fairness and reciprocity. *Analyse & Kritik*, 33(1), 93-112.
- Martinez-Alier, J. (2002). *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar.
- Nussbaum, M. C. (2000). *Women and Human Development: The Capabilities Approach*. Cambridge University Press.
- Parfit, D. (1984). *Reasons and Persons*. Oxford University Press.
- Pogge, T. (2002). *World Poverty and Human Rights*. Polity Press.
- Posner, E. A., & Weisbach, D. (2010). *Climate Change Justice*. Princeton University Press.
- Preston, C. J. (2016). Climate justice and the problem of political agency. *Ethics, Policy & Environment*, 19(2), 203-216.
- Shue, H. (1999). Global environment and international inequality. *International Affairs*, 75(3), 531-545.

- Tafon, R., & Saunders, F. (2025). Toward transformative youth climate justice: Why youth agency is important and six critical areas for transformative youth activism, policy, and research. *PLOS Climate*, 4(4), e0000472.
- Táíwò, O. O. (2022). *Reconsidering Reparations*. Oxford University Press.
- Tyler, T., Boeckmann, R. J., Smith, H. J., & Huo, Y. J. (2019). *Social justice in a diverse society*. Routledge.
- Warlenius, R. (2017). Decolonizing the atmosphere: The climate justice movement on climate debt. *The Journal of Environment & Development*, 26(2), 131–155.
- Woodward, J. (1986). The non-identity problem. *Ethics*, 96(4), 804-831.