Reimagining Climate Finance for Sustainable Communities in the Global South: Lessons from Carbon Markets in Overcoming Institutional Asymmetry

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***Abstract*—Global climate finance remains trapped between political commitments and systemic delivery failures. Despite the Paris Agreement's pledge of US $100 billion annually for developing countries, actual needs exceed US $5.9 trillion by 2030. This shortfall is compounded by a systemic governance failure: developed nations maintain asymmetric control over multilateral institutions through the logic of substitution. This mechanism involves strategically pursuing permissive funding rules (earmarking) where weighted voting is prohibited, thereby undermining equity and local agency, particularly regarding the massive adaptation finance gap. Anchored in institutional theory, leveraging the resource-based view (RBV) to define local governance as an inimitable organizational capital, and framed by the sustainable livelihoods framework (SLF), this conceptual paper posits that well-governed, devolved carbon markets offer a strategic solution to bypass these institutional constraints. We propose a strategic governance model based on five pathways; governance architecture, localization, equity and balanced benefit-sharing, institutional partnerships, and transparency, drawing evidence from global policy and the success of the Kasigau Corridor REDD+ Project (KCRP). Drawing on KCRP's innovative local governance structures, we argue that codifying local revenue autonomy serves as the critical strategic countermeasure to the political limitations of the global architecture, creating a pathway toward de-politicized climate justice.**

***Index Terms*—Climate Finance, Carbon Markets, Institutional Asymmetry, Logic of Substitution, Strategic Governance Model, Devolved Climate Governance; Adaptation–Mitigation Balance, Climate Justice, Global South, Kasigau Corridor REDD+ Project (KCRP).**

I. INTRODUCTION

1.1. Background

The urgency of climate action is universally acknowledged, yet the means of financing it remains politically contested. The challenge is characterized by a massive climate finance dilemma, rooted in the vast discrepancy between political pledges and actual needs (Park, 2023). Developed countries repeatedly failed to meet their pledge of jointly mobilizing US $100 billion annually by 2020 (Centre for Science and Environment, 2022), a target dwarfed by the estimated US $5.9 trillion required by developing countries by 2030 to implement their Nationally Determined Contributions (NDCs) (IMF,2024).

This massive shortfall is further complicated by the structure of traditional finance: much of the public climate finance is delivered as loans, not grants, which exacerbates the debt burden of vulnerable nations, thereby undermining the ability of finance to deliver genuine sustainable development (Debt Justice, 2023). This structural deficiency underscores the need for strategic non-debt financial mechanisms.

1.2. The Emergence of Carbon Markets as a Strategic Response

Achieving the Net-Zero goal requires a holistic suite of interventions, encompassing regulatory reform, technological innovation, and massive financial mobilization. However, while all tools are necessary, the core challenge of climate justice, a problem largely created by the industrialized Global North, requires a financial solution rooted in the principle of common but differentiated responsibilities (CBDR) (UNFCCC, 1992).

This imperative requires the Global North to fund and facilitate nature-based solutions (NBS) in the Global South. The strategic role of NBS in securing global mitigation potential is affirmed by major bodies like the IPCC (IPCC, 2022), while their capacity to generate massive new economic value further reinforces their investment necessity (WEF, 2020). These ecosystems, often stewarded by local communities and Indigenous peoples, are recognized as the most critical and cost-effective carbon sinks. Carbon markets, therefore, are positioned as the direct, non-debt financial mechanism by which players, mostly from the Global North, can purchase high-integrity credits, enabling the Global South to secure stable revenue for both mitigation and adaptation efforts. This strategic mobilization of private capital is essential, as the financial demands for a 1.5°C resilient transition exceed trillions of dollars (Park, 2023).

1.3. Problem Statement: The Institutional Failure of Climate Finance

The persistence of the funding gap is rooted in an institutional asymmetry (Bulkeley & Newell, 2022) that governs the allocation of global public resources.

The political economy literature confirms that the traditional structure of international climate finance institutions (ICFIs) is exploited by powerful donor states through the logic of substitution (Graham & Serdaru, 2020). Where egalitarian norms prohibit wealthy states from using weighted voting rules (e.g., in the UN system), they strategically substitute this control by pursuing permissive earmarking rules (funding rules). This allows donors to dictate how contributions are used, ensuring asymmetric control over resource allocation, undermining the equitable local access to capital which mostly results to lack of local ownership, poor coordination and failure to meet fundamental climate justice criteria, such as balancing mitigation and adaptation finance (Graham & Serdaru, 2020; Ledger & Klöck, 2023; Funder & Dupuy, 2022). This fundamental political divergence is often masked by depoliticized technical discussions, leading to a persistent breakdown of trust and effectiveness (Weikmans & Roberts, 2022).

The core strategic challenge is thus to design an alternative governance architecture, which is structurally immune to this external, top-down control, that can connect global market demand with local resource custodians, effectively bypassing this logic of asymmetric control.

1.4. Research Objective

The objective of this paper is to strategically analyze and redesign the governance levers of market-based climate finance to promote inclusive, equitable, and sustainable community outcomes (Republic of Kenya, 2024). The core contribution is two-fold: first, by linking the logic of substitution to local governance failure, and second, by proposing a strategic governance model of five pathways, exemplified by Kenya's Climate Change (Carbon Markets) Regulations (2024) and the KCRP, that codifies devolved control as the ultimate strategy for achieving resilient, long-term impact.

II. LITERATURE REVIEW

2.1. Strategic Management of Global Resources: The Resource-Based View (RBV)

Applying the resource-based view (RBV) (Barney, 1991; Porter, 1996), we analyze climate finance through the creation of firm-level competitive advantage. The value proposition of a carbon credit relies on the project's ability to maintain its inimitable resource over time. We define this inimitable resource as having two intrinsically linked components that are essential for sustained competitive advantage:

2.1.1 Natural Capital (The Resource Base)

This refers to the specific ecosystem that functions as the carbon sink (e.g., a tropical rainforest, a mangrove coast, or, as in the illustrative KCRP case, the unique dryland forest corridor connecting the Tsavo East and West National Parks). This resource base is valuable and rare but requires management to avoid degradation. In the KCRP case, the successful safeguarding of the 200,000-hectare corridor and its functional role in maintaining the crucial wildlife link between Tsavo East and West National Parks serves as empirical evidence of the resource's irreplaceable value and permanence (Corbera & Schroeder, 2011).

2.1.2 Organizational Capital (The Strategic Capability)

This encompasses the local community's willingness to co-govern and the established internal governance bodies (e.g., LCCs or CDACs). This organizational

capacity is inimitable and non-substitutable, serving as the core strategic capability (VRIO) that ensures the resource remains a viable investment by preventing deforestation and guaranteeing permanence (W+ Standard, 2024). This capability is validated by political ecology studies that find local engagement is key to bridging global frameworks with practical, local resource realities (Corbera & Schroeder, 2011), and by ethical frameworks demanding high social and ecological integrity for all NBS (Seddon et al., 2021)
We argue that the value (V) of the carbon credit only exists because of the community's organization (O) and inimitability (I) in maintaining conservation (Barney, 1991). The strategic failure of traditional finance is its inability to sustain these resources without imposing external control, while the carbon market mechanism can succeed because it relies on the internal, codified governance structures (Republic of Kenya, 2024).

2.2. Stakeholder Theory and the Imperative of Climate Justice

Adhering to stakeholder theory (Freeman, 1984), the climate finance is supposed to satisfy the interests of primary stakeholders, who are the vulnerable communities in the Global South, whose livelihoods are most exposed to climate impacts. Therefore, a climate justice framework demands that finance be judged on: adequacy, predictability, additionality and critically, balance between adaptation and mitigation, with a priority given to the provision of adaptation finance to the most vulnerable (Ledger & Klöck, 2023). The current system fails, with adaptation finance flows falling drastically short of the estimated US $284–339 billion needed annually by 2035 (UNEP, 2025). Furthermore, the finance that does flow often fails to reach its intended beneficiaries, leading to systemic breakdown, a phenomenon described as the "Missing Middle" in adaptation finance delivery (Global Center on Adaptation, 2020; ACT Alliance, 2021).

2.3. Institutional Theory: Fragmentation, Control, and the Logic of Substitution

This analysis is centrally underpinned by institutional theory (Scott, 2014) which explains that the global climate landscape is fragmented (Zelli, 2011), with coordination attempts between multilateral entities like the GCF (UN-affiliated) and the Climate Investment Funds (CIF, World Bank-affiliated) often being depoliticized, masking the fundamental political divergences between actors (Skovgaard et al., 2022).
The most salient institutional critique comes from the logic of substitution (Graham & Serdaru, 2020). This framework demonstrates that in institutions characterized by egalitarian norms (e.g., GCF), donors cannot use weighted voting. Therefore, they substitute this control by pursuing permissive funding rules that allow them to earmark their contributions (Graham & Serdaru, 2020). This mechanism of earmarking grants wealthy states asymmetric control over resource allocation, irrespective of developing states' formal representation. This institutional manipulation is the root cause of the current governance deficit.

2.4. Sustainable Livelihoods Framework (SLF) as the Outcome Metric

The sustainable livelihoods framework (SLF) (DFID, 1999) is adopted as the dependent variable for measuring success (impact on livelihood assets). This framework moves beyond financial metrics to provide a robust, multi-dimensional metric for evaluating how financial inputs translate into tangible development outcomes such as enhanced human, natural, financial, physical, and social capital.
This outcome perspective is validated by empirical studies showing that effective climate finance can generate specific, measurable development benefits, such as significant positive effects on women's empowerment and the reduction of vulnerability to hunger (Doku & Phiri, 2024).

III. METHODOLOGY AND CONCEPTUAL MODEL

3.1. Research Design: Conceptual Synthesis and Case Justification

This paper utilizes conceptual synthesis, a systematic desk-review approach, synthesizing strategic management principles with critical political economy and climate finance literature and emerging regulatory frameworks (Kenya's 2024 regulations). The Kasigau Corridor REDD+ Project (KCRP) is justified as a critical empirical case study because its longevity (one of the world's earliest large-scale community projects) and community-centric governance provide the empirical foundation for a model of devolved finance that resists political interference (W+ Standard, 2024).

3.2. The Strategic Governance Model

The strategic governance model posits that strategic governance (the five pathways) mediates the relationship between climate finance inputs (non-debt market revenues) and sustainable community outcomes (SLF metrics).

3.2.1 Model Variables

a) Input (I): Carbon credit revenue (financial/natural capital input).

b) Mediating Variable (M): The five strategic pathways (governance structure, localization, equity, partnerships, transparency).

c) Output (O): Enhanced sustainable livelihoods outcomes (SLF Metrics, e.g., improved water access, reduced hunger index).

3.2.2 Propositions

The paper's arguments are formally testable via the following propositions:

a) P1: Institutional Resistance: Governance models that incorporate mandatory local autonomy and high benefit-sharing ratios (devolved governance) act as a strategic bulwark against the institutional risks associated with the logic of substitution, leading to higher levels of predictable, long-term funding.

b) P2: Climate Justice Outcome Superiority: Projects utilizing the devolved governance model demonstrate a superior outcome in achieving the adaptation-mitigation balance and better livelihood outcomes compared to traditional aid flows governed by external, non-local priorities.

IV. STRATEGIC PATHWAYS: FINDINGS AND DISCUSSION

4.1. Governance Architecture: Bypassing Asymmetric Control

The pioneering success of the KCRP, as the world's first certified avoided deforestation REDD+ project, which developed the first avoided ecosystem conversion methodology (Wildlife Works Carbon, 2025), provided the verified institutional blueprint that led to national policy. This local success demonstrated the potential for communities to achieve global legitimacy and market standards, paving the way for the legal codification that followed.

National policy instruments, such as Kenya's Climate Change (Carbon Markets) Regulations (Republic of Kenya, 2024), mandates the formation of Community Development Agreement Committees (CDACs) to manage project revenues and ensure transparent benefit-sharing. This policy response, not only offers deliberate institutional strategic solution in the fight against asymmetric control, but is equally necessary as clear legal frameworks for carbon tenure and benefit sharing are prerequisites for successful African REDD+ projects (Larson et al., 2020).

This legally enshrined architecture is designed to make the allocation process resistant to donor earmarking, effectively preventing the logic of substitution from taking root at the project level. It serves to pre-empt and block the ability of external actors (donors, project developers) to impose financial conditionalities ex-post, thereby neutralizing the strategic leverage gained through earmarking (Graham & Serdaru, 2020). This decentralization ensures that the generated revenue is managed as a localized asset, not as an aid flow subject to external political maneuvering.

4.2. Localization, Ownership, and Institutional Capacity Building

Localization is a direct countermeasure to donor-driven agendas (Funder & Dupuy, 2022). Strategically, this ensures community co-ownership and enhances absorptive capacity.

The KCRP's LCCs (Locational Carbon Committees), established under internal project SOPs, serve as the original proof-of-concept for devolved governance in Kenya. Their success lies in the co-governance model between the project developer and the local communities, where local institutions are embedded within the legal structure to manage carbon rights (Chomba et al., 2022; W+ Standard, 2024). Crucially, their success, and the rationale for the new regulations, is strengthened by the fact that the predictability and high, non-discretionary value of carbon revenue creates a powerful endogenous incentive for transparency and robust financial management. The KCRP's success in protecting the 200,000-hectare forest and showing measurable increases in indicator species (e.g., lions, cheetahs) is a direct, empirical result of this successful devolution of authority (Vaccaro & Schulte, 2024). This structural incentive compels communities, through structures now mandated as CDACs, to invest in and uphold sound budgetary management (Han & Cheng, 2023), thereby mitigating the governance risks that often deter

traditional bilateral aid. This elevates the local governance structure into a self-reinforcing organizational capital asset (RBV). The alignment between the KCRP's pre-existing LCC structure and the new legally mandated CDAC framework validates the national effort to scale successful local innovation. Furthermore, achieving equity requires overcoming known implementation challenges surrounding participation and equitable distribution in REDD+ projects (Moorhead & Dupuy, 2020).

4.3. Equity and Balanced Benefit-Sharing (The Climate Justice Criterion)

The adaptation-mitigation imbalance is a central failure of global climate justice (Ledger & Klöck, 2023) and the continuing adaptation finance crisis. Developing countries' adaptation needs are estimated to be 12 times greater than current flows, with the adaptation finance gap potentially reaching $284–339 billion per year by 2035 (UNEP, 2025). This institutional failure to double adaptation finance (UNFCCC, 2025) provides the imperative for the devolved model.

The devolved carbon market model provides the mechanism to restore this balance. The KCRP model achieves climate justice by ensuring that the financial inputs, revenue generated from the mitigation activity (credit sales from forest protection) are explicitly directed by local LCCs into tangible, local adaptation measures, such as funding education infrastructure, school bursaries, improving water security, and supporting health services (W+ Standard, 2024). This allocation strategy is proven to generate exceptional co-benefits in the unique context of dryland ecosystems (Chomba et al., 2020). Furthermore, the project has been certified under the W+ Standard, verifying specific gains for women in health, education, and income, directly addressing the core equity and livelihood outcomes (W+ Standard, 2024). This ensures market-based finance meets the social metrics of the SLF (Doku & Phiri, 2024). This balanced allocation is empirically proven to enhance equity; the KCRP's recent monitoring report confirms its achievement of Gold Level validation for exceptional Climate Change Adaptation Benefits (Wildlife Works Carbon, 2023), evidenced by the creation of over 400 local jobs and the provision of over 37,000 student bursaries since 2012.

This equitable model aligns with other successful regional benefit-sharing frameworks, such as the one implemented in Ghana's REDD+ Programme, which also mandates significant benefit allocation directly to local farmers and communities (UN-REDD Programme, 2025).

4.4. Institutional Partnerships and Fragmentation

The global climate finance landscape is fragmented, with coordination failures stemming from political and ideological divergences (Skovgaard et al., 2022). Regional initiatives like the African Carbon Markets Initiative (ACMI) and the AfDB's Carbon Support Facility (Republic of Kenya, 2024) offer a strategic, bottom-up coordination response. Their focus is on bridging the "Missing Middle" gap (Global Center on Adaptation, 2020) by focusing on harmonizing regulations and building capacity across the continent, thereby creating a unified market bloc, reducing transaction costs and maximizing the continent's collective bargaining power. These partnerships seek to transcend the geopolitical stalemates and depoliticized coordination efforts that characterize the interaction between global North-South financial clusters, (Skovgaard et al., 2022). This scaling of local models is essential, as continental policy bodies advocate that African governments must codify local frameworks into national law to attract large-scale investment (UNDP, 2023).

4.5. Market Transparency and Financial Risk Mitigation

Integrity reforms by the Integrity Council for the Voluntary Carbon Market (ICVCM) and Voluntary Carbon Markets Integrity Initiative (VCMI) are essential for attracting private capital and mitigating the systemic financial risk associated with climate and nature degradation (Sánchez-García et al., 2025). Strategically, high transparency and rigorous MRV systems are vital for mitigating both environmental risk (non-permanence) and macro-financial risk (Sánchez-García et al., 2025). The creation of credible, verifiable, and community-backed carbon assets de-risks the investment, making the market less susceptible to the political instability often associated with traditional aid cycles.

V. CONCLUSION AND STRATEGIC IMPLICATIONS

5.1. Summary of Findings and Strategic Contribution

The traditional climate finance regime is politically constrained by donor control and debt-inducing mechanisms. It is fundamentally compromised by institutional design flaws, principally the Logic of substitution (Graham & Serdaru, 2020), which allows powerful donors to bypass egalitarian norms and maintain asymmetric control. Our analysis demonstrates that the market-based model, when secured by devolved governance and strong national regulations (Republic of Kenya, 2024), offers the necessary strategic mechanism for institutional resistance. This resistance is manifested in three critical ways:

5.1.1 Neutralizing Political Control

The codification of local revenue autonomy through bodies like the CDACs functions as the critical strategic lever for overcoming the logic of substitution (Graham & Serdaru, 2020), directly neutralizing the leverage of global political actors and rebuilding the necessary political trust for climate cooperation (Weikmans & Roberts, 2022).

5.1.2 Addressing Debt Justice

Carbon revenue provides a stable, non-debt financial mechanism that avoids exacerbating the debt crisis inherent in traditional aid structures (Debt Justice, 2022).

5.1.3 Achieving Climate Justice

The system effectively mandates a form of de-politicized climate justice by securing local benefits and rebalancing the mitigation-adaptation divide, ensuring resources are channeled into critical local resilience efforts (W+ Standard, 2024; UN-REDD Programme, 2025).

The paper's core contribution, the strategic governance model, is therefore a blueprint for transforming climate finance from a tool of asymmetric control into a tool of local political autonomy.

5.2. Policy and Managerial Implications

5.2.1 Institutional Design

Governments must prioritize institutional design (Scott, 2014) of national carbon markets to codify local autonomy, moving away from debt-inducing traditional aid toward market-based revenue, ensuring that benefit-sharing ratios are legally mandated and non-negotiable by external actors.

5.2.2 Strategic Capacity

Project developers and government agencies must adopt co-governance models that treat local communities as full partners whose organizational capital is essential to the project's financial permanence (RBV). They must view localization not as a compliance burden but as a strategic capability (Barney, 1991) essential for long-term project viability and risk mitigation (Han & Cheng, 2023).

5.2.3 Fund Alignment

Future continental funds must strategically align market revenues to explicitly address the adaptation deficit, linking mitigation credits directly to measurable local adaptation outcomes (Ledger & Klöck, 2023).

5.3. Future Research Directions: Comparative Institutional Testing

To solidify this conceptual contribution, future research must embark on comparative institutional analysis. This research should empirically test the long-term sustainable livelihood outcomes of a project governed by the CDAC/devolved carbon model (low earmarking/high local community control) against a project of similar scale funded through a traditional aid model (high donor earmarking/low local control). The goal of this comparison is to quantitatively test the core hypothesis of superior efficacy of institutional design in neutralizing political control (Graham & Serdaru, 2020) and achieving verifiable sustainable livelihoods outcomes (SLF metrics). Hence it will seek to prove that local revenue autonomy serves as the critical strategic lever for overcoming the historical and political limitations of the global architecture.

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