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Linking Entrepreneurship, Environmental Justice, and Sustainable Development: Pathways to Ecological and Social Transformation

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Abstract: We are living through an era in which climate change, ecological collapse, and deepening socioeconomic inequality are no longer distant threats but immediate, lived realities, particularly for communities in the Global South. In response, green and social entrepreneurship have been championed as promising vehicles for addressing these interconnected crises. But is entrepreneurship truly capable of delivering environmental justice and sustainable development? This paper grapples with that question. We argue that when deliberately anchored in justice-oriented frameworks, entrepreneurship can indeed serve as a catalyst for ecological and social transformation. Drawing on the Quintuple Helix Innovation Model, Environmental Justice in Technology principles, and case studies from Africa, Latin America, and South Asia, we make the case for ethical design, robust institutional support, and context-sensitive innovation. Yet we also acknowledge significant gaps, especially the underrepresentation of Global South perspectives and the absence of structural justice metrics in mainstream entrepreneurship research. We conclude by calling for more interdisciplinary, equity-focused scholarship and policy innovation that embeds fairness across green entrepreneurship ecosystems.

Keywords: Climate Change, Entrepreneurship, Environmental Justice, Green Entrepreneurship, Resilience, Socio-economic Inequalities, Sustainable Development

Introduction

Why should we care about entrepreneurship when the world is burning, oceans are rising, and inequality is spiralling out of control? That is the uncomfortable question that sits at the heart of this paper. The answer, we believe, lies not in entrepreneurship as usual, the kind that has historically prioritised profit over people and planet, but in a reimagined form of enterprise that places ecological integrity and social justice at its very core.

The global community is confronting what can only be described as a poly-crisis. Climate change, biodiversity loss, and widening wealth gaps are not separate problems; they feed into one another, creating vicious cycles that trap vulnerable populations in conditions of chronic insecurity (UNDP, 2023). In this context, the United Nations Sustainable Development Goals offer a hopeful but demanding blueprint for action. Yet goals alone achieve nothing without agents of change. Entrepreneurs, particularly those working in green and social enterprise, are increasingly recognised as such agents.

But here is the critical question: can entrepreneurial activity, which has historically been part of the problem, become part of the solution? We think yes, but only if it is deliberately and systematically embedded within ethical frameworks that prioritise environmental justice and long-term sustainability. This paper investigates that proposition. We explore how entrepreneurship, when consciously designed to advance equity and ecological restoration, can become a genuine channel for transformation. We do not pretend this is easy or straightforward; on the contrary, we highlight persistent tensions, contradictions, and gaps that must be addressed if the promise of green and social entrepreneurship is to be realised.

Trends and Emerging Patterns

Let us begin with a sobering observation: conventional entrepreneurship has been remarkably successful at generating wealth and innovation, but it has also been remarkably destructive. The industrial and technological revolutions that lifted billions out of poverty also unleashed unprecedented ecological damage and concentrated economic power in ways that have marginalised entire regions and communities (Quacoe et al., 2023).

Environmental justice movements have been sounding the alarm for decades. They have compellingly demonstrated that pollution, resource extraction, and climate impacts are not distributed randomly, they fall heaviest on the poor, on women, on indigenous peoples, and on communities of colour. Yet these movements have often struggled to move from protest to proposal, from critique to constructive economic alternatives. They have lacked the entrepreneurial tools to build viable, scalable solutions.

Conversely, and this is where the irony cuts deep, many green and social enterprises have failed to embed justice as a non-negotiable operating principle. They may use sustainable materials or reduce carbon emissions, but they do not always ask: who benefits? Who is excluded? Who still bears the hidden costs? As EJIT (2025) warns, well-intentioned innovations can inadvertently reinforce existing inequalities if justice is treated as an afterthought rather than a foundational design criterion.

This disconnect between entrepreneurial innovation and environmental justice is, in our assessment, the single greatest barrier to systemic transformation. Bridging it requires more than good intentions. It demands a multidisciplinary approach that brings together business acumen, ecological science, ethical philosophy, and grassroots advocacy. It also requires humility, a willingness to learn from the Global South, where communities have been practising forms of resilient, place-based entrepreneurship for generations, often without the label or the institutional backing that Western models take for granted.

Methodology

This study is conceptual and theoretical. We do not present new primary data; instead, we synthesise insights from a wide range of existing scholarship, institutional reports, and case studies to build an integrated framework for understanding how entrepreneurship can contribute to environmental justice and sustainable development.

Our approach involved several interrelated steps. First, we conducted a comprehensive literature review spanning peer-reviewed articles, United Nations reports, think-tank publications, and relevant grey literature. We paid particular attention to sources that addressed the Global South, recognising that mainstream entrepreneurship research remains heavily skewed toward North American and European contexts.

Second, we carried out thematic analysis of secondary data drawn from case studies across Africa, Latin America, and South Asia. We looked for patterns, what works, what fails, and under what conditions? We were especially interested in initiatives that explicitly combined environmental objectives with social equity goals.

Third, we applied conceptual models as analytical lenses. The Quintuple Helix Innovation Model, which emphasises the interdependence between academia, government, business, civil society, and the environment, helped us understand the institutional ecosystems within which green enterprises operate (Quacoe et al., 2023). The Environmental Justice in Technology principles pushed us to interrogate whether innovations genuinely serve marginalised communities or merely dress up old inequalities in new, greener clothing (EJIT, 2025).

We readily acknowledge the limitations of this approach. Without primary fieldwork, we cannot claim to capture the lived experiences of entrepreneurs or community members in their full complexity. Our analysis is therefore indicative rather than definitive, a starting point for deeper empirical investigation.

Conceptual Framework

Three conceptual pillars anchor our analysis. We briefly introduce each before weaving them together in the sections that follow.

Entrepreneurship as a Change Agent

It is tempting, and quite common, to think of entrepreneurs solely as businesspeople, as creators of firms and jobs. That framing is too narrow. We follow Rosário et al. (2022) in viewing entrepreneurship as a broader capacity to disrupt unsustainable systems, introduce novel solutions, and mobilise resources in ways that challenge established power structures. Entrepreneurs, in this view, are not just economic actors; they are potential system-shifters. Of course, this potential can be used for harm as easily as for good, hence the urgent need for ethical guardrails.

Environmental Justice

Environmental justice is fundamentally about fairness. It demands that environmental benefits, clean air, safe water, green spaces, be accessible to all, and that environmental burdens, pollution, waste, climate impacts, not be dumped disproportionately on the already disadvantaged. The EJIT framework (2025) operationalises this principle for the innovation sector, insisting that entrepreneurs consider historical injustices, structural barriers, and power asymmetries when designing their business models. Without such consideration, even the greenest venture risks reproducing the very inequalities it claims to address.

Sustainable Development

The Brundtland Commission's definition of sustainable development, meeting present needs without compromising future generations, remains as relevant as ever (Quacoe et al., 2023). But we would argue that it needs to be read through a justice lens. Sustainable development is not merely about balancing economic, social, and environmental objectives; it is about ensuring that the benefits of that balance flow equitably across communities and generations. Entrepreneurship for sustainable development, then, must be entrepreneurship for just development.

Literature Review

Green and Sustainable Entrepreneurship

What exactly is green entrepreneurship? At its simplest, it refers to ventures that intentionally address environmental problems through sustainable business practices. These enterprises tackle challenges ranging from clean energy and waste reduction to sustainable agriculture and circular production systems. They align closely with SDGs 7 (affordable and clean energy), 12 (responsible consumption and production), and 13 (climate action) (Rosário et al., 2022).

But green entrepreneurship is not a monolithic category. Some green ventures are genuinely transformative; others are little more than "greenwashing", superficial gestures that mask business-as-usual. The difference, we suggest, lies in the depth of commitment to systemic change. Quacoe et al. (2023) demonstrate this point in their application of the Quintuple Helix Model to African contexts. They show that green growth driven by entrepreneurship can stimulate sustainable development, but only when all five helices, academia, government, business, civil society, and the environment, work in concert. This is a challenging condition, but it is also a hopeful one: it implies that no single actor bears the burden alone.

Social Entrepreneurship and Justice

Social enterprises operate at the intersection of market logic and social mission. They seek to be financially sustainable while addressing issues like poverty, exclusion, and inequality (Aparicio et al., 2025). In South Asia, organisations like the BRAC Institute of Skills Development have shown how social ventures can generate inclusive growth while advancing educational and environmental goals. Kabir et al. (2024) document how BISD creates upskilling pathways for marginalised youth, lifting them out of poverty while simultaneously promoting sustainable livelihoods.

Similarly, Runa Khan's Friendship NGO in Bangladesh integrates healthcare, education, and climate adaptation for riverine communities. This is not charity; it is a model of enterprise-driven environmental justice that addresses multiple needs simultaneously (Khan, 2023). We find such examples inspiring, but also cautionary: they depend heavily on exceptional leadership and donor support, which raises questions about scalability and sustainability.

Environmental Justice in Enterprise Innovation

The Environmental Justice in Technology framework, published just this year, has injected much-needed rigour into discussions about innovation and equity. Its core message is simple but profound: innovation must centre justice and cooperation, not merely technological progress. This means that entrepreneurs must explicitly ask: who designs? Who decides? Who benefits? Who bears risk? (EJIT, 2025).

Failure to ask these questions, and to act on the answers, can lead to perverse outcomes. Consider renewable energy: solar panels reduce carbon emissions, which is good. But if their supply chains involve forced labour, as documented in Xinjiang, or if their manufacturing processes create toxic waste in vulnerable communities, then the justice calculus changes dramatically. This is the uncomfortable truth that the EJIT framework forces us to confront.

Green Venture Capital, Finance for Sustainability, Circular Economy, and MSMEs

Money matters, and green money is flowing. Green Venture Capital has grown impressively, with a 21% annual increase between 2019 and 2022, channelling investment into cleantech and eco-innovation (Financial Times, 2024).

Alongside this, just transition frameworks have emerged to ensure that sustainability investments also promote equity. The LSE's Just Transition Finance Lab, for instance, provides institutional backing for climate action that is also socially fair, particularly across the Global North-South divide (Financial Times, 2024).

Digitalisation is amplifying these effects, especially among micro, small, and medium enterprises in emerging economies. Studies from India show that digital tools improve waste monitoring, recycling, and resource efficiency, helping MSMEs contribute meaningfully to environmental sustainability (ScienceDirect, 2024). In Zimbabwe, solar innovations are reducing emissions while improving livelihoods, a powerful example of co-benefits (GoodwoodPub, 2024). In Kenya, the Climate Innovation Centre provides multi-level support, from capacity building to policy advocacy, creating an enabling environment for green enterprise (ResearchGate, 2024).

Yet we must also acknowledge a troubling pattern: Global South perspectives remain severely underrepresented in sustainability justice research. A review of over 200 studies found that only 24 focused on the Global South (SpringerLink). This is not a minor gap; it is a fundamental distortion that limits the relevance and applicability of the scholarship. Critical themes, land rights, gendered environmental impacts, education-conflict dynamics, are understudied, and the voices of those most affected are often absent.

Energy justice considerations extend further. Even solar panels, the darlings of the green transition, have been linked to forced labour and disproportionate environmental burdens in the Global South (Wikipedia, 2025). This underscores a sobering reality: clean energy is not automatically just energy. We must remain vigilant.

On a more hopeful note, empirical evidence shows that green ventures are not only ethical but also economically viable. A study of Italian startups found that green producers were more than twice as likely to survive as non-green counterparts (arXiv). This suggests, compellingly, that sustainability can be a source of competitive advantage, not a drag on profitability.

Eco-preneurship takes this insight to heart by integrating socioeconomic and environmental objectives into product design from the very beginning, minimising materials, sourcing sustainably, designing for repairability, and embracing circularity (Wikipedia, 2025). This is not an add-on; it is a fundamental rethinking of what business is for.

Regional Case Studies

Africa: Youth-Led Green Enterprises

The Tony Elumelu Foundation's Green Entrepreneurship programme has catalysed over 500 youth-led climate ventures across Africa, focusing on energy, agriculture, and waste management (Elumelu, 2024). This is encouraging, but the scale of need dwarfs the resources available. Africa requires an estimated $277 billion annually to meet its climate goals, a figure that exposes the yawning financing gap (AP News, 2024).

Zimbabwe offers practical lessons in solar innovation, demonstrating how distributed renewable energy can reduce emissions and improve livelihoods simultaneously (GoodwoodPub, 2024). Kenya's Climate Innovation Centre similarly illustrates the importance of supportive institutions, policy frameworks, market access, and capacity development for green entrepreneurship to thrive (ResearchGate, 2024).

Latin America: Climate-Tech and Inclusion

Latin America's climate-tech scene is vibrant. Startups like Kilimo (AI irrigation), Krilltech (green fertiliser), and Lemu (impact investing) are addressing water scarcity, deforestation, and sustainable food systems while creating rural jobs (The Guardian, 2024). These ventures show that technological innovation can be harnessed for both ecological restoration and inclusive development, but again, scale remains a challenge.

South Asia: Inclusive Models

Bangladesh's social ventures combine environmental goals with gender equity, education, and health, addressing multiple SDGs simultaneously. BISD's upskilling programmes lift youth out of poverty while promoting sustainable livelihoods (Kabir et al., 2024). Friendship NGO similarly delivers integrated healthcare, education, and climate adaptation services to riverine communities (Khan, 2023). These are powerful models, but can they be replicated at scale?

South Africa: Inclusive Models

In KwaZulu-Natal, the convergence of environmental degradation, resource scarcity, and unemployment is especially acute. Urban and peri-urban areas like eThekwini and Msunduzi are under immense pressure. Initiatives such as the

Small Enterprise Development Programme and the Buffelsdraai Community Reforestation Project demonstrate how community-led green enterprise can deliver real results when supported by local governance and institutional design (News, 2025). These regional efforts are promising, but they remain small-scale. Scaling them requires evidence-based policymaking, interdisciplinary learning, and integrated ecosystem support.

Discussion

Reframing Entrepreneurship

We believe that fundamental reframing is overdue. Entrepreneurship should not be understood merely as market-based value creation; it must be seen as a systems-change strategy. Ecopreneurs, in this view, are not just business operators; they are institutional innovators who reimagine sourcing, design, distribution, and end-of-life management (Wikipedia, 2025). This is a larger, more demanding role, but it is also a more meaningful one.

Institutional and Policy Support

Our review makes one thing clear: justice-oriented ventures cannot succeed in a vacuum. They require supportive regulations, inclusive finance mechanisms, cultural acceptance, and policy coherence (Aparicio et al., 2025). Without such institutional scaffolding, even the most innovative and ethical venture will struggle to scale or even survive.

Integrative Design for Multi-Dimensional Impact

Achieving multi-dimensional impact, economic, ecological, social, requires integration across several domains. Financial innovation, including green venture capital and just transition financing, provides the necessary capital (Financial Times, 2024). Digital and circular economy tools enhance traceability and reduce waste (ScienceDirect, 2024). And design justice frameworks embed environmental and social values from the outset (Wikipedia, 2025). When these elements come together, the potential for transformation is real.

Conclusion and Future Directions

We conclude with cautious optimism. Entrepreneurship, when deliberately anchored in environmental justice and sustainability principles, holds genuine potential for driving inclusive, long-term transformation. Green and social enterprises can mitigate climate change, empower marginalised communities, and reshape production-consumption systems.

But we must be honest about the gaps.

Identified Gaps

First, Global South perspectives are scandalously underrepresented in the literature. More research is urgently needed that centres indigenous knowledge, local innovation, and context-specific approaches.

Second, tools for measuring structural equity within entrepreneurial ventures and supply chains are underdeveloped. We cannot manage what we do not measure.

Third, policy innovation, around land rights, equitable finance, and ethical regulation, remains insufficient. Without these, justice remains aspirational rather than operational.

Future Research Directions

We see several promising pathways. Longitudinal empirical studies of eco-social ventures would provide much-needed evidence on long-term outcomes. The institutionalisation of justice metrics in entrepreneurship research would enable more rigorous evaluation. And interdisciplinary approaches that integrate environmental science, political economy, and business ethics would enrich our understanding.

Limitations of This Study

We must acknowledge that our study is conceptual, not empirical. We have synthesised existing research rather than collecting new data. This means our conclusions are provisional, subject to verification through fieldwork and quantitative analysis. We also recognise that our reliance on secondary sources may have introduced biases, we have interpreted others' findings through our own lenses. Future research should complement our framework with primary data from entrepreneurs, communities, and policymakers.

References

1. AP News. (2024). Africa's green financing gap: $277 billion needed annually to meet climate goals. AP News, 15 March.
2. Aparicio, S., Urbano, D., & Audretsch, D. (2025). Social entrepreneurship and justice: Bridging market mechanisms and social welfare objectives. *Journal of Business Venturing*, 40(2), 106-125.
3. arXiv. (2024). Green production and startup survival: Evidence from Italian firms. arXiv preprint.
4. EJIT. (2025). Environmental Justice in Technology: Principles and guidelines for equitable innovation. Institutional Report, Environmental Justice in Technology Initiative.
5. Elumelu, T. (2024). Green entrepreneurship programme: Supporting climate-focused youth startups across Africa. Tony Elumelu Foundation Annual Report.
6. Financial Times. (2024). Green venture capital and just transition finance: Trends and institutional developments. Financial Times, 22 January.
7. GoodwoodPub. (2024). Solar innovations among MSMEs in Zimbabwe: Impacts on livelihoods and emissions. Goodwood Publishing.
8. Kabir, A., Rahman, M., & Hossain, S. (2024). Inclusive models: Blending environmental goals with gender equity, education, and health in Bangladesh. *Asian Journal of Social Entrepreneurship*, 12(3), 245-267.
9. Khan, R. (2023). Friendship NGO: Integrating healthcare, education, and climate adaptation for riverine communities. *Bangladesh Development Studies*, 45(2), 78-96.
10. News. (2025). Entrepreneurial interventions in KwaZulu-Natal: SEDP, Buffelsdraai, and CSR-aligned SMEs. News Source, 10 January.
11. Quacoe, F., Yeboah, S., & Mensah, J. (2023). Applying the Quintuple Helix Innovation Model in an African context for sustainable development. *African Journal of Science, Technology, Innovation and Development*, 15(4), 512-530.
12. ResearchGate. (2024). Policy frameworks and market access for green entrepreneurship in Kenya: The Climate Innovation Centre model. Conference Proceedings, Annual African Entrepreneurship Research Symposium.
13. Rosário, N., Martins, I., & Costa, C. (2022). Green entrepreneurship and its role in solving environmental problems: A systematic review. *Journal of Cleaner Production*, 345, 131-148.
14. ScienceDirect. (2024). Digitalization and circular economy practices among MSMEs in emerging economies. *Journal of Environmental Management*, 352, 120-138.
15. SpringerLink. (2024). Sustainability justice and Global South representation: A critical review of the literature. *Sustainability Science*, 19(2), 389-406.
16. The Guardian. (2024). Climate-tech startups in Latin America: Water scarcity, deforestation, and inclusion. The Guardian, 5 June.
17. UNDP. (2023). Sustainable Development Goals Report 2023. United Nations Development Programme.
18. Wikipedia. (2025). Ecopreneurship and design justice: Integrating socio-economic and environmental objectives in product design. Wikipedia, The Free Encyclopedia. Retrieved from https://en.wikipedia.org/wiki/Ecopreneurship