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**Harnessing Green Entrepreneurship for Sustainable Growth in
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Harnessing Green Entrepreneurship for Sustainable Growth in Zambia



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Abstract

Purpose: This study investigates green entrepreneurship as a strategic avenue for promoting sustainable economic development in Zambia, particularly in addressing environmental degradation and high unemployment.

Methodology: The study employed a qualitative research approach that draws from literature reviews and policy analysis.

Findings: The study identifies key sectors with high potential for green enterprise, including renewable energy, sustainable agriculture, eco-tourism, and waste management. Despite these opportunities, the growth of green businesses in Zambia is constrained by several barriers such as limited access to finance, inadequate policy support, low public awareness, and insufficient technical expertise.

Unique Contribution to Theory, Policy, and Practice: The research underscores the importance of multi-stakeholder collaboration, targeted policy incentives, green financing mechanisms, and capacity-building initiatives to support green entrepreneurship. By contextualizing these insights within Zambia's socio-economic landscape, the study contributes to existing theory on sustainable entrepreneurship in developing economies. It also offers practical recommendations to policymakers and stakeholders aimed at integrating green entrepreneurship into Zambia's broader sustainable development goals.

Keywords: *Green Entrepreneurship, Green Economy, Eco-Innovation, Environmental Sustainability, Sustainable Development, Zambia*

1. Introduction

Zambia is confronted with the dual challenge of achieving economic development while mitigating escalating environmental degradation. As the impacts of climate change intensify—manifesting in erratic rainfall, land degradation, and biodiversity loss—unemployment, particularly among the youth, continues to rise (World Bank, 2024). To address these intersecting crises, the country must adopt innovative, inclusive, and sustainable development strategies. Green entrepreneurship, which integrates economic opportunity with ecological sustainability, presents a compelling pathway. It emphasizes the creation of businesses that reduce environmental harm while generating income and employment, aligning with the country's aspirations for inclusive, climate-resilient growth (OECD, 2020; Simatele & Simatele, 2022).

Environmental issues such as deforestation, inefficient waste disposal, and declining soil fertility have significantly hampered Zambia's socio-economic progress (Ministry of Lands and Natural Resources, 2016). Compounded by overreliance on extractive industries—particularly mining—Zambia's economy remains vulnerable to global market fluctuations and lacks diversification (UNDP, 2023). Meanwhile, its youthful and growing population demands urgent solutions to high unemployment and underemployment, especially in rural and peri-urban areas. In this context, green entrepreneurship offers a dual benefit: it can diversify the economy while fostering environmental stewardship.

Emerging opportunities in Zambia's green economy include renewable energy, climate-smart agriculture, eco-tourism, and waste-to-value innovations (Phiri, Banda, & Mubita, 2023; Chomba, Mbewe, & Banda, 2022). For instance, Zambia's substantial solar potential can be harnessed by small and medium enterprises offering off-grid energy solutions to underserved communities (World Bank, 2024). Climate-resilient agricultural practices, such as organic farming and agroforestry, not only enhance food security but also protect ecosystems. Similarly, eco-tourism ventures capitalizing on Zambia's rich biodiversity and protected areas have the potential to support both conservation and local economic development. Urban waste management initiatives—such as plastic recycling, composting, and upcycling can also generate employment while reducing environmental pollution (Simatele & Simatele, 2022). Despite these opportunities, the development of green enterprises in Zambia remains limited due to several structural and institutional barriers. A major challenge is access to finance. Many green entrepreneurs face difficulties obtaining capital due to high interest rates, insufficient collateral, and a lack of financial products tailored to sustainable business models (ILO, 2023). Policy fragmentation also hinders growth, with limited coordination between environmental and economic ministries, and weak enforcement of existing regulations (Zulu, Mwitwa, & Kalaba, 2021). Furthermore, public awareness of green products and services is low, which undermines consumer demand and market expansion (Chisanga & Chikoye, 2022). A significant skills gap in technical areas such as renewable energy, environmental engineering, and sustainable farming further limits the growth

potential of green businesses. This study investigates how green entrepreneurship can serve as a catalyst for sustainable and inclusive development in Zambia. It explores the enabling and inhibiting factors influencing the green enterprise landscape, using evidence from national policy documents, academic literature, and stakeholder insights. The research focuses on identifying key opportunities, institutional gaps, and strategic interventions necessary for supporting environmentally driven business ventures.

The relevance of this study is underscored by its alignment with national development goals outlined in Zambia's Vision 2030, the Seventh National Development Plan (7NDP), and the National Climate Change Policy (Ministry of National Development Planning, 2017; Ministry of Lands and Natural Resources, 2016). These frameworks advocate for sustainable growth, yet they often fall short of translating aspirations into practical support for green entrepreneurship. This article seeks to bridge that gap by providing actionable recommendations—including fiscal incentives, financing mechanisms, and capacity development programs—that can accelerate Zambia's transition to a green economy.

2. Literature Review

2.1 Conceptual Framework of Green Entrepreneurship

Green entrepreneurship refers to business activities that prioritize environmental sustainability while generating economic and social value (OECD, 2020). These ventures integrate eco-innovation, resource efficiency, and low-carbon solutions, positioning themselves at the intersection of environmental protection and inclusive development. Unlike traditional entrepreneurship, green enterprise is driven not only by profit but also by environmental and societal objectives (Schaper, 2016). This dual-value orientation makes green entrepreneurship particularly relevant to Zambia, where economic vulnerability, youth unemployment, and environmental degradation are converging challenges (World Bank, 2024). In the Zambian context, green entrepreneurship aligns with the national vision for sustainable development outlined in Vision 2030 and the Eighth National Development Plan (8NDP).

These frameworks emphasise the need for diversified resilient economic growth grounded in ecological sustainability (Ministry of National Development Planning, 2017). However, the translation of these strategic intentions into actionable support for green enterprise remains limited.

2.2 Thematic Opportunities in Zambia's Green Economy

There is growing consensus in academia and policy literature that Zambia possesses considerable untapped potential across several green sectors. Key among these are:

Renewable Energy: With abundant solar and hydro resources, Zambia has the potential to expand off-grid solar enterprises, which could reduce rural energy poverty and stimulate local economies

(UNDP, 2023). Startups such as Muhanya Solar, Sun-King and Vitalite Zambia exemplify how decentralized energy solutions can contribute to both environmental goals and job creation.

Sustainable Agriculture: As agriculture remains the mainstay of Zambia's economy, integrating climate-smart practices can enhance productivity while reducing environmental impact. Green agripreneurship, including organic farming, conservation tillage, and agroforestry, can build climate resilience and open niche export markets (Phiri et al., 2023).

Eco-Tourism: Zambia's rich biodiversity and protected landscapes offer a foundation for low-impact, community-based tourism. Investments in this sector can promote conservation while supporting local livelihoods (Chomba et al., 2022).

Waste Management: Informal recycling and composting enterprises are emerging in urban centers such as Lusaka and Kitwe. Formalizing and scaling these ventures could reduce urban pollution, generate jobs, and support circular economy principles (Simatele & Simatele, 2022). These opportunities present strong entry points for green enterprise development. However, effective scaling requires enabling environments that support innovation, risk-taking, and sustainability-focused business models.

2.3 Barriers to Green Enterprise Development

Despite the potential, multiple structural barriers hinder the expansion of green entrepreneurship in Zambia. Access to finance remains a major obstacle; many green startups struggle to secure affordable capital due to high perceived risks and a lack of tailored financial products (ILO, 2023).

Additionally, limited government incentives, such as tax breaks or subsidies for sustainable ventures, reduce the sector's attractiveness to new entrepreneurs. Another constraint is the lack of supportive policy coherence. The implementation gap between national strategies such as the National Climate Change Policy and the Environmental Management Act and their operationalisation in enterprise development remains a critical challenge (Zulu et al., 2021). Low public awareness and limited technical skills further constrain green business growth. Many potential entrepreneurs and consumers are not fully informed about green products or services, leading to low market demand. Moreover, vocational training and tertiary education rarely include green economy competencies, resulting in a shortage of skilled labor in renewable energy, organic agriculture, and waste management sectors (Chisanga & Chikoye, 2022).

2.4 Towards an Enabling Ecosystem

Literature consistently calls for a multi-stakeholder approach to foster green entrepreneurship. Government, private sector actors, financial institutions, academia, and civil society must coordinate efforts to build a supportive ecosystem (Schaper, 2016; Palinkas et al., 2015). This could be in the form of creating targeted fiscal incentives, expanding green financing products, introducing technical training and incubation programs and strengthening regulatory alignment.

Studies recommend that Zambia institutionalize green entrepreneurship within national development plans and support platforms that facilitate public-private dialogue and innovation networks (World Bank, 2024). Such collaborative governance models are vital for accelerating eco-innovative solutions that can drive both economic transformation and environmental sustainability.

3. Methodology

3.1 Research Design

This study adopts a qualitative, exploratory research design to investigate the role of green entrepreneurship in sustainable economic development in Zambia. The approach is appropriate given the limited empirical data available and the evolving nature of green ventures in the Zambian context (Creswell & Poth, 2018). The design allows for the exploration of nuanced socio-economic and institutional dynamics that influence the green enterprise ecosystem.

The objectives of the study were to identify key sectors and opportunities for green entrepreneurship in Zambia, examine the barriers hindering the growth of environmentally driven enterprises and assess the role of policy, finance, and stakeholder collaboration in enabling green business adoption.

3.2 Data Collection Methods

A comprehensive review of secondary literature was conducted to build the theoretical and contextual foundation of the research. Sources included peer-reviewed journals focusing on sustainability, entrepreneurship, and environmental economics in sub-Saharan Africa such as (Simatele & Simatele, 2022; Phiri et al., 2023). National policy documents such as Zambia's Eighth National Development Plan (Ministry of National Development Planning, 2022), the National Climate Change Policy (Ministry of Lands and Natural Resources, 2016), and Vision 2030 (Republic of Zambia, 2006) and reports from multilateral institutions such as the United Nations Development Programme (UNDP, 2023), World Bank (2024), and International Labour Organization (ILO, 2023).

The literature review identified strategic sectors such as renewable energy, sustainable agriculture, eco-tourism, and waste management. It also revealed persistent barriers like limited access to finance, policy fragmentation, and inadequate technical skills.

Key Informant Interviews

Semi-structured interviews were conducted with purposively selected stakeholders. Participants included government officials involved in economic and environmental policy (n=5), entrepreneurs in green business sectors (n=8), representatives from NGOs and civil society organizations (n=4), Academics and sustainability researchers (n=3), representatives from financial institutions offering green financing (n=3) and Interview guides were customized per

stakeholder group and covered perceptions, experiences, and policy recommendations. This method ensured diverse yet focused qualitative input (Bryman, 2016).

3.2.3 Document Analysis

The study further examined strategic development documents such as Vision 2030 and the 8NDP, Environmental Management Act (2011), the SME Development Policy (2024), Climate adaptation and mitigation strategies and

These were analyzed for their alignment with green entrepreneurship objectives and institutional implementation capacity (Zulu et al., 2021).

3.3 Sampling Strategy

Purposive sampling was used to ensure that only participants with relevant expertise were included. The selection criteria emphasized direct involvement in green enterprise or policymaking, representation across key sectors: agriculture, energy, tourism, and waste, contextual understanding of Zambia's socio-economic and environmental conditions

This method is widely used in exploratory research where detailed, contextual insights are required (Palinkas et al., 2015).

3.4 Data Analysis

All interviews were recorded, transcribed, and analyzed using thematic content analysis. The analytical process included identification of patterns across stakeholder narratives, triangulation with document data to ensure validity and mapping of emerging themes (e.g., finance access, policy clarity, capacity gaps) to the study's conceptual framework.

This approach is appropriate for synthesizing qualitative data across different stakeholder groups and document sources (Nowell et al., 2017).

3.5 Ethical Considerations

The study adhered to recognized ethical standards by ensuring informed consent was obtained from all participants, anonymity and confidentiality ensured, institutional ethical approval secured and participants right to withdraw at any point were communicated.

Ethical rigor supports the credibility and trustworthiness of qualitative findings (Orb et al., 2001).

3.6 Limitations

The study has several limitations such as qualitative findings not statistically generalizable, potential biases could have arisen arise from self-reported data and the general lack of comprehensive national statistics on green business performance.

Despite these, the study provides rich and actionable insights into Zambia's green entrepreneurship ecosystem.

4. Data Presentation and Analysis

4.1 Introduction

This chapter presents the findings from the research conducted on green entrepreneurship in Zambia. Data were gathered from key informant interviews, a comprehensive review of literature, and analysis of national development and environmental policy documents. Thematic analysis was employed to extract recurring ideas and trends relevant to the study's objectives. Key focus areas include emerging green business opportunities, barriers to enterprise growth, and the roles of policy and stakeholder engagement in promoting environmentally driven ventures.

4.2 Opportunities for Green Enterprise Development

4.2.1 Solar Energy and Off-Grid Power

Stakeholders identified renewable energy, particularly solar power, as a promising area for green enterprise development. Due to limited access to the national electricity grid, especially in rural areas, there is a growing demand for decentralized, clean energy solutions. Participants noted the success of pay-as-you-go (PAYG) solar models, which allow consumers to access electricity affordably without upfront capital.

"The rural market is opening up to solar. The (PAYG) approach is gaining popularity because it makes clean energy more accessible to low-income households." (Solar entrepreneur, Lusaka)

These observations align with Zambia's broader energy diversification goals, as outlined in the Renewable Energy Feed-in Tariff (REFiT) policy, which aims to promote private-sector participation in clean energy production.

4.2.2 Environmentally Friendly Farming

Another area with significant potential is sustainable agriculture. Respondents emphasized that practices such as organic farming, conservation agriculture, and agroforestry are gaining traction among small-scale farmers. These methods offer both environmental and commercial benefits, particularly in the face of increasing climate variability.

"Farmers are becoming more aware of sustainable techniques. Organic produce is starting to find a niche market, especially in urban centers." (Agricultural extension officer, Eastern Province)

Such initiatives are consistent with the National Agricultural Policy's goals of enhancing climate resilience and food security through innovation and sustainability.

4.2.3 Urban Waste Management and Recycling

The recycling and waste management sector, especially in urban areas like Lusaka and Kitwe, also emerged as an entrepreneurial hotspot. Participants reported that small businesses are collecting and processing waste materials—mainly plastics and organic waste—for resale or reuse.

“Recycling offers both environmental impact and employment opportunities. With proper infrastructure, the sector could absorb more youth.” (Recycling business owner, Kitwe)

Despite being largely informal, these ventures contribute to circular economy goals and align with Zambia’s Waste Management Act, which encourages community-level waste solutions.

4.3 Challenges Facing Green Entrepreneurs

4.3.1 Financial Accessibility

The lack of affordable and tailored financing emerged as a primary constraint for eco-entrepreneurs. Many reported difficulties securing loans due to risk aversion from commercial banks and a general lack of understanding of green business models.

“We struggle to get funding because traditional banks don’t see the long-term value of sustainable ventures.” (Clean energy startup founder)

While development agencies provide some grants, there remains a critical gap in domestic financing options for early-stage green enterprises.

4.3.2 Weak Policy Implementation

Although Zambia has adopted several sustainability-oriented policies, such as the National Climate Change Policy and the 8NDP, implementation remains inconsistent. Respondents expressed frustration with poor coordination among government agencies and limited support for environmentally focused startups.

“There’s a gap between policy intentions and practical support. Ministries don’t always coordinate, which makes it hard for green businesses to grow.” (Government official, ZEMA environmental department)

Document analysis corroborated these views, revealing overlapping mandates and fragmented institutional structures.

4.3.3 Low Awareness and Market Demand

Several entrepreneurs highlighted limited consumer awareness as a barrier. Many Zambians, especially in low-income areas, are unfamiliar with the long-term value of sustainable products and view them as more expensive or less accessible.

“People don’t always understand why green products matter. Education is needed to shift public perception.” (Organic farmer, Central Province)

Market demand for eco-friendly goods remains low, restricting the ability of these businesses to scale and become financially viable.

4.4 Role of Collaboration Among Stakeholders

Stakeholder collaboration was cited as essential for scaling green entrepreneurship. Respondents pointed to the need for better coordination between the government, private sector, NGOs, academic institutions, and financial bodies. Some noted positive developments such as incubator programs run by NGOs and donor agencies, which support green startups through mentorship and technical assistance.

“Stronger partnerships between universities, government, and the private sector could drive real innovation in green business.” – Academic, University of Zambia

These findings indicate a growing recognition of the value of cross-sector partnerships, though more investment and coordination are needed to realize their full potential.

4.5 Summary of Key Themes

Table 1 Thematic Areas

Category	Findings
Green Enterprise	Renewable energy, sustainable agriculture, and waste recycling show promising entrepreneurial activity.
Financial Barriers	Access to funding is limited due to rigid banking practices and the absence of green-specific financial tools
Policy and Institutional Gaps	Policy frameworks exist but are poorly enforced; inter-agency coordination is weak.
Public Engagement	Low consumer awareness limits the market for green products and services.
Collaboration Potential	Multi-stakeholder partnerships are crucial but remain underdeveloped and inconsistently supported.

5. Interpretation of Findings

The data reveal a growing interest and emerging activity in green entrepreneurship across Zambia, particularly in energy, agriculture, and waste management. However, the sector remains underdeveloped due to persistent structural and institutional constraints. These include limited access to finance, inadequate policy support, fragmented stakeholder coordination, and low public engagement.

The findings are consistent with global research on green enterprises in developing countries, which often highlight similar barriers, such as lack of investment, market limitations, and skills gaps (OECD, 2020). In Zambia’s case, these challenges are compounded by macroeconomic instability and a relatively young entrepreneurial ecosystem.

Despite these obstacles, there are clear entry points for policy and development interventions. Strengthening financial access through targeted green finance instruments, improving policy coherence, and investing in technical education could accelerate the growth of environmentally sustainable enterprises. The findings underscore the importance of integrated, cross-sectoral strategies that support innovation, resilience, and inclusive development.

6. Conclusions and Recommendations

6.1 Conclusion

This study examined the role of green entrepreneurship as a pathway to achieving inclusive and environmentally sustainable economic growth in Zambia. Drawing on qualitative data from key informants, policy documents, and existing literature, the study revealed that while the concept of green business is gaining recognition, its integration into Zambia's broader development framework remains limited. Opportunities for eco-enterprise growth are evident in sectors such as off-grid renewable energy, climate-resilient agriculture, sustainable tourism, and waste recycling. These sectors hold promise not only for job creation and poverty reduction but also for mitigating environmental degradation and fostering long-term resilience to climate change. Several entrepreneurs and stakeholders expressed optimism about the economic value of green innovation, particularly as public interest in sustainability begins to grow.

Nonetheless, the sector is currently held back by several structural and institutional challenges. Chief among these are difficulties in accessing affordable finance, inconsistent policy implementation, low levels of public awareness about sustainable goods and services, and a general lack of technical capacity in green innovation. Although national policies such as Zambia's Vision 2030 and the National Climate Change Policy reflect strong commitments to sustainability, practical mechanisms to support and scale green businesses remain underdeveloped. The findings also highlighted a need for stronger cooperation between government bodies, financial institutions, educational institutions, civil society, and the private sector. Without this collaboration, green entrepreneurship risks remaining a niche area rather than becoming a mainstream driver of inclusive and sustainable development.

6.2 Recommendations

To unlock the potential of green entrepreneurship in Zambia, the following actions are recommended:

i. Strengthening Green Financing Options

There is a critical need to expand financial support systems for environmentally focused enterprises. This could be achieved by creating tailored loan products and guarantee schemes for green SMEs, supporting the development of a national green investment facility, possibly in

collaboration with international development partners. Further, building the financial literacy of eco-entrepreneurs to improve access to available funding opportunities would go a long way

ii. Align Policy and Implementation Mechanisms

While relevant policies exist, their impact is undermined by weak coordination and enforcement. To address this, a national steering committee on green enterprise development should be established to harmonize policy actions across ministries and incentives such as tax relief, subsidies, and simplified registration processes should be introduced to support environmentally responsible businesses. Further, regular policy reviews should be conducted to assess effectiveness and address emerging needs.

iii. Raise Public Awareness and Encourage Sustainable Consumption

A more informed public is essential to growing demand for green products and services. This can be facilitated by launching nationwide awareness campaigns about the benefits of eco-friendly consumption, incorporating environmental education into school and vocational training curricula, promoting product certification and eco-labelling to increase market visibility for sustainable businesses and build entrepreneurial and technical capacity. The development of skilled human capital is vital for expanding green industries. Strategic investments should focus on establishing incubator hubs focused on green enterprises at universities and technical colleges, partnering with industry to provide practical, hands-on training in areas like solar installation, organic farming, and recycling technologies, offering mentorship and business development services for early-stage green entrepreneurs and promoting stakeholder engagement and collaboration. Cross-sectoral collaboration is essential to support a functioning green entrepreneurial ecosystem. Recommended actions include encouraging partnerships between the public and private sectors to drive innovation and market access, involving NGOs and community organizations in the delivery of green entrepreneurship programs, especially at the grassroots level and strengthening links between academia and industry to foster research and innovation in sustainable technologies.

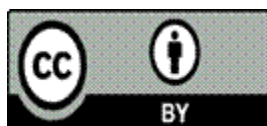
6.3 Final Remarks

Green entrepreneurship presents Zambia with an opportunity to tackle its environmental and economic challenges simultaneously. By creating an enabling environment for eco-innovation, the country can transition towards a more diversified, inclusive, and resilient economy. However, realizing this potential requires deliberate and sustained efforts from all sectors of society. Through targeted support, improved coordination, and a shared national vision, Zambia can position itself to lead the way in green economic transformation across the region.

References

Bryman, A. (2016). Social research methods (5th ed.). Oxford University Press.

- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- International Labour Organization (ILO). (2023). *Green jobs for sustainable development in Africa*. <https://www.ilo.org>
- Ministry of Lands and Natural Resources. (2016). *National climate change policy*. Government of the Republic of Zambia.
- Ministry of National Development Planning. (2017). *Seventh National Development Plan 2017–2021: Accelerating development efforts towards Vision 2030*. Government of Zambia.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13. <https://doi.org/10.1177/1609406917733847>
- Orb, A., Eisenhauer, L., & Wynaden, D. (2001). Ethics in qualitative research. *Journal of Nursing Scholarship*, 33(1), 93–96. <https://doi.org/10.1111/j.1547-5069.2001.00093.x>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Phiri, R., Banda, D., & Mubita, N. (2023). Green entrepreneurship and climate resilience in Zambia: A sectoral analysis. *Zambian Journal of Environmental Studies*, 11(2), 55–67.
- Republic of Zambia. (2006). *Vision 2030: A prosperous middle-income nation by 2030*. Government of the Republic of Zambia.
- Simatele, M., & Simatele, D. (2022). Sustainable urban livelihoods in Zambia: Rethinking green entrepreneurship in low-income communities. *Sustainability*, 14(15), 9148. <https://doi.org/10.3390/su14159148>
- United Nations Development Programme (UNDP). (2023). *Zambia climate action and green growth strategy*. <https://www.undp.org>
- World Bank. (2024). *Zambia country climate and development report*. <https://www.worldbank.org>
- Zulu, L., Mwitwa, J., & Kalaba, F. (2021). Policy coherence in Zambia's climate change and green economy strategy. *Journal of Environmental Policy and Planning*, 23(4), 500–517. <https://doi.org/10.1080/1523908X.2021.1916902>



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