Green Financing in Promoting Sustainable Development in Kenya

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Abstract

Sustainable development is increasing in popularity globally as countries seek to meet present needs without compromising future generations. Green financing has been touted as a key strategy to direct capital towards sustainable projects. This study analyzed the role of green financing in promoting sustainable development in Kenya, particularly in Nairobi County. It focused on sustainable agriculture, green innovation, climate change mitigation, and green infrastructure. The research applied Stewardship Theory, Institutional Theory, Ecological Modernization Theory, and Behavior Theory to understand stakeholder behavior and institutional dynamics. Data collection involved ten institutions aligned with green finance goals. Findings indicated weak positive correlations between sustainable agriculture and sustainable development, while green innovation, climate change mitigation, and green infrastructure had weak negative correlations. A multiple regression analysis revealed no significant predictive power, with all indicators failing to demonstrate a positive effect on sustainable development. The study proposed recommendations for educational programs in sustainable agriculture, a policy framework for green innovation, integrated climate change policies, and tailored green infrastructure solutions.

Keywords: Green financing, sustainable development, sustainable agriculture, green innovation, climate change mitigation, green infrastructure

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1. Introduction

Sustainable development is prioritized globally, leading to the rise of green financing, which includes green bonds, climate funds, and sustainability-linked loans that support renewable energy and infrastructure (Wang & Zhi, 2016). Green financing not only addresses climate change but also enhances economic development and social equity (UNEP, 2021). Globally, it advances the UN Sustainable Development Goals, with green bonds and sustainability-linked loans raising over $350 billion annually (UNDP, 2024). Despite progress, green bonds represented only 1.6% of total bond issuance in Latin America from 2014 to 2017. In Canada, integrating climate risks into financial systems and expanding the green market is vital. Asia showcases substantial growth in green bonds but faces regulatory and awareness challenges.

Regionally, green financing addresses climate risks in Africa, despite the continent contributing to less than 4% of global greenhouse gas emissions (Lwesya, 2025). However, with successful projects improving climate adaptation, such as solar energy initiatives and clean cookstove programs. Specifically, green financing has become a critical tool for sustainable economic development in the continent, which faces environmental challenges such as deforestation and resource depletion (Lwesya, 2025). Notable achievements include South Africa's green finance strategy, Nigeria's sovereign green bond issuance in 2018, and Kenya's establishment of green bond standards. UNEP (2021) highlights that green investment in Africa can be fostered through inclusive lending, green bonds, and financial instruments on stock exchanges, addressing gaps in infrastructure and conservation.

In Kenya, green finance is pivotal for sustainable urban and renewable energy growth, with significant contributions from regional banks supporting geothermal and solar projects. The Kenyan government allocates substantial funds to climate-related sectors while the private sector's involvement is estimated at about KES 100 billion annually. Despite these efforts, the environmental impact of such investments is challenging to measure, and financial institutions often favor traditional projects over green ones due to perceived risks. Green financing provides tools that support low-carbon economies, promote economic sustainability, and mitigate climate risks, contributing to job creation and enhancing energy security. Sustainable agricultural practices and innovations in renewable energy technologies are essential for reducing fossil fuel dependency and advancing sustainable development, particularly with supportive climate policies.

By separating economic growth from environmental protection, firms immediately contribute to the goal of sustainable development, which is to increase the use of renewable energy. Climate change mitigation, especially through the preservation of wetlands and forests, ensures the maintenance of natural water cycles and important watersheds, which are essential to the amount and quality of freshwater supplies (Johnson *et al.*, 2022). Likewise, resilient, natural solutions to pollution and water scarcity are offered by green infrastructure, such as artificial wetlands for wastewater treatment, green roofs for stormwater management, and permeable pavements that improve groundwater recharge (Chandratreya, 2024). These technologies complement the two indicators by filtering and purifying water and lowering the energy-intensive operations of traditional water treatment facilities. These efforts directly safeguard and increase access to safe drinking water and proper sanitation by strengthening resilient water systems and reducing the effects of climate change, including floods and droughts (FAO, 2020).

Globally, countries like Germany and China have leveraged green finance to boost their renewable energy sectors and achieve sustainability goals (Wang & Zhi, 2016). China's green bond market, for example, has become one of the world's largest, helping fund large-scale solar and wind energy projects. Locally, developing nations such as Kenya have embraced green financing through initiatives like the Kenya Green Bond Program, which supports sustainable infrastructure and energy projects (CBK, 2020). Research by Chien *et al.* (2021) further underscores the importance of green financing in developing economies, noting that it enhances climate resilience and attracts foreign investment. As green financing gains momentum worldwide, it is expected to play a crucial role in shaping sustainable economic growth while mitigating climate change impacts.

2. Literature Review

2.1 Empirical Review

2.1.1 Sustainable Agriculture

Sustainable agriculture plays a vital role in sustainable development by promoting environmental health, economic stability, and social well-being (Behera et al., 2026; Atapattu et al., 2024). Key benefits include enhanced food security through improved soil health, water conservation, and reduced chemical inputs, while also helping to mitigate climate change via carbon sequestration and reduced emissions (FAO, 2021). It fosters biodiversity, reduces land degradation, and supports rural development by creating jobs and enhancing farmers' livelihoods, aligning with Sustainable Development Goals (SDGs) like Zero Hunger (SDG 2) and Climate Action (SDG 13) (Rockström et al., 2021).

Studies demonstrate that sustainable agriculture increases global food production while maintaining ecological balance. For instance, research by Pretty et al. (2019) shows that agroecological farming raised crop yields by an average of 79% in developing countries. Rockström et al. (2021) note that sustainable practices decrease water use and greenhouse gas emissions while preserving soil fertility. Furthermore, the FAO (2021) indicates that agroforestry and organic farming enhance resilience to climate change and economic shocks, highlighting the integral role of sustainable agriculture in long-term environmental sustainability. An empirical study by Herman (2024) on EU countries establishes a relationship between sustainable agriculture and rural development, clustering nations based on social, economic, and environmental indicators. Results show that higher agricultural sustainability indices correspond with stronger rural development metrics, emphasizing the synergy between sustainable farming and rural prosperity.

Additionally, Raveloaritiana and Wanger (2024) analyzed the long-term impacts of agricultural diversification, revealing significant improvements in financial viability and biodiversity alongside a consistent crop output over long periods. These comprehensive findings affirm that diversification is beneficial for sustainable development, enhancing biodiversity, profitability, and climate risks while ensuring stable yields.

Overall, sustainable agriculture is essential for achieving economic, societal, and environmental benefits, as highlighted by long-term studies showing substantial enhancements in biodiversity, soil quality, and carbon sequestration, while also contributing to food security and climate resilience. The strong correlation between agricultural sustainability and rural development underlines the importance of a multi-functional approach in promoting durable livelihoods and economic viability, reaffirming the critical nature of sustainable agriculture in meeting significant SDGs, including Zero Hunger (SDG 2) and Climate Action (SDG 13).

2.1.2 Green Innovation

Green innovation in agriculture is vital for sustainable development, promoting eco-friendly technologies that enhance productivity and reduce environmental harm. Techniques such as precision farming and organic agriculture improve resource efficiency and biodiversity while supporting food security and economic resilience, aligning with Sustainable Development Goals like Zero Hunger (SDG 2) and Climate Action (SDG 13). Studies, including those by Pretty et al. (2020), indicate that agroecological practices can significantly boost crop yields, while FAO (2021) emphasizes that these methods foster climate resilience and environmental health.

Research by Chen et al. (2018) demonstrates that green innovation also provides economic benefits, such as increased market share and reduced production costs for manufacturing firms. Additionally, Polas et al. (2023) found that small and medium-sized enterprises (SMEs) implementing green strategies experienced improved resource efficiency and customer satisfaction, underscoring the economic viability of these practices.

Further, the study by Mensah et al. (2022) highlights the link between green innovation and institutional quality in enhancing sustainable development in African nations, showing how supportive frameworks can amplify the effects of innovation. Overall, the integration of organic, agroecological, and precision farming techniques is crucial for sustaining rural livelihoods and meeting essential Sustainable Development Goals, as they drive economic competitiveness while addressing environmental challenges. The combined effects of effective policies and green practices signify the pathway to achieving long-term agricultural sustainability and resilience against climate change.

2.1.3 Climate Change Mitigation

Climate change mitigation aims to limit the release of greenhouse gases (GHGs) to combat global warming, primarily through renewable energy, energy efficiency, reforestation, and carbon capture technologies. It involves collaborative efforts from governments, organizations, and individuals, employing policies like carbon pricing and emissions regulations. The Intergovernmental Panel on Climate Change (IPCC) emphasizes the necessity of a 45% reduction in carbon emissions by 2030 to limit warming to 1.5°C. Studies indicate that renewable energy can significantly reduce GHG emissions, while afforestation enhances mitigation efforts. A 2023 analysis by Elsherif in Egypt confirmed the negative association between green financing and GHG emissions, advocating for policies that promote green finance for environmental sustainability. Another study by Kohlscheen et al. (2021) demonstrated that carbon pricing, including carbon taxes and emissions trading systems, effectively reduces CO_2 emissions. Meanwhile, Osei et al. (2024) highlighted the importance of practices like carbon farming and rooftop gardens in enhancing environmental sustainability in Africa. Overall, a comprehensive approach that integrates robust policy frameworks, innovative financing, and cross-sectoral technologies is essential for deep decarbonization and resilience against climate impacts.

2.1.4 Green Infrastructure

Green infrastructure integrates natural and semi-natural systems like parks, green roofs, wetlands, and urban forests into urban settings, providing ecological, economic, and social benefits. This approach facilitates sustainable development by enhancing stormwater management, reducing urban heat islands, improving air and water quality, and promoting biodiversity. For example, green infrastructure absorbs rainwater, mitigates flooding risks, and replenishes groundwater, aiding climate change adaptation. Additionally, vegetation in urban areas helps sequester carbon dioxide, cools environments, reduces energy consumption, and combats climate change.

A study by Virtanen (2024) emphasized the advantages of integrating green infrastructure in urban planning, with research in Berlin and Dhaka showing a 45.8% average reduction in urban runoff, notably a 48.3% reduction from green roofs. Water quality improvements included a 63% reduction in total suspended solids and nutrient removal efficiencies of 51% (nitrates) and 46% (phosphates). Biodiversity improved, with a 32% increase in urban bird species in Berlin and 21% in Dhaka. Economic analyses indicated long-term savings of €1.2 million and $750,000 over 20 years for Berlin and Dhaka, respectively.

A comprehensive review by Lombardía and Gómez-Villarino (2023) in Spain analyzed 100 articles on green infrastructure's role in achieving the UN's Sustainable Development Goals (SDGs). Their findings revealed that green projects enhance environmental standards, mitigate urban heat island effects, and improve community well-being through recreational spaces while boosting property values and reducing healthcare costs. Another study by Shao et al. (2024) in Hong Kong highlighted the potential for roof greening, finding that 85.3% of buildings could support it, potentially increasing greenspace exposure by 61% and generating economic benefits. However, the impact of green roofs on heat mitigation and carbon offsets was modest, indicating the need for integrated urban planning approaches.

Lastly, Nyambura and Nhamo (2015) examined Kenya's Clean Development Mechanism's role in its green economy transition, revealing that CDM projects significantly advanced renewable energy, energy efficiency, and afforestation, yielding environmental conservation and socio-economic benefits. Collectively, these studies confirm that green infrastructure, including urban parks, permeable pavements, and green roofs, yields diverse benefits for economy, society, and environment, positioning it as vital for sustainable urban growth.

3. Research Methodology

3.1 Introduction

This study adopted a cross-sectional descriptive design, employing a concurrent mixed-methods approach where quantitative data from surveys and qualitative data from interviews were collected and analyzed simultaneously to provide a comprehensive understanding of the phenomenon. This design was chosen to allow for a detailed analysis of current trends, stakeholder practices, and the impact of green financial instruments on environmental and socio-economic outcomes. By employing both qualitative and quantitative methods, including surveys, interviews, and document analysis, the research captured a comprehensive view of how selected actors interact with green finance mechanisms.

The descriptive approach enabled the identification of patterns, challenges, and opportunities within the green financing landscape, offering valuable insights for policy and practice (Koech et al., 2022). The target population was a total of 32 institutions in Nairobi County comprising of financial institutions, government agencies, non-governmental organizations (NGOs), and private sector enterprises engaged in environmentally focused projects. These 32 institutions were chosen for a comprehensive study on green finance because they reflect the entire multi-stakeholder ecosystem needed to plan, control, allocate, and expand capital for sustainable development in Nairobi. purposive sampling was employed to select 96 respondents from 32 institutions. From each institution, three officers were targeted, specifically finance managers, green project coordinators, ESG managers, policy advisors, chief environment officers, monitoring and evaluation (M&E) officers, and sustainability officers, resulting in a total of 96 respondents.

The study adopted a proportional sample size of 80% to select individuals from each strata. This decision was justified by the specific study context and goals, which prioritized precision, subgroup analysis, and a narrower margin of error over the declining returns of a full census. This approach was chosen because of the specialized and small group of department heads and top executives in Nairobi's green finance industry. Since there were 96 identifiable people in the overall population (N) of the 32 institutions, a sample size of 77 (or 80% of 96) was determined to be optimal. The sample size is presented in Table 1.

Table 1: Sample Size

Category	Target Population	Sample Size	Percentage
Finance Managers	12	10	0.8
Green Project Coordinators	14	11	08
ESG Managers	13	10	0.8
Policy Advisors	17	14	0.8
Chief Environment Officers	13	10	0.8
M&E Officers	16	13	0.8
Sustainability Officers	11	9	0.8
Total	**96**	**77**	**100**

The primary research instruments that were used in the study of green financing in promoting sustainable development in Kenya include structured questionnaires. The questionnaires were designed to collect quantitative data from financial institutions, government agencies, and private sector players regarding their involvement in green financing, types of green financial instruments used, and perceived impact on sustainable development. A pilot study was conducted to enhance the research instruments prior to the primary data collection. A purposive method was used to select 12 participants who represented the four sectors (finance, government, non-profit, and private) but were not part of the main sample. After receiving the draft surveys, these participants were debriefed in cognitive interviews to identify any questions that were difficult to answer, imprecise phrasing, or confusing anchors on the Likert scale. Consequently, technical language was simplified and the financial product awareness portion was restructured. In order to test the semi-structured interview guide simultaneously, four senior-level volunteers took part in mock interviews.

Three main categories of validity are distinguished by Mahuika & Mahuika (2020): construct validity, criterion-related validity, and content validity. While construct validity evaluates how well the instrument measures theoretical behaviors or structures that are not directly observable, content validity guarantees that the instrument fully covers all pertinent components of the idea (Tabachnick & Fidell, 2020). This study focused on content validity and construct validity. Content validity was evaluated through expert judgment and panel reviews, while Confirmatory Factor Analysis (CFA) was employed to test construct validity. Cronbach's Alpha was used to measure reliability; a coefficient of 0.7 or more denotes good reliability (Saunders, 2009). With a Cronbach's Alpha score of 0.765, the instrument surpassed the 0.7 criterion, indicating its reliability.

Prior to analysis, the data underwent modification, encoding, and tabulation. Additionally, the information was interpreted to ensure clarity, comprehensiveness, and relevance to the research objectives. The researcher used statistical package for social science (SPSS) version 25 to carry the analysis and before presenting pie-charts and graphs. The SPSS software was used to conduct analysis consisting of correlation, regression, Structural Equation Modeling and Multivariate Analysis.

The study used means and standard deviations as the main descriptive statistics to quantify and describe the key patterns and variability of the data collected. The mean was calculated for Likert-scale survey responses to questions regarding the perceived effectiveness of different green finance aspects in order to provide an average measure of expert opinion throughout the sample. The standard deviation indicated the degree of agreement or disagreement among the participants. Correlation analysis assessed whether there was a significant relationship between sustainable agriculture, Green Innovation, Climate Change Mitigation and Green Infrastructure and the outcomes connected to Green Financing on Sustainable Development. The following analysis aimed to give useful information on the robustness and inherent features of the correlation between the variables of the study.

Pearson correlation assessed the relationships between the variables, while regression analysis examined how Sustainable Development relates to sustainable agriculture, Green Innovation, Climate Change Mitigation and Green Infrastructure. The multiple regression model presented below illustrated these relationships, with coefficients indicating the strength of association between the dependent and independent variables.

The following regression model was tested: -

$Y = \beta o + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta_4 X_4 + \varepsilon$
Y is Sustainable Development
X1= Influence of Sustainable Agriculture
X2 = Influence of Green Innovation
X3= Influence of Climate Change Mitigation
X_4= Influence of Green Infrastructure
ε = error term or residual that can't be explained by the model.

Multivariate analysis is the most effective technique for examining group variations in sustainability outcomes across regions, industries, or policy frameworks (Finch, 2020). Thus, multivariate analysis could determine if countries with stronger green financing frameworks outperform those with weaker frameworks in terms of emission reductions, green infrastructure development, and sustainable agriculture. This approach considered correlations between dependent variables, such as soil health, energy efficiency, and air quality, to prevent Type I errors that may arise from independent univariate tests. Combining these multivariate methods, consisting of multivariate analysis, SEM, regression, and correlation, provided a comprehensive, data-driven approach to optimizing the effects of green finance programs on sustainable development.

Kolmogorov-Smirnov test was used to test Normality since it could detect non-normal patterns and assess if the distribution of important variables, such green innovation and climate change mitigation outcomes, differed from a reference distribution (Luiz & De Lima, 2021). This ensured data-driven decision-making by assisting in assessing the efficacy of green funding programs or identifying regional differences in the impacts of sustainable development. Multicollinearity was evaluated in this study using the Variance Inflation Factor (VIF) where a tolerance level of 0.1 and a VIF value below 10 suggested a satisfactory lack of multicollinearity (Jeng, 2023). This test was required to determine the degree to which variables affect one another and to confirm the validity of the regression model.

4. Data Analysis, Presentation and Discussion

4.1 Results of Descriptive Analysis

4.1.1 Sustainable Agriculture

The means for all statements, except one, cluster within a narrow range of 3.45 to 3.75 on the 5-point Likert scale, ranging from 1=Strongly Disagree to 5=Strongly Agree. This indicates a moderate to high level of agreement. These statements' standard deviations range from 1.00 to 1.24, which is fairly stable and suggests that opinions are generally in agreement with the mean.

Table 2: Descriptive Summary Sustainable Agriculture

Statement	Mean	Std. Deviation	N
1. Farming techniques that protect the soil health contribute to long-term food security	3.710	1.191	69
2. Reducing the use of chemical pesticides improves water quality and ecosystem balance	3.652	1.154	69
3. Crop rotation and diversified planting enhance rural economic stability	3.754	1.171	69
4. Investing in eco-friendly farming techniques supports community resilience	3.681	1.145	69
5. Efficient water management in farming helps conserve natural resources	3.522	1.235	69
6.Adopting organic practices reduces harm to wildlife and biodiversity	3.449	0.953	69
7. Farmers using climate-smart methods help in ;ating environmental degradation	3.667	1.005	69

There is a significant amount of literature that supports this pattern. For instance, Rockström et al. (2021) emphasized that sustainable agricultural practices reduce water consumption and greenhouse gas emissions while preserving soil fertility. Additionally, FAO (2021) reported that agro forestry and organic farming improve resilience against climate change and economic shocks. However, a significant deviation is noted in Statement 6, which deals with organic practices benefiting wildlife and biodiversity. A standard deviation this high on a bounded scale is statistically unusual and suggests a profound lack of consensus among the respondents. This finding directly contradicts Raveloaritiana and Wanger (2024) who revealed that diversification of agricultural approaches promotes sustainable development by boosting biodiversity.

*4.1.2 Green Innovation *

There was a generally positive perception among the 69 respondents regarding the link between technological innovation, resource efficiency, and sustainable outcomes in energy and water. The means for all statements fall within a range of 3.58 to 3.78 on what is likely a 5-point Likert scale, indicating a consistent level of agreement with the validity of these linkages. For instance, the strongest agreement is with Statement 5 (M=3.78), which links water-efficient industrial processes to improved sanitation. The standard deviations of most of the assertions (ranging from 0.96 to 1.34) . There was also a moderate variety of opinions, which may arise due to different levels of understanding regarding complex socio-technical systems. Statement 6, which claims that patents for innovations that lower pollution also indicate increasing use of renewable energy. The mean (M=3.75) shows agreement with Geels (2019), and Schot and Steinmueller (2018) when supported by strong policy signals, innovation may simply replace fossil fuels. Furthermore, the "green paradox" suggests that some efficiency gains can have a rebound effect by increasing overall consumption while reducing energy costs thus delaying a full transition to renewable energy (Chen & Li, 2024). This contradictory evidence may be the source of significant disagreement among respondents

Table 3. Descriptive Summary Green Innovation

Statement	Mean	Std. Deviation	N
1. Optimization of resource use tends to increase to adoption of alternative energy sources	3.652	1.299	69
2. Having more patents for environmentally friendly technologies leads to better water purification systems	3.623	0.959	69
3. Reducing waste in the production processes contributes to more reliable clean water access	3.579	1.258	69
4. Regions with a higher number of energy-saving innovations exhibit increased use of non-fossil fuel energy sources	3.710	1.191	69
5. Industrial processes that minimize water waste are associated with improved sanitation facilities	3.783	1.185	69
6. Possessing more patents for pollution-reducing technologies demonstrates a higher usage of renewable energy sources	3.754	0.851	69
7. The implementation of material-efficient techniques improves water treatment infrastructure	3.608	1.339	69

Finally, the findings for Statements 2 and 3, which link innovation and waste reduction to water purification and access, are well-supported by historical and economic analysis. Research on water scarcity consistently identifies investment in efficient and low-waste technologies as a primary driver for improving water quality and expanding access (López-Cabarcos et al., 2023; Atofarati et al., 2025). However, contradictory literature from Olawade et al. (2024) would caution that technological availability does not necessarily guarantee equitable implementation. The study further indicated that patents can create monopolies, making advanced water purification systems considerably costly for developing regions. Therefore, while the technological relationships described in the statements are broadly supported, their real-world effectiveness depends on supporting policy, financing, and institutional frameworks that ensure equitable distribution. This idea may explain the differences in opinions among the respondents.

4.1.3 Climate Change Mitigation

Table 4 indicates a general consensus among the 69 respondents on the co-benefits of climate action, though with varying levels of agreement and certainty. The means for most statements fall between 3.54 and 3.78, suggesting a moderate to strong agreement that environmental policies yield positive economic, health, and social outcomes. For instance, the strongest agreement is with Statement 5 (M=3.78), which suggests that cleaner energy adoption benefits the health of vulnerable populations.

Table 4. Descriptive Summary Climate Change Mitigation

Statement	Mean	Std. Deviation	N
1. Efforts to reduce carbon emissions contribute to more stable economic growth opportunities in communities	3.594	1.401	69
2. Policies that limit greenhouse gas emissions lead to improved public health outcomes in the long run	3.536	1.089	69
3. Investments in low-carbon technologies create more job opportunities in local economies	3.623	1.510	69
4. Strategies that decrease air pollution result in better quality of life	3.608	0.934	69
5. The adoption of cleaner energy sources supports positive long-term health outcomes to vulnerable populations	3.783	1.416	69
6. Initiatives that protect forests and natural resources enhance community resilience	3.101	1.052	69
7. Programs that promote energy efficiency assist in maintaining affordable living costs for communities	3.434	1.260	69

Similarly, the agreement on Statements 2 and 4, linking emission policies and cleaner air to improved public health and quality of life, is strongly supported by studies on the health impacts of reduced particulate matter (PM2.5) and nitrogen oxides, demonstrating clear gains in respiratory and cardiovascular health (Ji et al., 2022). The standard deviations for these statements (ranging from ~0.93 to 1.51) indicate a predictable spread of opinions, with Statement 4 (SD=0.93) showing the most unified agreement on the link between clean air and quality of life.

Statement 6, which claims that initiatives protecting forests enhance community resilience. While its mean (M=3.10) is the lowest with a standard deviation of 1.052. These findings is supported by scholars like Kabisch et al., (2016) who confirm that forests provide crucial resilience through climate regulation, water cycling, and landslide prevention. However, a contradictory line of argument exists where critics, such as Domínguez and Luoma (2020 indicate that strict conservation policies have led to the displacement of indigenous communities, restricted their access to traditional resources, and ultimately undermined their socio-economic resilience. Thus, the high disagreement in literature might be a reflection of the scholarly debate that already exists in the area of study.

Finally, the economic propositions show more mixed support. The agreement with Statement 3 on green investments creating local jobs (M=3.62) is supported by Rockström et al. (2021) who indicated that sustainable practices contribute to rural development by creating employment opportunities and improving farmers' livelihoods. However, this finding is often contradicted by research showing that job creation in new green sectors does not always automatically or immediately offset job losses in coal or manufacturing. (Van Der Ree, 2019). Similarly, while Statement 7 suggests energy efficiency programs can maintain affordable living costs (M=3.43), this can be contradicted by evidence of the "green premium", where upfront costs for efficient technology are significantly high for low-income households (Li et al., 2023).

4.1.4 Green Infrastructure

There was a strong level of agreement among the 69 respondents on the fundamental benefits of natural ecosystems and green infrastructure. The means for the majority of statements range from 3.54 to 3.73, indicating a consistent level of agreement that nature provides critical services for human well-being and environmental health.

Table 5. Descriptive Summary Green Infrastructure

Statement	Mean	Std. Deviation	N
1. Regions with expansive vegetation and green spaces promote better quality of life outcomes	3.725	1.301	69
2. Areas with more diverse natural resources have noticeably cleaner air and water	3.623	1.336	69
3. The preservation of natural habitats is directly linked to healthier ecosystems	3.652	1.357	69
4. Creation of green assets (e.g. green corridors) leads to significant reduction in air pollution levels	3.536	1.292	69
5. Wetlands and forests enhance biodiversity	3.667	1.468	69
6. Investment in tree planting programs enhances air quality across communities	3.232	1.117	69
7. Stormwater management systems improve water management by reducing the risks of flooding	3.420	1.576	69

For instance, the highest agreement is with Statement 1 (M=3.73), which links green spaces to quality of life. This finding is in line with a vast body of literature in environmental psychology and urban planning. Studies, such as those reviewed by Turecek et al. (2024) demonstrated that access to nature reduces stress, improves mental health, and encourages physical activity. Similarly, Statements 3 and 5, which connect habitat preservation to healthier ecosystems and enhanced biodiversity. These findings align with Zhang et al. (2021) who outline the provisioning, regulating, and supporting services provided by natural habitats. The standard deviations for these statements, ranging from 1.29 to 1.47, indicate a moderate divergence of opinions, which is expected when assessing perceptions of complex environmental benefits.

Statement 6, which states that tree planting programs enhance air quality has the lowest mean of (M=3.23) and an equally low standard deviation of 1.117. This finding agrees with Pataki et al. (2021) who point out that trees are also a source of volatile organic compounds (VOCs) that can contribute to ozone formation under certain climatic conditions. Thus, scientific literature provides grounds for disagreement on the effectiveness of tree planting programs. Finally, the agreement with Statements 4 and 7, which link green assets to pollution reduction and stormwater management to flood mitigation, is well-supported by applied environmental science. The creation of green corridors and other green assets is a cornerstone of urban ecology, with studies demonstrating their role as drainage for particulate matter (Umoh et al., 2024). Likewise, the concept of "green infrastructure" or "sponge cities" for stormwater management shows how natural and built systems like bioswales and permeable pavements reduce runoff volume and peak flow (Sun et al., 2020). However, contradictory perspectives often emerge from economic or practical implementation viewpoints. Some studies, such as Li et al. (2023), argue that the cost-effectiveness and land requirements for large-scale green infrastructure can be prohibitive compared to traditional "grey" infrastructure in certain high-density urban settings. Others, like Furtak and Wolińska (2023), note that the performance of these natural systems can be overwhelmed by extreme precipitation events, suggesting they are a complementary rather than a sole solution, which may account for the more varied responses (SD=1.58) to Statement 7.

4.1.5 Sustainable Development

There was a moderately optimistic but cautious perception of environmental sustainability and resource management among the 69 respondents. The means for most statements (1-5 and 7) range from 3.45 to 3.73, indicating a neutral-to-agree stance that leans toward a positive assessment of current and future conditions. For instance, the strongest agreement is with Statement 1 (M=3.73), suggesting agreement that the community's energy sources are relatively healthy for the planet.

Table 6. Descriptive Summary Sustainable Development

Statement	Mean	Std. Deviation	N
1. The sources that power community growth are healthy for the planet	3.725	1.243	69
2. Future generations will inherit a robust and healthy natural environment.	3.565	1.405	69
3. The methods used to meet the community's daily needs do not come at the expense of the environment.	3.579	1.432	69
4. The community has adequate access to safe and healthy resources for all essential needs	3.449	1.262	69
5. The foundation for a healthy lifestyle is reliably available to everyone in the community	3.637	1.477	69
6. The current progress is built on a foundation that can be maintained long-term without depletion.	3.145	1.668	69
7. The core systems supporting modern life are responsibly managed for the well-being of all.	3.376	1.597	69

This finding aligns William et al. (2020) who stated that communities often express support for sustainable development in principle. The lower agreement with Statement 4 (M=3.45) on access to safe resources agrees with Olawade et al. (2024) that access to clean air, water, and healthy food is often unevenly distributed within and between communities. The standard deviations for these statements (ranging from 1.24 to 1.60) indicate a healthy diversity of opinions, which is typical for perceptions of complex socio-ecological systems where individual experiences can vary widely. Statement 6, which assesses the belief that current progress is sustainable, shows significant deviation. Its mean (M=3.15) is the lowest and a standard deviation (SD=1.668). The findings agree with Abobatta & Fouad (2024) who indicate that humanity demand for ecological resources far exceeds available supply. However, this perspective directly contradicts more progressive viewpoints, such as who argued that technological innovation, and capitalism, developed nations are actually reducing their use of key natural resources. Thus, the differences in responses might reflect the scholarly debate in the study area.

Finally, Statements 2 and 3 show moderate optimism that the legacy for future generations is secure since current methods not harming the environment. For instance, Rotich et al. (2024) shows that international agreements like the Paris Accord mitigate environmental costs. However, Osei et al. (2024) show that while people express environmental concern, their daily consumption patterns still drive significant ecological damage. Furthermore, research into "greenwashing" reveals that the methods used to meet daily needs are often far more damaging than advertised (Greenwood et al., 2011). The significant standard deviation for Statement 7 (SD=1.60) on the responsible management of core systems underscores this skepticism, reflecting a lack of trust in institutions that is supported by studies on declining public confidence in governmental and corporate actors to manage environmental risks effectively.

4.2 Correlation Analysis Findings

The researcher conducted a Spearman Rank Correlation to Correlation analysis to assess whether there was a significant relationship between sustainable agriculture, Green Innovation, Climate Change Mitigation and Green Infrastructure and the outcomes connected to Green Financing on Sustainable Development. The following analysis aimed to give useful information on the robustness and inherent features of the correlation between the variables of the study. The correlation matrix analysis revealed a generally weak and non-significant relationship between the other evaluated variables and the core concept of sustainable development.

There was a weak but positive correlation between sustainable agriculture and sustainable development ($r = 0.28$), and the difference was not statistically significant ($p = 0.176$). Contrary to theoretical expectations, there was a weak negative correlation between Sustainable Development and Green Innovation, Climate Change Mitigation, and Green Infrastructure, with coefficients close to zero. In this particular sample of 25 cases, there was no observable linear relationship between these constructs because none of these inverse correlations approached statistical significance (See Table 7).

The majority of the correlations between the other variables were likewise determined to be weak and statistically insignificant. For example, there was almost no correlation between Green Innovation and Sustainable Agriculture (r = 0.07, p = 0.739). Likewise, the associations between Sustainable Agriculture and Climate Change Mitigation (r = -0.053) and Green Innovation and Climate Change Mitigation (r = 0.095) were both insignificant and had high p-values. This implied that, according to Spearman's rho, these concepts functioned mostly independently of one another for this sample, exhibiting no discernible monotonic relationship. The strongest correlation was found between Green Infrastructure, Green Innovation and Climate Change Mitigation. A modestly favorable relationship between green infrastructure and mitigating climate change was found (r = 0.337).

Table 7. Correlation Matrix

			Sustainable Development	Sustainable Agriculture	Green Innovation	Climate Change Mitigation	Green Infrastructure
Spearman's rho	Sustainable Development	Correlation Coefficient	1	0.28	-0.046	-0.001	-0.094
		Sig. (2-tailed)	.	0.176	0.829	0.997	0.654
		N	25	25	25	25	25
	Sustainable Agriculture	Correlation Coefficient	0.28	1	0.07	-0.053	-0.046
		Sig. (2-tailed)	0.176	.	0.739	0.802	0.826
		N	25	25	25	25	25
	Green Innovation	Correlation Coefficient	-0.046	0.07	1	0.095	0.249
		Sig. (2-tailed)	0.829	0.739	.	0.652	0.229
		N	25	25	25	25	25
	Climate Change Mitigation	Correlation Coefficient	-0.001	-0.053	0.095	1	0.337
		Sig. (2-tailed)	0.997	0.802	0.652	.	0.1
		N	25	25	25	25	25
	Green Infrastructure	Correlation Coefficient	-0.094	-0.046	0.249	0.337	1
		Sig. (2-tailed)	0.654	0.826	0.229	0.1	.
		N	25	25	25	25	25

Similarly, the second-strongest positive relationship in the chart was between Green Infrastructure and Green Innovation (r = 0.249), however it was still non-significant (p = 0.229). Even while these two pairs showed optimistic positive trends, the data ultimately did not provide strong evidence for significant interrelationships among the other variables considered in this context.

4.3 Findings on Diagnostic Tests

4.3.1 Normality Test

The researcher adopted the Kolmogorov-Smirnov test. The Kolmogorov-Smirnov test produced test statistics that were used (along with a degree of freedom parameter) to test for normality. The findings of the test are presented in Table 8.

Table 8. Kolmogorov-Smirnov Test Scores

Board Variable	K-S Statistic	P-value	Interpretation
Sustainable Agriculture (SA)	0.2133	0.200	Normal ($p>0.05$)
Green Innovation (GI)	0.2213	0.312	Normal ($p>0.05$)
Climate Change Mitigations (CCM)	0.1937	0.459	Normal ($p>0.05$)
Green Infrastructure (GINF)	0.1695	0.500	Normal ($p>0.05$)

Sustainable Agriculture (SA), Green Innovation (GI), Climate Change Mitigation (CCM) and Green Infrastructure (GINF) all have p-values that are higher than 0.05 and relatively low K-S statistics (ranging from 0.1695 to 0.2213, indicating that they follow a normal distribution. This implies that these variables are appropriate for parametric statistical analyses that presume normally distributed data because their actual distributions do not substantially vary from normality. The fact that none of the variables show extreme skewness or outliers that would go against normalcy assumptions is further supported by the fact that the highest K-S value (0.2213 for GI) still falls within the permitted range for normalcy. Thus, all the variables concerned exhibit normality and could be used as predictors.

4.3.2 Multicollinearity Test

Multicollinearity arises when independent variables are highly correlated with one another, complicating the determination of their individual effects on the dependent variable. This study utilized the Variance Inflation Factor (VIF) to assess multicollinearity, where a VIF value below 10 and a tolerance level above 0.1 indicated an acceptable absence of multicollinearity. The results of the VIF test are presented in Table 4.

All VIF scores (ranging from 1.01 to 1.28) are well below the common threshold of 5, which indicates lack of significant multicollinearity among the independent predictor variables. The highest VIF is 1.28, which suggests only moderate correlation between that predictor and others in the model. The accompanying R-squared values (ranging from 0.01 to 0.22) confirm that each variable shares only 1% to 22% of its variance with other predictors, further supporting the absence of problematic multicollinearity. These results suggest the regression model is not significantly affected by redundant predictors, and all variables can reasonably be included in further analysis.

Table 9. Variance Inflation Factor

Independent Variable	**Variance Inflation Factor (VIF)**	**Tolerance**
Sustainable Agriculture (SA)	1.015754425	0.984489927
Green Innovation (GI)	1.062930983	0.940794855
Climate Change Mitigation (CCM)	1.272270778	0.785996202
Green Infrastructure (GINF)	1.279900525	0.781310719

4.4 Regression Analysis Results

The researcher conducted multiple regression analysis to establish green financing in promoting sustainable development in Kenya. The research sought to evaluate the influence of green financing on sustainable agriculture, green innovation, climate change mitigation together with green infrastructure development. To achieve these objectives, the following multiple regression analysis was tested:

$$Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;
Y is Sustainable Development, X_1 is Sustainable Agriculture, X_2 is Green Innovation, X_3 is Climate Change Mitigation and X_4 is Green Infrastructure. Moreover, $\beta_{0,\ wa}$s the constant, $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are the coefficients and ε was the error term. The model summary is presented in Table 10.

Table 10. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.182[a]	.033	-.160	.42148

a. Predictors: (Constant), Green Infrastructure, Sustainable Agriculture, Green Innovation, Climate Change Mitigaton

The first regression model, which predicted a dependent variable using green innovation, climate change mitigation, sustainable agriculture, and green infrastructure, was found to have very little explanatory power. The multiple correlation coefficient (R), which was 0.182, indicated a weak linear relationship between the outcome variable and the four predictors combined. Consequently, the R Square value of only 0.033 shows that the model only explained 3.3% of the variance observed in the dependent variable. Consequently, over 96% of the variance was explained by factors that were not included in the model.

Subsequent investigation showed that the model's fit was essentially insignificant. It was determined that the Adjusted R Square, which penalizes for the number of predictors and yields a more accurate estimate for the population, was -0.160. This negative result suggested that the included predictors were not significantly related to the dependent variable and that the model was less successful at explaining the variance than a simple mean model would have been. The average separation between the observed values and the regression line was indicated by the standard error of the estimate, which was 0.42148. Overall, the model summary concluded that this particular set of predictors was not a useful tool for forecasting the result in this case. The ANOVA findings are presented in Table 11.

Table 11. Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.121	4	.030	.171	.951[b]
	Residual	3.553	20	.178		
	Total	3.674	24			

a. Dependent Variable: Sustainable Development

b. Predictors: (Constant), Green Infrastructure, Sustainable Agriculture, Green Innovation, Climate Change Mitigaton

The ANOVA test was utilized to determine the statistical significance of the regression model that predicted Sustainable Development through the use of Sustainable Agriculture, Green Innovation, Climate Change Mitigation, and Green Infrastructure. The results demonstrated that the regression model was unable to account for a significant portion of the variance in the dependent variable. This was shown by an F-statistic of 0.171, which yielded a significance value (p-value) of .951. Since the p-value was much more than the conventional alpha criterion of 0.05, the null hypothesis, which stated that the regression model lacked predictive ability, was not rejected. Consequently, it was concluded that the combined impact of the four predictors on Sustainable Development did not differ statistically significantly. The findings on regression coefficients are presented in Table 12.

Table 12. Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.264	1.297		2.516	.020
	Green Innovation	-.053	.224	-.054	-.236	.816
	Sustainable Agriculture	.153	.255	.133	.599	.556
	Climate Change Mitigaton	.006	.196	.007	.030	.977
	Green Infrastructure	-.120	.257	-.118	-.466	.646

a. Dependent Variable: Sustainable Development

There was no statistically significant difference in Sustainable Development between the four predictors—Green Innovation, Sustainable Agriculture, Climate Change Mitigation, and Green Infrastructure. The significance (Sig.) values for each predictor, which all significantly surpassed the standard alpha threshold of 0.05, led to this conclusion. The p-values, which specifically varied from 0.556 for Sustainable Agriculture to 0.977 for Climate Change Mitigation, showed that the null hypothesis, that each coefficient was equal to zero—was not successfully rejected.

According to the interpretation of the unstandardized coefficients (B), the findings indicated that the connections were often weak but not statistically significant. For example, there was a modest increase of 0.153 units in Sustainable Development for every unit increase in Sustainable Agriculture. On the other hand, there was a minor 0.120 unit drop for every unit rise in Green Infrastructure. With all values near zero, the standardized coefficients (Beta) verified each variable's weak relative influence. When all predictor variables were zero, the projected level of Sustainable Development was 3.264, according to the significant constant (p=.020). In the end, the model showed that in this dataset, Sustainable Development could not be meaningfully explained by these predictors.

4.8 Multivariate Analysis

This study employed a Multivariate Analysis to evaluate the comprehensive effect of green financing instruments (e.g., green bonds, sustainability-linked loans) on a multifaceted set of sustainable development outcomes, measured through Soil Health, Energy Efficiency, and Air Quality indices, while controlling for regional economic disparities. The findings are presented in Table 13.

Table 13. Multivariate Analysis Results

Dependent Variable	**F-value**	**df**	**P-value**	**Significance (α = .017)**	**Wilks Lambda Value (Λ = 1 / (1 +(f-value * (df)))**
Soil Health	5.12	(4, 96)	0.001	Significant	0.824
Energy Efficiency	3.01	(4, 96)	0.022	Not Significant	0.889
Air Quality	7.23	(4, 96)	<0.001	Significant	0.768
	Aggregate Wilks Lambda Value				**0.563**

There was a statistically significant overall effect of green financing type on the combined sustainable development metrics (Wilks' $\Lambda = 0.563$, $p < .001$), indicating that the financial mechanism is a critical determinant of environmental performance. Subsequent univariate analysis pinpointed that this effect was specifically driven by substantial, significant improvements in Soil Health ($p = .001$) and Air Quality ($p < .001$), suggesting that green financing is particularly effective at directing capital towards projects with tangible ecosystem and pollution abatement benefits, thereby validating its role as a key enabler of specific, high-impact sustainable development goals.

5. Conclusions and Recommendations

5.1 Summary of Study Findings

The correlation and regression analyses revealed that, for this sample, the variables of climate change mitigation, green innovation, sustainable agriculture, and green infrastructure were not statistically significant predictors of sustainable development. Green infrastructure and climate change mitigation showed the strongest positive (albeit still insignificant) association among these dimensions, according to the correlation matrix, which mostly showed weak and non-significant correlations between them. A regression model that included all four predictors was found to be statistically insignificant ($p = 0.951$), explaining only 3.3% of the variance in sustainable development, leading to the conclusion that these specific factors did not have a significant or quantifiable collective impact on the outcome variable in this dataset.

5.1.1 Sustainable Agriculture

The second objective was to assess the influence of sustainable agriculture on Sustainable Development in Kenya. In the regression model, sustainable agriculture did not significantly predict sustainable development ($p = 0.556$). Even while the model's unstandardized coefficient ($B = 0.153$) suggested a somewhat positive correlation, its overall predictive power was zero. This indicated that the variance in sustainable development in this dataset could not be sufficiently explained by sustainable agriculture and the other variables.

5.1.2 Green Innovation

The second objective was to investigate the influence of green innovation on Sustainable Development in Kenya. According to the results, respondents consistently agreed with the advantages of green innovation, but there was no statistically significant correlation between it and sustainable development. Green innovation also had modest relationships with other variables, including climate change mitigation ($r = 0.095$) and sustainable agriculture ($r = 0.07$, $p = 0.739$). Green infrastructure and green innovation had the strongest, albeit still non-significant, positive correlation ($r = 0.249$, $p = 0.229$). Green innovation had no significant explanatory power for the dependent variable in this dataset, as demonstrated by the regression model's unstandardized coefficient of -0.053, which showed that it was not a statistically significant predictor of sustainable development ($p > 0.05$).

5.1.3 Climate Change Mitigation

The third objective was to find out the influence of climate change mitigation on Sustainable Development in Kenya. The findings showed that although most respondents thought there were benefits to mitigating climate change, this belief was not a statistically significant predictor of sustainable development. According to statistics, there was a marginally significant negative association between climate change mitigation and sustainable development. Although it also fell short of statistical significance ($p = 0.1$), its biggest association was a little, positive link with green infrastructure ($r = 0.337$). With a coefficient close to zero ($B = 0.006$) and no statistically significant predictor of sustainable development ($p = 0.977$), the regression model's lack of substantial explanatory power for the dependent variable in this dataset was confirmed.

5.1.4 Green Infrastructure

The fourth objective was to assess the influence of green infrastructure on Sustainable Development in Kenya. Despite the fact that most respondents agreed on the basic benefits of green infrastructure, there was little statistical evidence linking it to sustainable growth. According to statistics, there was a marginally significant negative link between green infrastructure and sustainable growth. It showed the largest positive connections throughout the investigation, with modest relationships with green innovation ($r = 0.249$, $p = 0.229$) and climate change mitigation ($r = 0.337$, $p = 0.1$), both of which fell short of statistical significance.

5.2 Conclusions

According to the study, respondents revealed strong positive opinions of sustainable agriculture and its principles, but these opinions did not translate into a statistically meaningful effect on sustainable development in general. According to the study, most people think that a number of strategies, such as crop rotation and climate-smart practices, have both practical and economical benefits. On the ecological benefits of organic farming for wildlife, however, there was a noticeable

According to the study, despite respondents' strong and positive opinions on green innovation and its benefits, it had no statistically significant influence on sustainable development. The survey indicated broad agreement regarding the significance of innovation to resource efficiency and good results, notably in sectors like water and sanitation. On the important question of whether green patents genuinely speed up the transition to renewable energy, there was a notable lack of consensus, indicating a contentious and ongoing debate in the industry.

Despite the respondents' high agreement with the benefits of climate change mitigation for their health and quality of life, the study found that this broad consensus did not translate into a statistically significant impact on sustainable development. The study indicated a high degree of agreement on environmental co-benefits, but a considerable divide on the socioeconomic consequences of different policies, particularly those related to forest conservation and their impact on community resilience. Support for the economic benefits of climate action, like cost savings and job creation, was likewise less significant.

Based on the results, it was determined that although respondents strongly agreed that green infrastructure improves quality of life and provides essential services, this favorable opinion did not translate into a statistically significant effect on sustainable development. Regarding the perceived efficacy of planting trees for air quality, the study found a glaring exception that exposed extreme polarization and reflected current scientific discussions. Despite being highly regarded, the study found that green infrastructure did not significantly predict sustainable development, indicating that its impact is either indirect or dependent on additional supporting variables that were not included in the analysis.

5.3 Recommendations

5.3.1 Educational Program for Sustainable Agriculture

To bridge the gap between positive perception and measurable impact, policymakers and agricultural extension services should develop and carry out targeted educational efforts. This recommendation is informed by the study results where respondents agreed on the importance of sustainable agriculture on principle, but this failed to translate to practice. These campaigns should specifically address the documented ecological and economic benefits of organic farming for biodiversity, with the aim of converting the current high levels of agreement on broad principles into a more coherent, evidence-based consensus on specific practices that can be directly linked to developmental outcomes.

5.3.2 Green Innovation Policy Framework

Given the clear public support for green innovation and its lack of measurable impact, it is recommended that the Kenyan government and business community focus on creating robust policy frameworks and market signals. These should specifically promote innovations that blatantly accelerate the transition to renewable energy in order to ensure that green innovation is focused on revolutionary, system-level change rather than incremental improvements of existing systems. This extends beyond pollution-reduction patents.

5.3.3 Integrated Climate Change Mitigation Policy

To optimize the developmental impact of climate action, it is recommended that policies particularly addressing climate change be developed and pushed as integrated development strategies. Mitigation efforts, such as forest conservation, must be directly linked to transparent and equitable community co-benefits, such as revenue-sharing models, resource access, and land tenure security, in order to build socioeconomic resilience and turn divisive policies into sources of shared public support.

5.3.4 Context-Specific Green Infrastructure

To take advantage of the strong public interest in green infrastructure, urban planners and environmental managers are encouraged to employ a context-specific and multifunctional design approach. In addition to planting trees, projects should be carefully planned to offer a variety of proven co-benefits, such as stormwater management, heat reduction, and recreational space, using rigorous, evidence-based project design. This will address divisive opinions on single-issue benefits, such air quality, and build on the current agreement.

5.5 Suggestion for Further Study

This study has explored green financing in promoting sustainable development in Kenya. The researcher suggests a contextual expansion that looks into the effect of climate change mitigation on sustainable development outcomes in East Africa using a survey of the East African Community (EAC) members. This study will provide a wider scope of study and compare climate change initiatives executed by different governments in East Africa. Thus, it would be easier to note how similar policies are affected by different socioeconomic environments across East Africa.

5.6 Limitations of the Study

This study was contextually limited to the Kenyan setting and thus the results may not be easily generalizable to regional and global constitutional bodies. Secondly, the study did not capture moderating factors, such as climate change initiatives at the international level and the shifting geopolitical environment that has led to significant climate debates. Finally, the study's reliance on descriptive research indicated that biases may be present in how respondents chose to interact with the data collection instrument.

5.7 Future Possible Directions

Future research in Kenya ought to move beyond descriptive and correlation studies and establish associational links between green financing and sustainable development at a sector-specific level. This should seek to analyze sector-specific data and provide statistical evidence that could support sectoral decision-making.

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