The State of Green Construction Finance in Kenya: Identifying Drivers and Barriers for Real Estate Developers

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Abstract

The construction sector in Kenya is a primary driver of economic growth but remains a significant contributor to environmental degradation and resource depletion. Despite the global emergence of green construction finance as a tool for sustainable development, its adoption in Kenya is remarkably low. This study seeks to: (i) establish the extent of awareness of green construction finance among real estate developers in Kenya, (ii) examine the drivers and barriers influencing the uptake of green construction finance in Kenya, and (iii) establish ways of enhancing the uptake of green construction finance in Kenya. Employing a cross-sectional census survey of all 69 registered developers under the Kenya Property Developers Association (KPDA), the research achieved a 79.7% response rate. The findings reveal that awareness is primarily limited to technical building aspects rather than specialized financial instruments, with significant knowledge gaps identified regarding tax incentives and application processes. Key drivers for uptake include the potential for lower operating costs, enhanced marketability, and the need for supportive regulatory frameworks. However, these are overshadowed by a web of barriers consisting of high upfront costs, limited access to affordable green loans, and a lack of standardized green finance taxonomies. Based on these findings, the study concludes that the adoption of green construction finance in Kenya remains at a nascent stage, requiring deliberate and coordinated efforts from multiple stakeholders to accelerate its growth. The study emphasizes the need for a synchronized ecosystem involving policy intervention, financial innovation, and capacity building. Recommendations include the implementation of a comprehensive green construction finance policy framework that provides clear guidelines, standards, and incentives for sustainable construction and the promotion of innovative green financial products tailored to the construction sector.

Keywords: Barriers, Drivers, Green Construction Finance, Qualitative

Introduction

The construction sector plays a pivotal role in economic development, urbanization, and infrastructure provision, particularly in rapidly growing economies such as Kenya. However, it is also one of the most resource-intensive and environmentally impactful sectors, contributing significantly to global greenhouse gas emissions, energy consumption, and material use. In response to growing environmental concerns and the global push toward sustainable development, there has been increasing emphasis on the adoption of green construction practices and the integration of sustainability principles across the built environment. Central to this transition is the concept of green construction finance, which refers to financial mechanisms, instruments, and investments specifically designed to support environmentally sustainable construction projects.

Globally, green finance has emerged as a critical enabler of climate action and sustainable development, particularly in the context of achieving the goals of the Paris Agreement and the Sustainable Development Goals (SDGs). Financial instruments such as green bonds, green mortgages, sustainability-linked loans, and blended finance mechanisms have been developed to mobilize capital toward environmentally responsible projects. According to the Organisation for Economic Co-operation and Development (OECD, 2017) and the World Bank (2020), the availability of dedicated green financial frameworks significantly enhances investment flows into sustainable infrastructure by reducing risk and improving investor confidence. Similarly, the United Nations Environment Programme (UNEP, 2016) emphasizes that aligning financial systems with sustainability objectives is essential for transitioning to low-carbon and climate-resilient economies.

Despite these global advancements, the uptake of green construction finance in developing countries, including Kenya, remains relatively low. This is particularly concerning given the rapid pace of urbanization and the increasing demand for housing and infrastructure in the country. Kenya's construction sector has experienced substantial growth over the past decade, driven by population expansion, urban migration, and government-led infrastructure development. However, this growth has largely been characterized by conventional construction practices, with limited integration of sustainability considerations. As a result, the sector continues to face challenges related to energy inefficiency, environmental degradation, and resource depletion.

Therefore, this study seeks to: (i) establish the extent of awareness of green construction finance among real estate developers in Kenya, (ii) examine the drivers and barriers influencing the uptake of green construction finance in Kenya, and (iii) establish ways of enhancing the uptake of green construction finance in Kenya. By adopting a survey-based approach, the study captures both quantitative and qualitative insights into awareness levels, enabling factors, and constraints within the sector. In doing so, it contributes to the growing body of knowledge on sustainable construction finance in emerging economies and provides evidence-based recommendations for policymakers, financial institutions, and industry practitioners.

Literature Review

Conceptualising Green Construction Finance

Green construction finance (GCF) refers to the range of financial instruments, mechanisms, and investment strategies designed to support environmentally sustainable construction and real estate development. It is a subset of the broader concept of green finance, which encompasses financial flows directed toward climate change mitigation, adaptation, and broader environmental sustainability objectives. According to the United Nations Environment Programme (UNEP, 2016), green finance involves aligning financial systems with sustainable development goals by channeling capital into low-carbon, resource-efficient, and socially inclusive projects. Within the construction sector, this includes financing for energy-efficient buildings, renewable energy integration, sustainable materials, and climate-resilient infrastructure.

The importance of GCF is underscored by the environmental footprint of the construction sector, which accounts for a significant proportion of global energy consumption and greenhouse gas emissions. The International Finance Corporation (IFC, 2019) estimates that green buildings could represent a multi-trillion-dollar investment opportunity in emerging markets by 2030. However, achieving this potential requires substantial upfront capital and long-term financing structures, which traditional financial systems often fail to provide. As such, GCF plays a critical role in bridging the financing gap associated with sustainable construction.

Green construction finance instruments include green bonds, green mortgages, sustainability-linked loans, and blended finance mechanisms. Green bonds, for instance, have gained global prominence as a tool for raising capital specifically for environmentally beneficial projects (Climate Bonds Initiative, 2020). Similarly, blended finance combines public and private capital to reduce investment risk and attract private sector participation (Climate Policy Initiative, 2021). These instruments are particularly relevant in developing countries, where financial markets are less mature and perceived risks are higher.

Theoretical Perspectives on Green Finance Adoption

The adoption of green construction finance can be explained through several theoretical lenses. One of the most relevant is the Diffusion of Innovation Theory, which posits that the uptake of new technologies and practices is influenced by factors such as perceived relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). In the context of GCF, developers and investors are more likely to adopt green financing mechanisms if they perceive clear economic and operational benefits, and if these mechanisms are compatible with existing practices.

Another important framework is Institutional Theory, which emphasizes the role of regulatory, normative, and cognitive pressures in shaping organizational behavior (DiMaggio & Powell, 1983). Regulatory pressures, such as environmental laws and building codes, can compel firms to adopt green practices, while normative pressures from industry bodies and professional networks encourage conformity to sustainability standards. Cognitive factors, including awareness and knowledge, also influence decision-making processes. This theory is particularly relevant in emerging markets, where institutional frameworks are still evolving.

The Resource-Based View (RBV) further provides insight into how firms leverage internal capabilities to achieve competitive advantage. According to this perspective, organizations with superior financial resources, technical expertise, and innovative capacity are better positioned to adopt green construction finance (Barney, 1991). This suggests that firm-level characteristics play a significant role in determining the uptake of GCF.

Drivers of Green Construction Finance Adoption

The literature identifies several key drivers that facilitate the adoption of green construction finance. These drivers can be broadly categorized into policy and regulatory factors, financial incentives, market demand, and institutional capacity.

Policy and regulatory frameworks are widely recognized as fundamental enablers of green finance. Stable and coherent policies reduce uncertainty and create a conducive environment for investment. The OECD (2017) argues that regulatory clarity and long-term policy signals are essential for mobilizing private capital toward sustainable infrastructure. Similarly, fiscal incentives such as tax rebates, subsidies, and feed-in tariffs can significantly enhance the financial attractiveness of green investments (UNEP, 2016).

Financial incentives and instruments also play a crucial role. Access to affordable financing, lower interest rates, and risk-sharing mechanisms can encourage developers to invest in green projects. The IFC (2019) highlights that financial innovations such as green bonds and sustainability-linked loans have been instrumental in scaling up green investments globally. In emerging markets, blended finance and guarantees are particularly important for mitigating risks and attracting private sector participation (Climate Policy Initiative, 2021).

Market demand and economic benefits are another important driver. Studies have shown that green buildings often command higher rental and sale values, as well as lower operating costs due to energy efficiency (RICS, 2018; World Green Building Council, 2016). Increasing awareness among consumers and investors about environmental sustainability further strengthens demand for green buildings, thereby incentivizing developers to adopt green finance mechanisms.

Institutional capacity and knowledge also influence adoption. The availability of skilled professionals, technical expertise, and access to information enhances the ability of stakeholders to design, evaluate, and implement green projects. UNEP Finance Initiative (2018) emphasizes that capacity building within financial institutions and the construction sector is critical for overcoming knowledge barriers and facilitating the growth of green finance markets.

Barriers to Green Construction Finance Adoption

Despite the identified drivers, the adoption of green construction finance is hindered by several challenges, particularly in developing countries. These barriers are often interrelated and span financial, institutional, regulatory, and market dimensions.

One of the most commonly cited barriers is the high upfront cost of green buildings. Although green buildings offer long-term cost savings, the initial investment required for sustainable materials,

technologies, and certification can be significantly higher than conventional construction (Shen et al., 2018). This creates a financial disincentive, especially in markets where access to affordable financing is limited.

Limited access to appropriate financial instruments is another major constraint. In many developing countries, green financial products such as green mortgages and sustainability-linked loans are either underdeveloped or unavailable. According to the Climate Policy Initiative (2021), the lack of tailored financial solutions and high cost of capital significantly restrict green investment flows in emerging markets.

Policy and regulatory challenges also impede adoption. Weak enforcement of environmental regulations, lack of standardized green building codes, and policy inconsistency create uncertainty and discourage investment (OECD, 2017; World Bank, 2020). In addition, the absence of clear green finance taxonomies and certification systems increases the risk of greenwashing and undermines investor confidence.

Knowledge and capacity gaps further exacerbate the problem. Developers, financial institutions, and other stakeholders often lack the technical expertise required to design and evaluate green projects. This leads to risk-averse behavior and limited engagement with green finance opportunities (UNEP FI, 2018). Moreover, low levels of awareness among consumers and investors reduce demand for green buildings, thereby weakening market incentives.

Risk perception and data limitations are also significant barriers. Investors often perceive green projects as high-risk due to limited historical data on performance and returns. The lack of reliable data and standardized reporting frameworks makes it difficult to assess risks and measure impact, thereby discouraging investment (Climate Bonds Initiative, 2020).

Strategies for Enhancing Green Construction Finance Uptake

To address these barriers, the literature proposes several strategies aimed at enhancing the uptake of green construction finance. These strategies emphasize the need for a holistic and integrated approach involving multiple stakeholders.

First, strengthening policy and regulatory frameworks is essential. Governments should develop clear green finance policies, establish standardized taxonomies, and provide fiscal incentives to encourage investment. The World Bank (2020) highlights that policy coherence and regulatory certainty are critical for scaling sustainable finance in developing countries.

Second, expanding financial instruments and market access is crucial. This includes developing innovative financial products, enhancing access to concessional finance, and promoting blended finance mechanisms. According to the IFC (2019), diversifying financial instruments can help address different risk profiles and investment needs.

Third, investing in capacity building and technical expertise is necessary to overcome knowledge barriers. Training programs, technical advisory services, and knowledge-sharing platforms can enhance the ability of stakeholders to engage with green finance (UNEP FI, 2018).

Fourth, promoting market awareness and demand is important for creating a strong business case for green buildings. Public awareness campaigns, demonstration projects, and certification systems can help highlight the benefits of green construction and stimulate demand (World Green Building Council, 2016).

Finally, fostering collaboration and partnerships among stakeholders is critical for building a robust green finance ecosystem. Public-private partnerships, collaboration with international organizations, and engagement with academic institutions can facilitate resource mobilization, knowledge exchange, and innovation (GGGI, 2020).

Research Gap

While the global literature on green finance and sustainable construction is extensive, there remains a limited body of context-specific research focusing on the adoption of green construction finance in developing countries, particularly in sub-Saharan Africa. Existing studies tend to focus either on green building technologies or on broader climate finance mechanisms, with limited attention to the intersection between finance and construction practices.

In the Kenyan context, research on green construction finance is still emerging, and there is a need for empirical studies that capture the perspectives of key industry stakeholders, such as developers. Furthermore, much of the existing literature emphasizes general barriers and drivers without adequately exploring the interconnected nature of these factors within specific institutional and market environments.

This study seeks to address these gaps by providing an in-depth analysis of the determinants of green construction finance uptake in Kenya, thereby contributing to both academic knowledge and practical policy development.

Methodology

Research Design

The study employed a cross-sectional design, whereby data were collected at a single point in time. This approach is appropriate for capturing the current state of green construction finance in Kenya, particularly given the rapidly evolving nature of sustainability-related policies and financial instruments. Cross-sectional surveys are commonly used in construction management and real estate research due to their efficiency in providing a snapshot of prevailing conditions without the time and resource demands of longitudinal studies (Bryman, 2016). Although such designs do not allow for causal inferences over time, they are well-suited for identifying key issues, trends, and relationships that can inform policy and practice.

The survey design is further justified by its suitability for examining perceptions of emerging and complex phenomena, such as green construction finance. As noted by Dillman et al. (2014), surveys are particularly effective in capturing attitudes and opinions in areas where objective data may be limited or fragmented. In Kenya, where green finance is still developing, the reliance on stakeholder perceptions is critical for understanding both opportunities and constraints within the sector.

Population and Sampling

The survey targeted registered developers as the primary unit of analysis, given their central role in initiating, financing, and implementing construction projects. Developers are uniquely positioned to provide insights into both the demand-side challenges (e.g., cost, market demand, technical capacity) and supply-side constraints (e.g., access to finance, regulatory barriers) associated with green construction. This aligns with existing literature, which emphasizes the importance of engaging industry practitioners when examining the adoption of sustainable construction practices (Darko & Chan, 2016).

According to the online register published by the Kenya Property Developers Association (KPDA), the number of registered developers as of March 12th, 2025, was 69 (KPDA, 2025). Due to the small population, the sample in this survey was based on a census of the 69 Registered Developer Firms.

Data Collection

A structured questionnaire was used as the main data collection instrument. The questionnaire design allowed for the collection of both quantitative ratings (i.e., Likert-scale responses for the background information and green construction finance awareness) and qualitative inputs (i.e., open-ended suggestions for the drivers, barriers, and ways of enhancing adoption of green construction finance), thereby enabling a more nuanced understanding of the research problem. The use of structured questionnaires enhances reliability by ensuring consistency in the questions posed to respondents, while also facilitating statistical analysis (Kothari, 2004). Additionally, incorporating open-ended items provided respondents with the flexibility to highlight context-specific issues that may not have been captured in predefined response options.

Data Analysis

The study utilized a combination of descriptive statistics and thematic analysis to analyze data collected through a survey. This mixed-methods approach allowed for summarizing respondent characteristics, awareness levels, and a thorough interpretation of perceived drivers, barriers, and strategies for adopting green construction finance. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to assess background information and awareness levels of respondents, presenting a clear summary of sample characteristics within the context of green construction finance. Likert-scale responses evaluated awareness and familiarity, applying mean score rankings commonly used in construction and management research for assessing perception-based variables.

To enrich the quantitative findings, thematic analysis was employed to analyze qualitative data from open-ended questionnaire responses. This involved systematic coding and categorization into meaningful themes through several stages: data familiarization, initial coding, pattern searching, and grouping codes into overarching themes. This approach effectively captured insights and recurring issues not fully addressed through structured responses. Thematic analysis proved suitable for interpreting complex perceptions and experiences of industry stakeholders, allowing for the synthesis of factors influencing green construction finance into coherent thematic groupings and for proposing strategies for enhancing adoption.

The integration of both analytical methods formed a robust framework wherein quantitative data provided breadth and generalizability, while qualitative insights contributed depth and contextual understanding, ensuring a comprehensive interpretation of both measurable trends and nuanced stakeholder viewpoints.

Results and Discussion

Response Rate

Out of a total of 69 Developers, 55 responded, representing a response rate of 79.7%, which was deemed adequate. This is because the achieved response rate was higher than the 50% threshold set by Mugenda and Mugenda (2003), and the average online survey response rate of 44.1% given by (Wu et al., 2022).

Background Information

Professional Experience

To assess the tenure of developer firms within Kenya's construction industry, respondents were asked to indicate the length of time their firms had been operating. The results have been presented in Figure 1. Notably, there were no firms with less than 11 years of operational experience in the sample. This is because zero responses were recorded for both the 1–5 years and 6–10 years categories. Consequently, all responding firms had over a decade of experience within the Kenyan construction industry. The experience profile of the sample is heavily skewed towards long-established developer firms. Over two-thirds of the firms (67.3%) have been operating for more than 15 years, with 32.7% having over 25 years in the industry. This distribution indicates a mature respondent base with extensive exposure to market cycles, regulatory frameworks, and established business practices.

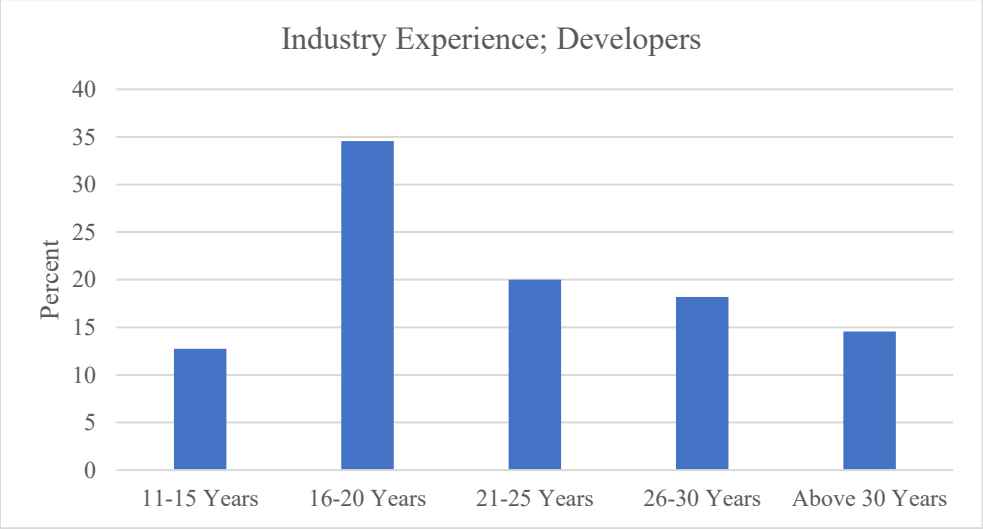

Figure 1: Developer Firms' Professional Experience

Mature firms are more likely to have accumulated significant institutional knowledge, robust financial resources, and the capacity to absorb innovations, including the adoption of GCF. (Zhou, Wang and Liu, 2013; Yin, Shen and Tang, 2018). Their responses are therefore expected to reflect a high level of

operational and sectoral insight. While stability can facilitate investment in green initiatives, longstanding firms may also be more set in traditional financing and construction practices, possibly exhibiting resistance to novel mechanisms unless incentivised or compelled by market or regulatory shifts. (Jørgensen and Messner, 2010; Osei-Kyei *et al.*, 2018).

Number of Projects Undertaken

Developers were also asked to report the total number of construction projects they had undertaken in the last five years. The results presented in Figure 2 showed the following distribution: 3.7% had completed 6-10 projects, 13.0% completed 11-15 projects, 14.8% completed 16-20 projects, 22.2% completed 21-25 projects, 22.2% completed 26-30 projects, and 24.1% had completed over 30 projects. The majority of developers indicated substantial experience, with nearly 70% having handled more than 20 projects in the past five years. Approximately, a total of 1,265 projects were handled by the 54 respondent Developers in a span of five years, representing a mean of 23.4 projects per Developer. This means that, on average, a Developer handles 4.7 projects in a single year. This reflects a mature and active developer sample with significant engagement in Kenya's construction sector. Also, the total number of projects was useful in estimating the extent of GCF adoption in later sections.

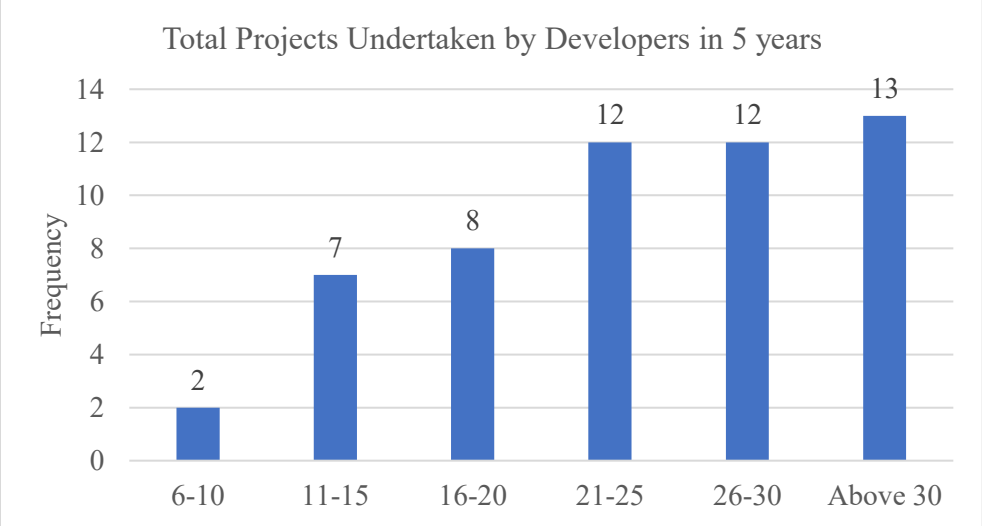

Figure 2: Total Number of Projects Undertaken by Developers

Awareness of Green Construction Finance

This section assessed developers' awareness of various aspects of green construction finance (GCF) using a 7-point Likert scale, with results summarised in Table 1. Developers reported the highest awareness of green building technologies (RII = 0.59, Rank 1), indicating moderate familiarity. Awareness of the general concept of green construction finance ranked second (RII = 0.42), followed by knowledge of associated benefits (RII = 0.35, Rank 3). Awareness of cost data and understanding of application processes were relatively low (Mean = 2.25), while the lowest awareness was found regarding tax incentives (RII = 0.31, Rank 7) and comprehensive knowledge of all green finance options (RII = 0.32, Rank 6). Coefficients of Total Number of Projects Undertaken by Developers variation (CV) ranged from 30% to 44%, reflecting

moderate variability in responses. Overall, ratings cluster in the lower-middle region of the scale, indicating limited to moderate awareness of green finance concepts among developers.

Table 1: Extent of Awareness

Statement	N	Min	Max	Mean	SD	CV	RII	Rank
I am well aware of green building technologies	55	2	6	4.13	1.233	30%	0.590	1
The concept of green construction finance is well familiar to me	55	1	5	2.93	1.274	43%	0.419	2
I am well aware of the benefits associated with green construction finance	55	1	4	2.42	0.786	32%	0.346	3
I have adequate knowledge of cost data for green construction	55	1	5	2.38	0.952	40%	0.340	4
I fully understand the application process for green construction financing	55	1	5	2.27	0.952	42%	0.324	5
I am well aware of all green finance options	55	1	5	2.25	0.985	44%	0.321	6
I am well aware of tax-related benefits/incentives	55	1	4	2.16	0.788	36%	0.309	7

Source (Fieldwork, 2025)

The findings indicate that developers are more familiar with technical aspects (e.g., materials, technologies) of green construction than with the financial instruments supporting them, consistent with previous studies (Opoku & Ahmed, 2014; Shen et al., 2018). Moderate awareness of green building technologies may reflect exposure through training, industry forums, or compliance requirements, whereas understanding of green finance concepts, options, and benefits is generally low (RII = 0.309–0.419), highlighting a critical knowledge gap for scaling adoption (Manga, 2025). Awareness of tax incentives and application processes was particularly low, suggesting that developers either lack information or find procedures complex (Odhiambo & Amayo, 2024). Such gaps hinder engagement with financial institutions and limit demand for green building investments, echoing findings by Darko et al. (2017) and Shen et al. (2018), who emphasise that financial literacy and awareness of incentives are key barriers to adopting sustainable financing solutions.

Key Drivers for Green Construction Finance in Kenya

Developers were asked to describe the key drivers or success factors for green construction finance here in Kenya. A total of 252 suggestions were provided. A word cloud of the results has been presented in Figure 3. The responses provided by developers reveal that the success of green construction finance in Kenya is shaped by a complex and interdependent set of drivers that can be synthesised into seven broad thematic areas. These themes—policy and regulatory frameworks, financial instruments and capital access, institutional capacity, market demand, collaboration and partnerships, risk management and standards, and innovation and inclusion—collectively illustrate that green finance operates as an ecosystem rather than a single intervention. The themes reflect both supply-side (financial system) and demand-side (market and industry) dynamics, as well as the institutional ecosystem required for scale.

Figure 3: Key Drivers for Green Construction Finance in Kenya

Source (Author, 2026)

Policy, Regulatory, and Institutional Frameworks

First, the findings underscore the central role of a supportive policy and regulatory environment. Developers consistently pointed to government incentives, tax rebates, subsidies, and the need for clear and enforceable green building regulations as critical enablers. One respondent said, "*The government needs to provide incentives for green building projects*." They also emphasized streamlined approval processes, carbon pricing mechanisms, and alignment with national climate goals. A respondent pointed out that "*Approval processes are almost always delayed*." This aligns strongly with existing literature, which identifies policy certainty and regulatory clarity as foundational to mobilizing green investment. For instance, the World Bank (2020) and OECD (2017) argue that stable policy frameworks reduce investor risk and enhance confidence in long-term sustainable investments. Similarly, UNEP (2016) highlights that fiscal incentives and regulatory enforcement are among the most effective tools for accelerating green building uptake in developing countries. In the Kenyan context, these findings reinforce earlier studies that have pointed to regulatory fragmentation and weak enforcement as key barriers, suggesting that improving institutional coherence remains a priority.

Financial Instruments, Market Development, and Capital Access

Second, the availability and diversity of financial instruments emerged as a critical driver. Developers highlighted the importance of affordable green loans, lower interest rates, green bonds, sustainability-linked loans, blended finance, and concessional funding. One of the respondents said, "*The government should support affordable green housing*." Risk mitigation tools such as guarantees and insurance products were also emphasized. These findings are consistent with global evidence that financial innovation is essential for scaling green investments. According to the Climate Policy Initiative (2021), the high upfront costs of green buildings necessitate tailored financial products that can spread risk and reduce capital constraints. Similarly, the International Finance Corporation (IFC, 2019) notes that blended finance and credit

enhancement mechanisms are particularly important in emerging markets, where perceived risks often deter private investment. The emphasis on instruments such as green mortgages and concessional finance in this study also reflects a growing recognition of the need to localize global financial solutions to fit domestic market conditions.

Institutional Capacity, Knowledge, and Technical Expertise

Third, institutional capacity and technical expertise were identified as key enablers. Developers stressed the need for training programs for construction professionals, capacity building for financial institutions, and access to technical advisory services. They also highlighted the importance of research and development, as well as collaboration with academic institutions. These findings are consistent with earlier research indicating that knowledge gaps and limited technical capacity hinder the adoption of green finance. UNEP FI (2018) and the World Bank (2020) both emphasize that financial institutions often lack the expertise to assess green projects, leading to risk-averse behavior. In the construction sector, the absence of skilled professionals and limited awareness of green technologies further constrain uptake. The present findings, therefore, reinforce the argument that capacity building is not a peripheral issue but a core requirement for market development.

Market Demand, Economic Value, and Business Case

Fourth, the role of market demand and the business case for green buildings emerged strongly. Developers noted increased demand from both residential and commercial clients, higher property values, lower operating costs, and enhanced marketability as important drivers. One of the developers was quoted as saying, "*Lower operating cost is a key driver*." These observations align with studies by the IFC (2019) and RICS (2018), which show that green buildings can command price premiums and deliver lifecycle cost savings. The emphasis on lower utility bills and long-term cost savings also reflects findings by the World Green Building Council (2016), which highlight operational efficiency as a key motivator for adoption. However, the continued need for public awareness campaigns suggests that demand in Kenya is still developing. This is consistent with earlier studies in sub-Saharan Africa, which identify limited consumer awareness as a barrier to widespread adoption of green buildings.

Collaboration, Partnerships, and Ecosystem Development

Fifth, collaboration and partnerships were identified as essential for scaling green construction finance. Developers emphasized the importance of public-private partnerships, collaboration between banks and developers, engagement with international donors, and partnerships with NGOs and research institutions. A developer noted, "*Collaboration between banks and developers drives up uptake*." This reflects the growing recognition in the literature that green finance requires coordinated action across multiple stakeholders. The Global Green Growth Institute (GGGI, 2020) and UNEP (2016) both highlight that effective green finance ecosystems depend on strong collaboration between public institutions, private investors, and development partners. In the Kenyan context, the emphasis on international climate funds and donor partnerships underscores the continued importance of external support in catalyzing domestic markets.

Innovation, Inclusion, and Sustainable Development Integration

Sixth, the importance of risk management, transparency, and standards was evident in the responses. Developers highlighted the need for green building certification systems, ESG integration, environmental risk assessments, and transparent monitoring and reporting mechanisms. They also pointed to the role of digital technologies in enhancing transparency. These findings are consistent with global literature emphasizing that trust and credibility are fundamental to the growth of green finance markets. According to the OECD (2017) and Climate Bonds Initiative (2020), standardized definitions and robust reporting frameworks are essential to prevent greenwashing and ensure investor confidence. The integration of ESG criteria and disclosure practices observed in this study suggests that Kenyan developers are increasingly aligning with international best practices.

Market Demand, Economic Value, and Business Case

Finally, the theme of innovation and inclusion reflects a broader and more transformative vision of green construction finance. Developers highlighted the role of green fintech, smart building technologies, innovation hubs, and inclusive finance mechanisms targeting SMEs, youth, and low-income households. They also emphasized the integration of green finance across sectors such as housing, transport, agriculture, and energy. These findings resonate with recent literature that frames green finance as a driver of systemic change rather than a niche market. For example, the World Bank (2020) and UNEP (2016) argue that inclusive green finance is essential for achieving both environmental sustainability and social equity. The strong focus on affordable green housing and financial inclusion in this study is particularly significant in the Kenyan context, where housing deficits and income inequalities remain pressing challenges.

Summary

In summary, the findings demonstrate that green construction finance in Kenya is driven by a multifaceted ecosystem in which policy, finance, capacity, demand, partnerships, governance, and innovation are deeply interconnected. This is consistent with international evidence but also highlights context-specific priorities such as the need for affordable housing solutions, localized financial instruments, and stronger institutional coordination. Importantly, the study reinforces the argument that isolated interventions are unlikely to succeed; instead, a holistic and coordinated approach is required to unlock the full potential of green construction finance.

Barriers Hindering Access to Green Construction Finance in Kenya

Developers were asked to describe the challenges and barriers that might hinder access to green construction finance. A total of 246 suggestions were provided. A word cloud of the results has been presented in Figure 4. The challenges and barriers identified by developers reveal that access to green construction finance in Kenya is constrained by a complex set of interrelated factors. These can be synthesised into seven key themes: (i) policy and regulatory constraints, (ii) financial market limitations, (iii) institutional and technical capacity gaps, (iv) market demand and perception barriers, (v) ecosystem fragmentation and coordination failures, (vi) risk, data, and transparency challenges, and finally (vii) inclusion and structural inequalities. Together, these themes highlight that barriers to green finance are systemic rather than isolated, reinforcing insights from prior literature on sustainable finance in emerging economies.

Figure 4: Barriers to Green Construction Finance in Kenya

Source (Author, 2026)

Policy and Regulatory Constraints

First, policy and regulatory constraints emerge as a fundamental barrier. Developers pointed to the lack of clear regulatory frameworks, weak enforcement of environmental and energy efficiency regulations, insufficient incentives such as tax rebates, and poor integration of green finance into national development plans. Challenges such as fragmented policies, weak coordination between national and county governments, and limited alignment between environmental and financial regulators further exacerbate the problem. One respondent said, "*The government needs to provide incentives for green building projects*." These findings are consistent with earlier studies, which argue that policy ambiguity and weak institutional enforcement significantly hinder green investment flows (OECD, 2017; World Bank, 2020). In many developing countries, including Kenya, the absence of coherent and enforceable frameworks creates uncertainty, discouraging both developers and financiers from committing to green projects. Moreover, the limited integration of climate adaptation and mitigation into building codes reflects concerns raised by UNEP (2016), which notes that regulatory gaps remain a key bottleneck in scaling sustainable construction.

Financial Market Limitations

Second, financial market limitations represent a major constraint. Developers highlighted the limited availability of affordable green loans, high interest rates, lack of tailored financial products, and insufficient access to long-term and concessional finance. Additional barriers include underdeveloped green bond markets, the absence of green mortgages, a lack of credit enhancement mechanisms, and limited access to international climate finance. Macroeconomic instability and currency risks further complicate financing. These findings align with the Climate Policy Initiative (2021), which identifies the cost of capital and limited financial innovation as primary barriers to green investment in emerging markets. Similarly, IFC (2019) emphasizes that without risk-sharing instruments such as guarantees and blended finance, private

capital remains reluctant to enter green construction markets. The Kenyan case reinforces this global pattern, particularly highlighting the financing gap for affordable housing and small-scale developers.

Institutional and Technical Capacity Gaps

Third, institutional and technical capacity gaps significantly hinder access to green finance. Developers reported insufficient technical expertise to prepare bankable proposals, limited capacity within financial institutions to evaluate green risks, and inadequate training on ESG criteria. There is also a lack of technical advisory services, weak research and development, and limited capacity for monitoring and evaluation. These findings are strongly supported by UNEP FI (2018), which notes that capacity constraints across both financial institutions and project developers lead to risk aversion and underinvestment in green projects. In the Kenyan context, the limited ability to design, appraise, and implement green projects suggests that capacity building remains a critical prerequisite for scaling green finance.

Market Demand and Perception Barriers

Fourth, market demand and perception barriers also play a significant role. Developers identified low demand for green buildings, limited public awareness, and negative perceptions regarding the cost-effectiveness of green construction. One developer said, "*People are not aware of the green options available in the market*." These challenges are compounded by limited awareness among investors, contractors, and end-users, as well as insufficient understanding of lifecycle cost benefits. Such findings are consistent with studies by the World Green Building Council (2016) and RICS (2018), which highlight that consumer awareness and perceived value are key determinants of green building adoption. In many developing markets, including Kenya, the benefits of green buildings are often undervalued due to a focus on upfront costs rather than long-term savings, thereby weakening demand-side drivers.

Ecosystem Fragmentation and Coordination Failures

Fifth, ecosystem fragmentation and weak collaboration further constrain green finance development. Developers pointed to limited collaboration between banks and developers, weak engagement with international climate finance institutions, poor coordination of donor-funded programs, and insufficient stakeholder engagement. The absence of integrated platforms for green finance, along with weak linkages between academia, industry, and financial institutions, reflects a fragmented ecosystem. This aligns with the systems-based perspective in the literature, which emphasizes that effective green finance requires coordinated action across multiple actors (GGGI, 2020; UNEP, 2016). The Kenyan findings suggest that while individual initiatives may exist, the lack of coordination reduces their overall effectiveness and scalability.

Risk, Data, and Transparency Challenges

Sixth, risk perception, data limitations, and transparency challenges constitute another critical barrier. Developers highlighted the perceived high risk of green projects, lack of reliable data on performance and returns, limited frameworks for measuring and verifying carbon savings, and insufficient transparency in reporting. Financial institutions also face challenges in integrating climate risk into credit assessments and lack the capacity for climate risk modelling. These issues are widely documented in the literature, with the OECD (2017) and Climate Bonds Initiative (2020) noting that data gaps and lack of standardised reporting

frameworks undermine investor confidence and limit market growth. The risk of greenwashing and the absence of robust monitoring systems further exacerbate these challenges, particularly in nascent markets.

Inclusion and Structural Inequalities

Finally, issues of inclusion and structural inequality represent a significant and often underexplored barrier. Developers identified limited access to green finance for SMEs, informal sector actors, women, youth, and low-income households. One respondent said, "*The banks are only willing to lend green financing to big players*." Challenges such as a lack of financing for affordable housing, rural infrastructure, and informal settlements highlight the uneven distribution of green finance. Gender disparities and limited participation of marginalized groups further compound these issues. These findings resonate with emerging literature on inclusive green finance, which argues that without deliberate efforts to address social inequalities, green finance may exacerbate existing disparities (World Bank, 2020; UNEP, 2016). In Kenya, where a significant portion of the population operates in the informal sector, the exclusion of these groups from green finance mechanisms poses a major challenge to achieving both sustainability and equity goals.

Summary

In summary, the barriers to green construction finance in Kenya reflect a deeply interconnected set of structural, financial, institutional, and social challenges. Consistent with previous studies, the findings confirm that constraints such as high financing costs, policy gaps, and limited capacity are pervasive in emerging markets. However, the study also contributes context-specific insights, particularly regarding the importance of inclusion, affordable housing, and ecosystem coordination. Addressing these barriers will require a holistic approach that simultaneously strengthens policy frameworks, deepens financial markets, builds institutional capacity, stimulates demand, enhances data and transparency systems, and ensures inclusive access to green finance.

Ways of Enhancing the Uptake of Green Construction Finance in Kenya

Developers were asked to suggest ways in which the uptake of green construction finance can be enhanced. A total of 307 suggestions were provided. A word cloud of the results has been presented in Figure 5. The proposed measures for enhancing the uptake of green construction finance in Kenya reveal a comprehensive and forward-looking agenda that addresses the systemic barriers identified earlier. These measures can be synthesised into seven thematic areas: (i) strengthening policy and regulatory frameworks, (ii) expanding financial instruments and market access, (iii) building institutional and technical capacity, (iv) stimulating market demand and awareness, (v) enhancing collaboration and ecosystem development, (vi) improving transparency and risk management systems, and (vii) promoting innovation and inclusive green finance. Together, these themes highlight that accelerating green finance uptake requires coordinated, multi-level interventions.

Figure 5: Ways of Enhancing GCF Uptake in Kenya

Source (Author, 2026)

Strengthening Policy and Regulatory Frameworks

A central theme is the need to establish a clear, coherent, and supportive policy environment. Suggested measures include developing national green finance policies, introducing tax incentives and subsidies, integrating green finance into national development plans, and establishing standardized green building certification systems and taxonomies. One respondent said, "*The government needs to provide incentives for green building projects*." Respondents also emphasized the importance of aligning local frameworks with international standards such as the Green Bond Principles and strengthening legal frameworks for green finance contracts.

These recommendations are consistent with existing literature, which underscores the role of policy in shaping sustainable finance markets. The OECD (2017) and World Bank (2020) argue that clear regulatory frameworks and fiscal incentives are critical for reducing uncertainty and crowding in private investment. Similarly, UNEP (2016) highlights that national taxonomies and certification systems enhance credibility and reduce greenwashing risks. In Kenya, strengthening policy coherence and enforcement would address many of the regulatory gaps identified in previous sections.

Expanding Financial Instruments and Improving Access to Capital

Another key theme is the need to diversify and scale up green financial products. Proposed measures include developing affordable green loans, green mortgages, green bonds, blended finance instruments, guarantees, and insurance products. Respondents also highlighted the importance of concessional finance, impact investing, venture capital, and crowdfunding platforms, as well as innovative tools such as performance-based financing.

These findings align with global evidence emphasizing that financial innovation is essential to bridge the green financing gap (Climate Policy Initiative, 2021). The IFC (2019) further notes that instruments such as blended finance and guarantees are particularly effective in emerging markets where risks are perceived to be high. The emphasis on tailored products for affordable housing, SMEs, and informal sector actors also reflects growing recognition in the literature that financial inclusion must be embedded within green finance strategies.

Building Institutional and Technical Capacity

Capacity building emerges as a critical enabler across both the financial and construction sectors. Suggested interventions include training for financial institutions on green project appraisal, capacity building for developers on sustainability standards, technical advisory services, and integration of green finance education into universities and professional training programs.

These recommendations are strongly supported by prior studies. UNEP FI (2018) and the World Bank (2020) emphasize that limited technical expertise among both lenders and borrowers constrains the growth of green finance markets. The need for capacity building among regulators and credit officers is particularly important, as it enhances the ability of institutions to assess environmental risks and structure appropriate financial products. In the Kenyan context, strengthening technical capacity would directly address the knowledge gaps identified as a major barrier.

Stimulating Market Demand and Public Awareness

Enhancing demand for green buildings and finance products is another critical theme. Developers proposed increasing public awareness campaigns, promoting the economic benefits of green buildings, incentivizing adoption through subsidies, and targeting key actors such as real estate agents, contractors, and end-users. Measures such as green building exhibitions, competitions, and demonstration projects were also suggested to showcase viability.

These findings are consistent with studies by the World Green Building Council (2016) and RICS (2018), which highlight that consumer awareness and perceived value are key drivers of green building adoption. In many developing markets, demand remains constrained by a limited understanding of long-term benefits. The emphasis on demonstration and pilot projects aligns with global best practices, where visible success stories are used to build confidence and stimulate market uptake.

Technical Capacity Building: Moving Beyond Awareness

The importance of multi-stakeholder collaboration is evident throughout the proposed measures. Respondents emphasized partnerships between banks and developers, public-private partnerships, collaboration with international climate finance institutions, and stronger linkages between academia, industry, and government. The creation of knowledge-sharing platforms, peer networks, and stakeholder engagement mechanisms was also highlighted.

These recommendations align with the systems perspective in the literature, which views green finance as an ecosystem requiring coordinated action. UNEP (2016) and the Global Green Growth Institute (2020)

note that effective collaboration enhances resource mobilization, knowledge exchange, and risk sharing. In Kenya, strengthening these partnerships would help address fragmentation and improve the overall efficiency of the green finance landscape.

Technical Capacity Building: Moving Beyond Awareness

Another key theme is the need to strengthen transparency, accountability, and risk management frameworks. Suggested measures include promoting standardized reporting and impact measurement, integrating ESG criteria, developing green finance monitoring systems, and using digital tools such as blockchain to enhance transparency. Respondents also emphasized the importance of climate risk assessments and performance-based financing models.

These findings are consistent with global research emphasizing that robust data and transparency mechanisms are essential for building investor confidence (OECD, 2017; Climate Bonds Initiative, 2020). The development of green finance taxonomies and impact measurement tools also aligns with international best practices aimed at reducing greenwashing risks. In the Kenyan context, improving data systems would address the current lack of reliable information on green project performance.

Technical Capacity Building: Moving Beyond Awareness

Finally, the proposed measures highlight the need to foster innovation and inclusivity in green construction finance. This includes supporting green fintech solutions, innovation hubs, incubators, and accelerators, as well as promoting access to finance for SMEs, women, youth, informal sector actors, and marginalized communities. Respondents also emphasized sectoral integration, including financing for sustainable transport, agriculture, energy, water, and social infrastructure.

These findings align with emerging literature on inclusive green finance, which stresses that sustainability transitions must also address social equity and economic inclusion (World Bank, 2020; UNEP, 2016). The emphasis on affordable housing, informal settlements, and rural infrastructure is particularly relevant in Kenya, where development challenges are closely intertwined with environmental concerns. Additionally, the focus on innovation reflects global trends where digital technologies and new business models are transforming financial systems.

Summary

Overall, the proposed measures demonstrate that enhancing the uptake of green construction finance in Kenya requires a holistic and integrated approach. Consistent with previous studies, the findings highlight that policy support, financial innovation, capacity building, and market development must occur simultaneously. However, the study also contributes context-specific insights, particularly the importance of inclusion, affordable housing, and ecosystem coordination. By addressing these seven thematic areas in a coordinated manner, Kenya can significantly accelerate the transition toward a sustainable and resilient construction sector.

Implications, Conclusions, And Recommendations

Implications

The findings of this study carry important implications for policy, practice, and research in the context of green construction finance (GCF) in Kenya.

From a policy perspective, the study underscores the critical role of government in creating an enabling environment for green finance. The relatively low uptake of GCF suggests that existing policy frameworks may be inadequate, fragmented, or insufficiently enforced. This highlights the need for more coherent and targeted policies, including the development of a national green finance strategy, clear regulatory guidelines, and incentives to stimulate both supply and demand for green financial products. Policymakers must also recognize that awareness alone is insufficient; it must be complemented by practical support mechanisms such as tax incentives, subsidies, and risk-sharing facilities.

From an industry perspective, the study reveals that developers and other construction stakeholders face both financial and institutional constraints in adopting green finance. This implies that firms need to strengthen their internal capacities, particularly in financial planning, sustainability integration, and innovation. The findings also suggest that financial institutions have a significant role to play in designing and offering tailored green financial products that align with the needs and risk profiles of developers. Enhancing collaboration between developers, financiers, and regulators is therefore essential for unlocking investment in sustainable construction.

From a market perspective, the study points to the importance of demand-side dynamics in driving GCF uptake. Limited market demand for green buildings reduces the incentive for developers to pursue green financing. This implies that increasing public awareness of the economic and environmental benefits of green buildings is crucial for stimulating demand and creating a viable market for green investments.

From an academic perspective, the study contributes to the growing body of knowledge on sustainable construction and green finance in developing countries. It highlights the need for more context-specific research that captures the unique institutional, economic, and social dynamics influencing GCF adoption. The study also demonstrates the value of combining quantitative and qualitative approaches in understanding complex sustainability challenges.

Conclusions

This study set out to examine the determinants of green construction finance uptake in Kenya, with a focus on awareness levels, drivers, barriers, and strategies for enhancing adoption. Based on the analysis, several key conclusions can be drawn.

First, while there is a growing awareness of green construction concepts, knowledge of green financing mechanisms remains limited among developers. This indicates a critical gap between technical understanding of sustainable building practices and financial literacy regarding green investment options.

Second, the uptake of green construction finance is influenced by a combination of interrelated factors, including financial constraints, policy and regulatory gaps, limited access to appropriate financial

instruments, and insufficient technical capacity. These barriers collectively hinder the ability of developers to transition from conventional to sustainable construction practices.

Third, despite these challenges, there exist significant opportunities for scaling up GCF, particularly through supportive policies, financial innovation, capacity building, and increased market demand. The potential long-term benefits of green buildings—such as cost savings, improved asset value, and environmental sustainability—provide a strong justification for investment in green construction.

Recommendations

In light of the findings and conclusions, the following recommendations are proposed:

Strengthening Policy and Regulatory Frameworks: The government should develop and implement a comprehensive green construction finance policy framework that provides clear guidelines, standards, and incentives for sustainable construction. This may include tax incentives, subsidies, expedited approval processes for green projects, and mandatory sustainability standards for large developments. Establishing a national green finance taxonomy would also enhance transparency and investor confidence.

Enhancing Access to Green Financial Instruments: Financial institutions should design and promote innovative green financial products tailored to the construction sector, such as green mortgages, sustainability-linked loans, and green bonds. There is also a need to expand access to concessional financing and blended finance mechanisms to reduce the cost of capital and mitigate investment risks.

Capacity Building and Knowledge Development: Stakeholders across the construction and financial sectors should invest in capacity-building initiatives to enhance understanding of green finance. This includes training programs for developers, financiers, and policymakers, as well as the integration of green finance concepts into academic and professional curricula.

Promoting Market Awareness and Demand: Efforts should be made to increase public awareness of the benefits of green buildings through campaigns, demonstration projects, and certification programs. Educating consumers and investors on the long-term economic and environmental advantages of sustainable construction can help stimulate demand and encourage developers to adopt green financing.

Strengthening Institutional Collaboration: There is a need for stronger collaboration among government agencies, financial institutions, developers, and international organizations. Public-private partnerships and multi-stakeholder platforms can facilitate knowledge sharing, resource mobilization, and coordinated action toward scaling up green construction finance.

Improving Data Availability and Transparency: Developing standardized data collection and reporting systems for green construction projects can help reduce information asymmetry and improve risk assessment. Reliable data on costs, performance, and returns will enhance investor confidence and support evidence-based decision-making.

Areas for Further Research: Future studies should explore the perspectives of other stakeholders, such as financial institutions, policymakers, and end-users, to provide a more comprehensive understanding of the

green finance ecosystem. Longitudinal studies and comparative analyses across different regions would also be valuable in identifying best practices and tracking progress over time.

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