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Article

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## Abstract

*As climate challenges intensify and global commitments to sustainable development deepen, green banking has gained prominence as an innovative paradigm within contemporary financial systems, drawing increasing attention from economic policymakers. This study explores the feasibility of advancing green banking in Afghanistan through a qualitative, interpretative phenomenological approach. Data were gathered via semi-structured interviews with 50 experts across banking, environmental policy, and financial governance, and analyzed using thematic analysis. The findings highlight substantial barriers, including weak institutional and regulatory frameworks, a lack of green financial instruments, limited technical capacity, and low levels of environmental awareness. Nevertheless, the country's abundant renewable energy resources, potential for international collaboration, and strategic geopolitical position present favorable conditions for the implementation of green banking. The study proposes a set of strategic recommendations, including the development of a national green banking policy, institutional strengthening, educational capacity-building, and the establishment of an independent supervisory authority. Together, these initiatives offer a localized and actionable roadmap for facilitating Afghanistan's transition toward a sustainable, green financial ecosystem.*

***Keywords:*** *Green Banking, Sustainable Finance, Institutional Readiness, Environmental Awareness, Afghanistan*

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## 1. Introduction

Afghanistan, given its significant environmental and economic potential and its confrontation with multiple environmental challenges, requires the development of sustainable financial approaches.

Green banking is an innovative approach in contemporary financial systems, encompassing policies, processes, and banking operations that integrate environmental considerations into financial decisions and are designed to achieve sustainable development goals. This model aims to extend banks' roles beyond traditional financial intermediation toward active participation in environmental

protection and the enhancement of economic, social, and environmental sustainability. Green banks allocate financial resources to environmentally friendly projects, develop renewable energy, support sustainable businesses, and institutionalize responsible environmental practices among clients and stakeholders, thereby striving to achieve economic returns while fulfilling their social and environmental responsibilities (Hadi et al., 2023; Hussain Naima et al., 2023; Chen et al., 2022).

Given the growing global environmental challenges and the obligations of international agreements such as the Paris Accord to reduce greenhouse gas emissions, green banking has emerged as a strategic tool for achieving sustainable development objectives and has gained a prominent position in financial and economic policymaking. Banks are not only required to avoid financing environmentally harmful projects but must also actively steer investments toward sustainable economic activities and strengthen green infrastructure (Wang, 2023; Rahman & Mohammad, 2022).

Experiences from developed countries indicate that success in green banking depends on robust legal frameworks, targeted incentive policies, and transparent reporting systems (Muchiri et al., 2025; Elhassan, 2025). These experiences can serve as guidance for Afghanistan, providing practical lessons for designing policies and institutionalizing green banking in the country (Ahady et al., 2020; Ludin et al., 2016). Some private banks in Afghanistan have recently undertaken initiatives such as financing small solar projects and supporting environmentally friendly local businesses. These preliminary actions demonstrate the country's potential for green banking development, although structural challenges and resource constraints continue to impede rapid progress.

However, developing countries, especially Afghanistan, have so far struggled to advance green banking effectively due to challenges such as weak banking infrastructure, limited access to financial services, low public trust in the banking system, a shortage of skilled personnel, political instability, low environmental awareness, and economic constraints (Tantashov & Ashchanov, 2024; Hakimi et al., 2024). Furthermore, the absence of targeted incentive policies and standardized operational frameworks for green banks has added to the complexity of developing this approach in Afghanistan.

In this context, exploring the feasibility of green banking in Afghanistan is not only an environmental necessity but also a long-term strategic approach to achieving the country's economic and social objectives. Developing green banking can facilitate financial incentives for environmentally friendly projects, improve citizens' quality of life, enhance the international image of Afghanistan's banking system, and attract foreign investment.

The primary research gap addressed by this study lies in the lack of comprehensive and systematic research on the feasibility and institutional requirements for green banking in Afghanistan. Previous studies have predominantly focused on developed countries or emerging economies, leaving a thorough and localized investigation of this issue in Afghanistan's economic and institutional context largely unexplored. Therefore, the main objective of this study is to identify and analyze the capacities, challenges, opportunities, and institutional requirements influencing the expansion of green banking in Afghanistan, thereby providing an analytical framework for future policymaking and decision-making.

### *1.1 Empirical Evidence*

Green Banking, as an innovative and advanced approach within the global financial system, seeks to integrate environmental considerations into financial processes, thereby advancing sustainable development. This concept is grounded in the theory of sustainable development, as extensively elaborated in the report of the World Commission on Environment and Development (1987). According to this theory, emphasis is placed on the necessity of balancing the economic, social, and environmental needs of both present and future generations. Within this framework, banks, as pivotal financial institutions, are expected not only to fulfill their traditional roles but also to actively contribute to long-term sustainable development objectives, particularly in developing countries such as Afghanistan. Viewing banks as instruments to channel financial resources toward environmentally compatible projects has catalyzed the emergence of contemporary banking models, notably green banking (Aslam & Javed, 2023; Hussain Naema et al., 2023; Mershadli, 2023). Specifically, banks are required to adopt strategies that direct financial resources to projects enhancing environmental quality, which, in the Afghan context, may include renewable energy initiatives, water resource management, and forest conservation projects.

The theory of corporate social responsibility (CSR), particularly within banking, underscores that organizations should be accountable not only for profit maximization but also for the social and environmental consequences of their activities. According to Carroll (1999), these responsibilities encompass economic, social, and environmental dimensions that every organization must consider. In the context of green banking in Afghanistan, CSR ensures that investment decisions prioritize projects that are environmentally sustainable while simultaneously supporting local economic development. Green banks must also refrain from financing projects that result in environmental degradation (Ali & Agustin, 2024; Di et al., 2022). Complementarily, the theory of sustainable finance highlights the critical role of financial institutions in mobilizing capital for environmentally friendly projects. According to the United Nations Environment Programme Finance Initiative (2016), financial institutions, including banks, can influence financial markets toward low-carbon and sustainable options, thereby contributing meaningfully to climate objectives (Bi & Lain, 2024; Sule et al., 2024). This role is particularly salient in Afghanistan, where banks can simultaneously mitigate environmental risks and foster local employment and development. The integration of CSR and sustainable finance concepts is evident, as both emphasize the necessity of channeling financial resources toward green and sustainable projects.

Moreover, institutional theories illuminate the impact of legal frameworks, policies, and institutional pressures in shaping bank behavior. According to North (1990), social and economic institutions, particularly government regulations, can guide banks toward the adoption and expansion of green banking practices (Lewis Ahlenko & Joel, 2024; Bukhari et al., 2019; Ahmad et al., 2024). In Afghanistan, the absence of comprehensive legal frameworks and supportive policies has constrained the adoption of green banking; thus, the implementation of environmental regulations and incentive-based policies is critical for promoting this approach. Consumer behavior theories further indicate that heightened environmental awareness leads consumers—particularly in developed economies—to prefer financial services that embody environmental responsibility. Piti (2021) observes that when consumers recognize the significance of environmental issues, they increasingly choose services

aligned with ecological responsibility (Nair & Rajendran, 2024; Jen et al., 2025; Huynh et al., 2024). Similarly, in Afghanistan, promoting awareness regarding green financial services can elevate consumer demand and encourage banks to offer sustainable financial products.

At the macro level, sustainability transition theory emphasizes the imperative of restructuring institutions, technologies, and production systems toward environmental sustainability. Geels (2002) argues that significant changes in institutional and technological configurations can transform production and consumption patterns. Banks in Afghanistan, through financing innovative and sustainable projects, can play a central role in facilitating this transition while reinforcing collaboration among governmental bodies, the private sector, and civil society. The interrelation of sustainability transition, sustainable finance, and CSR underscores the importance of synergy among financial institutions, governments, and consumers in advancing sustainable development (Geels & Schot, 2021).

Drawing upon these theories and concepts, green banking transcends a purely financial strategy. It operates as a strategic mechanism to channel investments toward sustainable and environmentally friendly projects, enhance social well-being, and conserve natural resources. In the Afghan context, this approach can substantially improve access to finance for renewable energy, sustainable agriculture, and environmental conservation initiatives. Effective collaboration among financial institutions, governments, regulatory authorities, and civil society is essential. By providing financial resources for green projects, offering targeted financial incentives, and directing capital toward sustainable options, banks can play a pivotal role in accelerating the transition toward sustainable development. Achieving this requires the establishment of appropriate legal and institutional frameworks, particularly regarding supportive policies and regulatory measures, thereby positioning green banking as an effective instrument for attaining global sustainable development objectives.

## 2. Literature Review

Rahman et al. (2024) investigated the prospects of sustainable finance within Pakistan's financial system and emphasized the critical role of regulatory frameworks in enhancing institutional preparedness and investor confidence. Their study suggests that a conducive policy environment is essential for market adoption of sustainable financial instruments, which in turn supports broader environmental and developmental goals. Similarly, Mandagie et al. (2024) employed stakeholder theory to explore the relationship between sustainability-oriented practices and environmental performance in banks. They found that operational efficiency, employee engagement, and customer satisfaction contribute positively to environmental outcomes. However, only the formal adoption of sustainability policies yielded significant effects on the growth of sustainable finance, highlighting the importance of systemic integration over ad hoc initiatives. Obadire and Moyo (2024), through a systematic literature review, identified persistent barriers to sustainable finance adoption in developing economies—such as low public awareness, complex regulatory environments, implementation costs, and concerns about greenwashing. They argue that institutional innovation, stakeholder collaboration, and capacity building are indispensable to overcoming these structural limitations. Al-Afeef et al. (2024) analyzed the dynamic relationship between sustainable finance and environmental outcomes in Jordan using the ARDL technique. By defining

sustainable finance as green project lending and sustainability as carbon emission reduction, they found a bidirectional causality between the two. This reinforces the notion that sustainable finance is both an input and an outcome of environmental progress. Yuspin et al. (2024) examined Indonesian banks' compliance with sustainable finance guidelines, specifically POJK Regulation No. 51/2017. While formal commitments were observed, they found weak enforcement and limited disclosure practices. Their findings underline the importance of effective legal mechanisms and institutional oversight in operationalizing sustainable finance policies.

Hadi et al. (2023) conceptualized sustainable finance as a strategic instrument for climate risk mitigation and long-term profitability. Their results show that embedding environmental and social metrics into financial operations improves both ecological outcomes and competitive advantage. Nevertheless, challenges such as limited technical capacity, insufficient infrastructure, and upfront costs remain critical obstacles. Murshudli (2023) investigated the role of international sustainable finance in addressing environmental degradation across developing countries. His panel data analysis from 2010 to 2020 revealed that transnational sustainable finance significantly supports domestic environmental initiatives, particularly in regions with underdeveloped financial markets. Abuatwan (2023) evaluated the relationship between sustainable finance and bank performance in Palestine, using structural equation modeling (SEM) on a dataset of 104 credit officers. The study found a strong positive correlation between sustainable finance practices and sustainability outcomes, with gender-diverse management teams enhancing this relationship, thus highlighting the role of inclusive governance. Chowdhury (2023), through a financial performance analysis of private banks in Bangladesh from 2014 to 2021, demonstrated that sustainable finance initiatives improve return on equity, credit quality, and profitability. These findings challenge the perception that environmental sustainability comes at the expense of financial performance.

Rahman et al. (2022) conducted a meta-synthesis of 53 empirical studies and extracted 21 thematic dimensions of sustainable finance in emerging economies—including green bonds, ESG integration, climate risk disclosure, and sustainable infrastructure financing. Their study underscores the multidimensionality of sustainable finance and the need for holistic policy and regulatory integration. Chen et al. (2021) applied Structural Equation Modeling to examine the impact of the economic, social, and environmental dimensions of sustainable finance on sustainability performance among Bangladeshi banks. All three dimensions were found to have significant and positive effects, emphasizing that a comprehensive, triple-bottom-line approach is essential for maximizing the impact of sustainable finance. Finally, Al Mamun and Rana (2020) explored the relationship between sustainable finance and bank profitability using panel data from 33 commercial banks in Bangladesh (2012–2019). Their results revealed a significant positive association between sustainable finance and financial performance indicators such as ROA and ROE, suggesting that financial and sustainability objectives can be mutually reinforcing.

This study advances the literature on sustainable finance through several novel contributions. First, it is among the first qualitative investigations of sustainable finance in Afghanistan—a post-conflict, climate-vulnerable, and financially underserved context. Second, by employing Interpretative Phenomenological Analysis (IPA), this research captures in-depth, stakeholder-driven perspectives that

are often absent in large-scale quantitative analyses. Third, the study constructs an empirically grounded framework identifying key institutional, regulatory, and socioeconomic enablers necessary for the development of sustainable finance in fragile settings. Lastly, by focusing on Afghanistan, the research extends the geographical boundaries of existing sustainable finance literature and provides valuable comparative insights for both scholars and policymakers working in similarly constrained environments.

## 3. Methodology

This study is applied in terms of its objective and descriptive-analytical with a qualitative approach in terms of nature and methodology. It aims to identify the capacities, obstacles, opportunities, and prerequisites for the development of green banking in Afghanistan. By relying on qualitative data and employing in-depth analyses, this research seeks to provide a comprehensive assessment of the feasibility of implementing green banking within the country's economic, institutional, and environmental contexts. The Interpretative Phenomenological Analysis (IPA) method was selected to enable an in-depth, interpretive exploration of key stakeholders' experiences and perspectives on green banking in Afghanistan. IPA allows the complex and multi-dimensional aspects of the subject to be thoroughly examined, providing nuanced insights into participants' perceptions, motivations, and challenges within the specific economic, institutional, and environmental context. This qualitative approach was selected because it enables an in-depth understanding of the complex and context-specific dynamics of green banking in Afghanistan. By exploring participants' experiences, perceptions, and motivations, the study could capture nuanced insights that quantitative methods might overlook, particularly given the emerging nature of green banking in the country.

The study population comprises bank managers, economic experts, environmental specialists, and financial policymakers who possess practical expertise and experience in banking, sustainable development, and financial policymaking in Afghanistan. Given the qualitative nature of the research, purposive sampling was employed. Selection criteria for participants included educational background, professional experience, familiarity with the banking system and environmental issues, as well as involvement in policymaking processes or implementation of projects related to sustainable development. In total, semi-structured interviews were conducted with 50 participants, whose diverse perspectives and expertise enabled a deeper and more comprehensive analysis of the research topic.

Data were collected through semi-structured interviews, which were designed with open-ended and exploratory questions to gather rich and varied information regarding the current situation, structural barriers, forthcoming opportunities, and strategies for advancing green banking. Participant selection was carried out using purposive sampling, and interviews continued until data saturation was reached.

Thematic analysis was utilized to analyze the collected data. During this process, interview transcripts were meticulously coded, and key themes were extracted and categorized. During thematic analysis, initial codes were generated from the interview transcripts and iteratively refined. Multiple researchers cross-checked themes, and member checking was conducted with selected participants to confirm the accuracy and credibility of the identified themes, ensuring they genuinely reflected stakeholder perspectives. This analytical approach facilitated the identification of patterns and relationships among concepts, allowing for an in-depth

interpretation of the data. To enhance the rigour and transparency of data analysis, the qualitative data were analysed using NVivo software, which facilitated precise coding and theme extraction. To ensure the validity and reliability of the analysis, a multi-stage validation process was employed, including inter-coder reliability checks and peer debriefing sessions. The coding framework was iteratively reviewed and refined to maintain consistency across all interview transcripts. In addition, reflective journaling and memoing were conducted throughout the analytical process to minimize researcher bias and enhance interpretive clarity. Furthermore, member checking was performed with selected participants to confirm the accuracy and credibility of the extracted themes. Collectively, these procedures substantially increased the methodological rigor, analytical robustness, and trustworthiness of the study findings.

Throughout all stages of the research, ethical principles concerning human subjects were rigorously observed. Prior to conducting the interviews, informed consent was obtained from all participants, accompanied by clear explanations regarding the study's objectives, data confidentiality, and the intended use of the information. Participation was voluntary, with individuals retaining the right to withdraw at any stage. Additionally, all personal information was treated as confidential, and participant identities have been anonymized in the final report. We followed all ethical standards carefully. Participants gave informed consent, understood that participation was voluntary, and could withdraw at any time. All information was kept confidential, and participant identities have been anonymized in the final report.

## 4. Results

### *4.1 Demographic Information*

In this study, semi-structured interviews were conducted with 50 purposefully selected experts from the domains of banking, environmental affairs, and financial policymaking. Participants were identified using purposive sampling based on three key criteria: academic qualifications, domain-specific expertise, and professional background. This approach ensured the inclusion of a diverse range of perspectives and practical insights crucial for a comprehensive qualitative analysis. As summarized in Table 1, the demographic characteristics of the respondents reflect a rich interdisciplinary mix and substantial experiential depth, offering a solid foundation for exploring the dynamics and challenges of green banking in the context of Afghanistan.

**Table 1**
*Demographic Information*

| No. | Education Level | Area of Expertise | Work Experience | Number | Additional Description |
|---|---|---|---|---|---|
| 1 | PhD | Financial Economics and Monetary Policy | 10 to 20 years | 10 | University Professors |
| 2 | PhD | Environmental Economics and Sustainable Development | Over 15 years | 8 | Experts in Green Projects at International Institutions |

| | | | | | |
|---|---|---|---|---|---|
| 3 | Master's | Banking and Finance | 5 to 15 years | 11 | Senior Managers of Commercial Banks |
| 4 | Master's | Natural Resources and Environmental Management | 5 to 12 years | 9 | Senior Experts at the Environmental Protection Agency |
| 5 | Master's | Banking and Accounting | 3 to 10 years | 7 | Credit Analysts in the Banking Sector |
| 6 | Bachelor's | Banking and Finance | 3 to 7 years | 5 | Senior Bank Employees with Operational Experience |

*Source:* Authors' findings

The analysis of the participant composition table reveals that the sample was selected through a highly purposeful and balanced approach. A remarkable diversity in academic qualifications, areas of expertise, and professional experience is clearly evident. The significant presence of individuals holding doctoral degrees (36%) and master's degrees (54%) reflects the study's firm reliance on theoretical, analytical, and policy-oriented perspectives, while the inclusion of bachelor's degree holders ensures the incorporation of practical and field-based insights. In terms of disciplinary background, the mix of financial economics, environmental studies, Islamic banking, and natural resource management provides a robust interdisciplinary foundation for examining the complex issue of green banking. Moreover, the participants' professional experience—ranging from 3 to over 20 years—demonstrates a blend of operational knowledge with strategic and analytical viewpoints. This structural diversity in demographic composition has significantly enhanced the credibility of the qualitative data and enabled the research to construct a multi-dimensional, valid, and in-depth understanding of the requirements and challenges surrounding green banking development in Afghanistan.

### *4.2 Research Findings*

Table 2 presents the results of the qualitative data analysis, derived through thematic analysis. This table includes open codes, axial codes, and overarching themes that represent the key dimensions influencing the development of green banking in Afghanistan. Each identified code was extracted from semi-structured interviews based on the insights of selected experts. These codes were then organized into broader conceptual categories to provide a structured and coherent representation of the prerequisites, capacities, barriers, and opportunities surrounding the advancement of green banking in the country.

**Table 2**
*Qualitative Data Analysis (Identified Themes)*

| Main Theme | Sub-theme | Conceptual Code |
|---|---|---|
| Institutional and Legal Framework | Lack of Specific Incentive Policies | • Absence of supportive regulations for green banks<br>• Neglect of tax incentives for sustainable banks<br>• Lack of a national environmental strategy within the banking system |
| | Institutional Misalignment | • Conflicting responsibilities among regulatory bodies<br>• Lack of a dedicated supervisory institution for green banking<br>• Poor coordination between the Central Bank and the Environmental Authority |
| | Limited Implementation Capacity | • Insufficient number of specialized human resources<br>• Weak institutional structure for enforcing environmental regulations<br>• Lack of specialized training for banking supervisors |
| Financial and Technological Infrastructure | Absence of Green Financial Instruments | • No green bonds; lack of green investment funds<br>• No eco-friendly financial products. |
| | Technological Deficiencies | • Inability of banks to implement innovative environmental risk assessment systems<br>• Lack of access to green blockchain technology<br>• Absence of digital infrastructure for monitoring green projects |
| | Low Investment in Green Technology | • Banks' risk aversion toward green technology projects<br>• Absence of incentives for banks to invest in innovative environmental projects |
| Cultural and Educational Barriers | Lack of Public Awareness | • Absence of green banking culture<br>• Public unawareness of green account benefits<br>• Distrust in emerging banking innovations |
| | Inadequate Banker Training | • No environmental training programs for bank employees<br>• Inability of bankers to assess sustainable projects<br>• Unfamiliarity with international green banking guidelines |
| | Negative Decision-Maker Attitudes | • Resistance to structural reforms in banking<br>• Perception of high risk in green projects<br>• Dominance of traditional profit-oriented views |

| | | |
|---|---|---|
| Environmental and Climatic Opportunities | Renewable Energy Potential | • High solar irradiation for solar banking; wind-rich regions in Afghanistan<br>• Potential for clean energy development in rural areas |
| | Support from International Institutions | • Possibility of receiving green development aid<br>• Interest of the World Bank and UNDP in financing sustainable projects<br>• Open doors for regional environmental cooperation |
| | Afghanistan's Regional Role | • The country's geopolitical position as an investment hub<br>• Proximity to emerging markets in Central and South Asia |
| Proposed Development Strategies | Policy Reform | • Formulation of a comprehensive green banking strategy<br>• Alignment of banking and environmental policies<br>• Reform of tax laws to encourage green finance |
| | Institutional Empowerment | • Establishing a green banking task force within the Central Bank<br>• Defining environmental responsibilities for banks<br>• Development of a green project evaluation system |
| | Educational Capacity-Building | • Conducting training workshops for bank managers<br>• Integrating environmental education into economics and banking curricula<br>• Designing professional certification for green banking |

*Source:* Authors' findings

As shown in Table 2, one of the fundamental barriers identified through the qualitative interview analysis is the structural gap within the institutional and legal frameworks related to green banking in Afghanistan. In sustainable development literature, the existence of transparent and effective legal systems to guide economic actors toward environmentally compatible behaviors is considered an indispensable prerequisite. The findings of this study reveal that key policymaking institutions, notably the Central Bank and Ministry of Finance, lack programs, directives, or regulations that compel banks to adhere to environmental principles. Not only are environmental standards for evaluating financed projects undefined, but mechanisms for monitoring and overseeing the environmental impacts of banking operations are also practically absent. This institutional weakness has resulted in banks not integrating sustainability into their credit policies and continuing to finance projects that may cause long-term natural resource degradation and exacerbate climate crises.

Furthermore, the lack of alignment and weak coordination among responsible institutions has caused policy fragmentation, eliminating opportunities for synergy in achieving green banking objectives. Green banking requires continuous interaction between financial, environmental, legal, and developmental bodies; however, in

Afghanistan, such coordination is virtually nonexistent, with fragmented and sometimes conflicting efforts by various institutions leading only to confusion among banks and erosion of public trust. The absence of a national sustainable finance strategy, even in high-level policy documents, is a clear manifestation of this governance gap. According to theoretical analyses and successful international cases, leading countries in green banking first establish precise legislation and regulation to facilitate private sector entry into green investments—an issue that demands urgent attention in Afghanistan. In generalized comparative terms, findings from other emerging economies show that well-coordinated regulatory frameworks, incentive-based policies, and supportive financial instruments have accelerated the adoption of green banking. Afghanistan, by contrast, still lacks such cohesive and binding policies, highlighting institutional lag and weak integration between financial and environmental strategies.

The structural linkage between institutional deficiencies and weak financial and technological infrastructure constitutes the second critical bottleneck for green banking development in Afghanistan. Based on interview coding, the country's financial infrastructure is not only considered lagging in terms of transparency, efficiency, and digitalization but also ineffective in providing the necessary tools and institutions for operationalizing green banking. The absence of green bonds, environmental investment funds, environmental insurance, and concessional loans for clean projects effectively limits banks' participation in sustainable initiatives, leaving environmentally oriented economic activities underfunded. This problem is compounded by a lack of access to digital platforms for monitoring environmental risks and evaluating the financial impacts of climate change, resulting in credit decisions that overlook hidden ecological costs. Comparative studies indicate that economies that have integrated digital technologies and data-driven environmental risk assessment into their banking systems have achieved higher efficiency in green finance. Afghanistan, by contrast, remains at an early stage of digitalization, and this technological gap is one of the primary impediments to its transition toward sustainable banking.

In continuation of these technological infrastructure weaknesses, cultural and educational challenges also emerge as a critical, though less visible, layer in the analysis. Green banking inherently represents not only a technical or economic issue but a cultural transformation in understanding the role of banks in sustainable development. The conducted analyses reveal a severe lack of public awareness regarding the dimensions, significance, and mechanisms of green banking; neither banking customers nor many bank managers and staff have a clear understanding of what green banking is, why it matters, or how it operates. This ignorance not only impedes public demands for changing bank behaviors but also causes institutional inertia at higher levels, hindering innovation and reform in credit and investment policies. Moreover, the absence of specialized academic programs, teaching materials, and training courses related to green banking exacerbates the knowledge gap between current needs and available capacities. Global best practices show that human capacity building—through curricular reforms, specialized courses, and continuous professional training for banking personnel—is essential for implementing green finance policies. Hence, without deep reforms in higher education and professional retraining, fundamental changes in banks' financial behavior and their embrace of sustainable projects remain unlikely. In comparison with general international experience, mandatory professional training programs in

green banking have played a key role in the successful adoption of sustainable finance practices. In Afghanistan, such training remains voluntary and limited in scope.

Despite these structural challenges, the analysis also highlights strategic opportunities for green banking development in Afghanistan. The country's unique geographic position offers significant potential for utilizing renewable energy sources. Abundant solar energy, wind, and hydro potentials in various regions, along with sustainable agricultural capacities in some provinces, provide opportunities that—if harnessed through an equipped financial system—could become a growth engine for a green economy. Additionally, growing attention from international organizations to climate issues and their readiness to invest in green projects in developing countries creates a favorable environment for attracting international funds. These opportunities will materialize only if the banking and financial institutions adopt transparent legal frameworks, efficient financial instruments, and capable human resources to leverage these capacities effectively. Linking these themes with prior findings underscores the key role of regional cooperation, joint investments with development agencies, and partnerships with global development banks. In this regard, the Afghan government must facilitate these opportunities through policy incentives. International experience demonstrates that the effectiveness of renewable energy utilization is contingent upon an active banking sector, guided by green credit policies and financial guarantees. In Afghanistan, this linkage remains weak and requires governmental support and cross-sectoral coordination.

The integrated analysis of these themes paves the way for strategic recommendations that can serve as a roadmap for green banking development in Afghanistan. The foremost strategy is drafting a national green banking framework involving all relevant stakeholders. This framework should encompass legal provisions, financial incentives, environmental standards, and an operational roadmap for green banking implementation. Second, empowering banks through specialized training, international expert exchanges, and digital platform development for environmental risk assessment is critical. Third, establishing technological infrastructure and developing innovative financial instruments such as green bonds, environmental funds, and insurance products can guarantee active banking sector participation. Alongside these strategies, enhancing public financial literacy with an environmental focus, expanding interdisciplinary education in universities, and utilizing media capacity to promote sustainable financial culture can foster broader social acceptance of green banking among the public and economic actors.

## 5. Discussion and Conclusion

The findings derived from the in-depth qualitative analysis and systematic coding of interviews revealed that the development of green banking in Afghanistan depends fundamentally on overcoming structural, infrastructural, cultural, and institutional barriers. The extracted themes comprised five core dimensions: the absence of a practical institutional and legal framework, weaknesses in financial and technological infrastructure, cultural and educational deficiencies, the existence of climatic and geographical opportunities, and the need for integrated strategic planning to advance this form of banking. These findings underscore that, without the establishment of a coherent and knowledge-based institutional ecosystem, green banking cannot evolve in Afghanistan sustainably or systematically. This set of findings suggests that policymaking for green banking development should proceed

in a phased and targeted manner, in which institutional and infrastructural reform serve as prerequisites for implementing educational and cultural strategies.

In the present study, the results of systematic coding and qualitative interpretation confirmed that the advancement of green banking in Afghanistan depends on removing institutional, infrastructural, and cultural barriers. This result aligns closely with the studies of Chen et al. (2022) and Khairunnisa and Yakovleva (2021), who, in their examination of green banking across developing nations, identified the absence of comprehensive legal frameworks, technological weaknesses, and institutional fragmentation as key impediments to sustainable financial transformation. Chen and colleagues emphasized that fragmented policies and poor coordination among regulators, banks, and environmental agencies prevent the emergence of a cohesive green financial ecosystem. Their work also highlighted the necessity of fostering environmental awareness among bank managers and strengthening educational capacities—an issue also recognized in this study under the theme of cultural and educational deficiencies. Furthermore, the present findings not only demonstrate consonance with global literature but also clarify Afghanistan's position within developing economies, revealing that each identified constraint mirrors the institutional and educational gaps commonly found in less-developed contexts.

Nevertheless, compared to prior studies, this research uncovers uniquely contextual and indigenous dimensions within the Afghan setting that are rarely addressed in international literature. Specifically, the lack of synergy among regulatory bodies and the absence of even minimal high-level policy documents on sustainable banking represent distinctive contextual challenges that impose additional barriers to progress. Moreover, the low level of environmental literacy among banking staff and the general public's unawareness of green financial benefits constitute key obstacles—issues rarely observed in advanced economies but particularly acute in Afghanistan. This situation indicates that achieving green banking development first requires both formal and informal institutions to attain a shared understanding of sustainability objectives, accompanied by structured educational programs to enhance environmental and financial literacy.

Another critical aspect highlighted by this study concerns the role of indigenous opportunities. Unlike many countries constrained by geographical limitations, Afghanistan possesses substantial renewable-energy potential—solar, wind, and hydro—which gives it a comparative advantage in directing financial resources toward green projects. However, leveraging these opportunities will only be possible if the government, financial institutions, and educational organizations operate within a unified and synergistic framework. Nevertheless, it is essential to identify and sequence priorities among these opportunities; for instance, expanding solar-energy projects in the central and southern provinces could serve as a feasible and cost-effective first step toward establishing a national green-finance policy.

Based on the findings of this study, it is recommended that the Government of Afghanistan, in collaboration with relevant institutions, draft a National Green Banking Strategy and establish the necessary legal, regulatory, and incentive frameworks to support green financial initiatives. Creating an independent supervisory body to evaluate banks' performance in sustainable development, launching a national digital platform for credit rating based on environmental indicators, and strengthening technological infrastructure are among the key

priorities. Moreover, collaboration with universities and educational institutions to offer specialized green-banking programs is vital for enhancing environmental and financial awareness across society and the banking sector. National campaigns to improve ecological and financial literacy, the integration of sustainability concepts into educational curricula, and mobilizing international funding from organizations such as the World Bank and UNDP can further accelerate the transition toward a green economy. The implementation of these actions will depend on political will, inter-institutional cooperation, and investment in human and technological capacity building. To enhance the effectiveness of these policies, the proposed actions should be prioritized according to urgency and feasibility: short-term efforts should focus on formulating the national strategy and building educational capacity; medium-term initiatives should strengthen regulatory and technological infrastructures; and long-term measures should attract international investment and expand green financial markets.

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