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Prospects and Challenges of Green Finance: Pathway to a Sustainable Financial System in Nepal

Bishnu Prasad Bhusal
Assistant Lecturer of Rammani Multiple Campus, Rupandehi, Nepal
M. Phil Scholar, Far Western University, Nepal
Email: bishnubhusal722@gmail.com

Abstract

This article assesses the role of green finance in fostering a sustainable financial system in Nepal, focusing on its alignment with specific Sustainable Development Goals (SDGs) such as 7, 9, 11, and 13. It examines the current state of green finance, identifying the primary challenges that impede its growth, including regulatory ambiguity, limited institutional capacities, and insufficient public awareness. Despite these obstacles, significant opportunities exist, notably Nepal's vast renewable energy resources, the development of eco-friendly infrastructure, and the potential for innovative financing mechanisms such as green finance. The study highlights initial steps taken, including the NRB's Green Banking Guidelines and the government's commitment to achieving net-zero emissions by 2045. By advocating for capacity building, clears regulatory frameworks, and enhanced multi-stakeholder coordination, the research underscores a pathway towards a robust green finance sector, ultimately contributing to a climate-resilient economy in Nepal.

Key Word: climate resilience, clean energy, green finance, sustainability.

Introduction

In today’s rapidly changing world, environmental degradation, climate change, and the depletion of natural resources have raised serious concerns about the sustainability of our economic and financial systems. To address these challenges, the concept of *green finance* has emerged as a vital approach to promote environmentally responsible investments while supporting economic growth. Green finance refers to financial activities that support sustainable development through investments in renewable energy, energy efficiency, pollution control, and climate-resilient infrastructure (UNEP, 2016).

The global momentum toward green finance has increased significantly, especially after the adoption of the Paris Agreement in 2015 and the United Nations Sustainable Development Goals (SDGs). These global initiatives have encouraged countries to shift their financial systems towards greener pathways. In particular, SDG 13 (Climate Action), SDG 7 (Affordable and Clean Energy), and SDG 9 (Industry, Innovation, and Infrastructure) are directly linked to green finance. Governments, central banks, and financial institutions around the world are now focusing on integrating sustainability into their policies and investments (World Bank, 2021).

In the case of Nepal, a country highly vulnerable to climate change and environmental risks, green finance holds immense potential. Nepal is rich in renewable resources such as hydropower and solar energy, yet its financial system has only recently started to explore and embrace the principles of sustainable finance. The Nepal Rastra Bank (NRB), the country's central bank, has taken initial steps by promoting green banking guidelines and encouraging financial institutions to invest in eco-friendly projects. However, the green finance landscape in Nepal is still in its early stages, facing several institutional, policy, and financial challenges (NRB, 2022).

This study aims to explore the prospects and challenges of green finance in Nepal and examine its potential to contribute toward a more sustainable and inclusive financial system. By analyzing Nepal's current policies, financial practices, and the role of development partners, this research seeks to offer practical insights and recommendations for advancing green finance as a key driver of sustainable development.

Research Questions

This study is guided by several research questions that aim to uncover the scope, effectiveness, and limitations of green finance in Nepal. These questions are designed to deepen the understanding of how green finance is being implemented and what factors influence its growth in the context of a developing economy. The key research questions are as follows:

1. What is the current status of green finance in Nepal?
2. How does green finance contribute to achieving the Sustainable Development Goals (SDGs) in Nepal?
3. What are the major challenges and policy gaps hindering the growth of green finance in Nepal?

Objectives of the Study

The main objective of this study is to understand the evolving landscape of green finance in Nepal and its potential role in fostering sustainable development. As Nepal navigates complex environmental challenges and increasing pressure to meet global climate goals, the importance of aligning its financial systems with sustainability principles has never been greater. This research, therefore, focuses on the following key objectives:

1. To evaluate the current status of green finance in Nepal.
2. To explore the role of green finance in achieving the Sustainable
3. Development Goals (SDGs)
4. To identify challenges and policy gaps in promoting green finance.

Methodology

This investigation utilizes a qualitative research methodology, mainly depending on an extensive examination of extant literature, policy papers, and publications about green financing in Nepal and globally. Analyzing publications from respectable institutions including the World Bank, Nepal Rastra Bank (NRB), the United Nations Environment Programme (UNEP), and other climate finance efforts was part of the data collection process. The analysis's main goals were to pinpoint important terms, ideas, global best practices, and Nepal's unique institutional and policy environment for green finance. A comprehensive grasp of the opportunities, difficulties, and policy gaps in Nepal's developing green financial system was made possible by this qualitative synthesis.

With a focus on the present state of green finance in Nepal, its contribution to the Sustainable Development Goals (SDGs 7, 9, 11, and 13), and the main obstacles to its expansion, the study further integrated insights from the given paper. As covered in the document, this required a critical evaluation of institutional capabilities, public awareness, and regulatory frameworks. By comparing these results with more general research on green finance, the study sought to offer a comprehensive viewpoint and develop practical suggestions for developing a stronger and more sustainable financial system in Nepal.

Literature Review

Green finance broadly refers to financial investments that support sustainable environmental outcomes and climate-resilient development. According to the United Nations Environment Programme (UNEP, 2016), green finance comprises "financial flows that are directed toward sustainable development projects and initiatives, environmental products, and policies that encourage a more sustainable economy." These flows include green bonds, concessional loans, guarantees, and grants that are specifically directed toward climate change mitigation, renewable energy, energy efficiency, pollution reduction, and biodiversity conservation.

The World Bank (2021) defines green finance as the process of allocating capital for investments that generate environmental benefits while ensuring financial returns. This concept is grounded in the recognition that environmental sustainability is essential for long-term economic stability, and that climate-related financial risks must be integrated into financial decision-making.

Link between Green Finance and Sustainable Development Goals (SDGs)

Green finance plays a crucial role in achieving several of the United Nations Sustainable Development Goals (SDGs). Key goals that are directly related to financial flows for environmental sustainability include:

- **SDG 7 – Affordable and Clean Energy:** Green finance supports investment in renewable energy sources such as solar, wind, and hydroelectric power, making energy access more sustainable and inclusive.
- **SDG 9 – Industry, Innovation, and Infrastructure:** By promoting clean technologies and resilient infrastructure, green finance enhances sustainable industrial growth.
- **SDG 11 – Sustainable Cities and Communities:** Financing eco-friendly housing, public transport, and waste management contributes to greener urban development.

- **SDG 13 – Climate Action:** Green finance is central to climate adaptation and mitigation efforts, enabling countries to meet their commitments under the Paris Agreement.

Without a robust green financial system, achieving these goals within the intended timeline becomes significantly more difficult, particularly for developing countries that rely heavily on external funding and support.

International Practices and Policies

Globally, several countries have adopted comprehensive policies to promote green finance. Notable examples include:

- **China's Green Bond Market:** China has become one of the largest issuers of green bonds, supported by government policies that include a catalog of eligible green projects, mandatory disclosures, and incentives for financial institutions (Climate Bonds Initiative, 2021).
- **European Union's Green Taxonomy:** The EU has developed a detailed classification system for environmentally sustainable activities, which helps investors identify and support green projects. The EU Green Deal also mandates large corporations to disclose environmental risks and align their operations with sustainability goals.
- **Green Climate Fund (GCF):** As a major multilateral financial mechanism under the UNFCCC, the GCF provides funding to developing countries for climate adaptation and mitigation projects. This fund has supported green initiatives in countries like Bangladesh, Rwanda, and Nepal.

South Asian and Developing Country Context

In South Asia, the progress of green finance has been uneven, with some countries showing promising developments while others remain at an early stage. India has made significant strides through sovereign green bonds, clean energy financing, and the introduction of ESG (Environmental, Social, Governance) investing principles in major financial institutions.

Bangladesh has introduced a Green Banking Policy requiring banks to allocate a portion of their lending portfolio to green sectors. Similarly, Sri Lanka and Pakistan have taken steps toward green banking, though challenges such as lack of awareness, regulatory uncertainty, and weak institutional frameworks remain prevalent across the region.

In Nepal, green finance is still an emerging concept. While the Nepal Rastra Bank has introduced guidelines to promote green banking and encouraged lending in sustainable sectors, the implementation remains limited. There is a clear need for stronger policy direction, capacity-building, and integration of climate finance into the national development planning process.

Nepalese Context: Current Scenario of Green Finance

Nepal, as a developing country located in the Himalayan region, is extremely vulnerable to the impacts of climate change. Rising temperatures, glacier melt, unpredictable rainfall patterns, and increased frequency of climate-induced disasters such as floods and landslides have posed serious environmental and economic threats. In this context, green finance holds significant promise for steering Nepal towards a more sustainable and climate-resilient future.

Policy and Regulatory Initiatives

The Government of Nepal and Nepal Rastra Bank (NRB) have taken initial steps to promote green finance. In 2022, NRB introduced *Green Banking Guidelines* aimed at encouraging banks and financial institutions to integrate environmental and social risk assessments into their lending practices. These guidelines emphasize investment in sectors such as renewable energy, pollution control, organic farming, sustainable housing, and electric vehicles (NRB, 2022).

Additionally, the government has committed to achieving net-zero emissions by 2045, which further increases the relevance of climate-focused financial strategies. The *Climate Resilient Planning and Budgeting Guidelines* launched by the Ministry of Finance also aim to integrate climate risk into national planning and resource allocation (MOF, 2021).

Institutional Landscape

Nepal's financial institutions have shown growing interest in financing green projects, especially in the energy sector. Hydropower remains the most significant area for green investment, given Nepal's vast potential and current energy demands. Banks have also started financing solar mini-grids, clean cookstoves, and eco-tourism initiatives.

Development partners such as the World Bank, ADB, and the Green Climate Fund (GCF) have also played key roles in mobilizing climate finance in Nepal. For example, the *Nepal Renewable Energy Programme (NREP)*, supported by the UK government, focuses on increasing private sector investment in decentralized renewable energy solutions.

However, most of these efforts are still project-based and fragmented. There is a lack of a comprehensive national strategy for green finance that connects all stakeholders—government agencies, financial institutions, the private sector, and development partners—within a unified policy framework.

Emerging Opportunities

Nepal possesses significant untapped opportunities for scaling up green finance. These include:

- **Renewable Energy Expansion:** With over 40,000 MW of economically feasible hydropower potential and growing solar and wind capacity, Nepal can become a regional green energy hub.

- **Eco-Friendly Infrastructure Development:** Investments in green buildings, electric public transport, and sustainable tourism can create both environmental and economic benefits.
- **Green Microfinance:** Microfinance institutions can play a vital role in financing small-scale green technologies in rural areas, such as biogas, drip irrigation, and improved cooking solutions.
- **Youth and Tech-Driven Innovation:** Nepal's growing young and tech-savvy population can contribute to digital innovations in climate financing and green entrepreneurship.

Key Challenges

Despite growing interest and initial policy efforts, the development of green finance in Nepal remains limited and fragmented. Several structural and institutional challenges have hindered the mainstreaming of green finance into the country's broader financial and development frameworks. The key challenges are outlined below:

Lack of Regulatory Clarity

One of the major challenges is the absence of a well-defined and comprehensive regulatory framework for green finance. Although Nepal Rastra Bank has introduced green banking guidelines, there is still no legally binding taxonomy or clear criteria to distinguish green investments from traditional ones. This regulatory uncertainty creates confusion among investors and financial institutions regarding what qualifies as "green," discouraging proactive investment in sustainable sectors.

Low Awareness among Financial Institutions

Many banks and financial institutions in Nepal have limited understanding of green finance concepts, instruments, and opportunities. Environmental risk assessments are not consistently applied in lending decisions, and there is a lack of trained personnel to design or manage green financial products. As a result, green lending remains minimal, and most institutions continue to prioritize short-term commercial returns over long-term environmental sustainability.

Limited Access to Climate Finance

Nepal faces considerable difficulty in accessing international climate finance due to its limited institutional capacity and weak project preparation systems. Procedures for obtaining funding from global sources like the Green Climate Fund (GCF) are often complex and require detailed technical documentation, which many national agencies struggle to produce. Furthermore, domestic capital markets remain underdeveloped, limiting the availability of long-term finance for green infrastructure and innovation.

Poor Integration with National Budgeting and Planning

There is a lack of strong coordination between climate goals and national planning or budgeting frameworks. While climate change has been acknowledged in Nepal's national development strategies, green finance is not yet fully embedded within the annual budget process or public investment systems. This leads to fragmented implementation and underutilization of available climate-related resources. Cross-sectoral coordination between ministries, the central bank, and local governments also remains weak.

Opportunities

While Nepal faces significant challenges in the promotion of green finance, there are also numerous opportunities that can be leveraged to foster a more sustainable and climate-resilient financial ecosystem. With global momentum shifting toward low-carbon development and increasing national awareness of climate-related risks, Nepal is well-positioned to expand its green finance portfolio. Key opportunities include:

Increasing Interest in Climate Financing

There is growing interest among both public and private stakeholders in climate financing as a tool to support sustainable development. Policymakers, development agencies, and financial institutions are gradually recognizing the long-term benefits of green investment, particularly in terms of risk mitigation, economic resilience, and social impact. The inclusion of green finance in Nepal Rastra Bank's policy priorities and broader national strategies reflects this emerging commitment.

Availability of Global Climate Funds

International mechanisms such as the Green Climate Fund (GCF), Climate Investment Funds (CIF), and Global Environment Facility (GEF) provide substantial financial support to developing countries for climate-related initiatives. Nepal is eligible to access these funds for projects in areas like renewable energy, climate-smart agriculture, and disaster risk reduction. By strengthening institutional capacity and enhancing proposal development, Nepal can tap into these resources to scale up its green finance efforts.

Renewable Energy Potential: Hydro and Solar

Nepal has tremendous potential in hydropower, with an estimated 40,000 MW of economically feasible capacity. Similarly, solar energy presents vast opportunities, especially in remote areas not connected to the national grid. Investment in these sectors not only supports clean energy transitions but also creates green jobs, improves energy access, and reduces reliance on fossil fuels. Promoting green bonds, concessional loans, or blended finance models can help attract both domestic and foreign investment in these areas.

Public-Private Partnership (PPP) in Sustainable Development

There is increasing scope for public-private partnerships (PPPs) in financing sustainable infrastructure, eco-tourism, waste management, and resilient agriculture. PPP models can mobilize private capital, technical expertise, and innovation, while public institutions provide enabling policies and risk guarantees. By creating a supportive environment—including clear incentives, streamlined approval processes, and risk-sharing mechanisms—Nepal can catalyze private investment in green sectors.

These opportunities suggest that, with the right mix of policy reforms, institutional strengthening, and stakeholder collaboration, Nepal can significantly advance its green finance agenda and contribute meaningfully to global climate goals.

Conclusion

This study examined the current landscape of green finance in Nepal, focusing on the involvement of banks and financial institutions in promoting sustainable investments. The research identified that although green finance is gaining attention due to global climate commitments and Nepal's own sustainable development goals, the practical implementation faces significant barriers. These include inadequate technical expertise within financial institutions, lack of well-defined regulatory frameworks, and limited awareness among stakeholders.

Moreover, institutional fragmentation and weak coordination between government agencies, development partners, and the private sector impede the scaling-up of green finance initiatives. Financial products tailored to green projects, such as green bonds and sustainable loans, are still underdeveloped in Nepal's financial market. These challenges restrict the mobilization of adequate funds needed to support Nepal's transition to a low-carbon and climate-resilient economy.

However, the study also revealed promising opportunities arising from international climate finance mechanisms and increasing interest among Nepali financial actors to integrate environmental considerations into their operations.

Recommendations

1. **Capacity Building of Banks and Financial Institutions:** To overcome knowledge and skill gaps, targeted capacity building programs should be designed. These programs must cover environmental risk assessment, green project evaluation, and international best practices in sustainable finance. Partnerships with international organizations can facilitate knowledge transfer and technical assistance.

2. **Development of Clear and Enforceable Green Finance Guidelines by NRB:** Nepal Rastra Bank should take a leading role in formulating explicit guidelines that define green finance taxonomy, eligibility criteria for green projects, and mandatory reporting standards. This regulatory clarity will increase transparency and build investor confidence.

3. **Strengthening Multi-Stakeholder Coordination:** Establishing a formal coordination platform involving ministries of finance, environment, energy, donors, and private sector representatives can ensure aligned policies and resource mobilization. Such coordination is crucial to streamline climate finance initiatives and avoid duplication.

4. **Promotion and Incentivization of Green Financial Instruments:** The government and NRB should actively promote green bonds and other sustainable financial products by providing fiscal incentives, risk-sharing mechanisms, and streamlined approval processes. This will attract domestic and foreign investors, expanding the green finance market in Nepal.

5. **Public Awareness and Market Development:** Raising awareness among the general public, investors, and businesses about the benefits and opportunities in green finance will stimulate demand for green products. Conducting outreach programs and public-private partnerships can facilitate this.

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