ARDB ACE-GFA Working Paper Series No. 2026-01

Linkages Between Green Finance and Cambodia's SDGs: The Contribution of ARDB

Kimleng KANG, Chhay CHHEANG, Kunthea LACH, Panha SOCHEAT, Sreyneath SARA, Sopheak THY, and Virakroth VY

March 2026

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AGRICULTURAL AND RURAL DEVELOPMENT BANK
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Asia-Pacific Rural and Agricultural Credit Association (APRACA)

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Asia-Pacific Rural and Agricultural Credit Association (APRACA)

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Acknowledgement

The Memorandum of Understanding (MoU) signed on 8 August 2024 between the Asia-Pacific Rural and Agricultural Credit Association (APRACA) and the Agricultural and Rural Development Bank (ARDB) of Cambodia marked the establishment of the APRACA Centre of Excellence for Green Finance in Agriculture (ACE-GFA).

This report was developed by the ACE-GFA Research Working Group of ARDB. It was made possible through the significant contributions of colleagues from the Green Finance Department, Credit Department, Risk Management Department, Research and Development Department, and the Project Coordination Unit of ARDB. The research team included Kang Kimleng, Chheang Chhay, Lach Kunthea, Socheat Panha, Vy Virakroth, Sarah Sreyneath, and Thy Sopheak.

The ACE-GFA Research Working Group is deeply grateful for the invaluable support and guidance received during the development of this research paper. We extend our sincere appreciation to H.E. Dr. Kao Thach, Delegate of the Royal Government in charge as CEO of ARDB, for his visionary leadership, unwavering commitment to advancing sustainable development in Cambodia, and valuable guidance on this report. Our heartfelt thanks also go to H.E. Dr. Soeng Reth, Undersecretary of State at the Ministry of Economy and Finance, for his guidance, comments, and encouragement throughout the research process.

We gratefully acknowledge Dr. Oum Sothea, Member of the Board of Directors of the Akka Pundit Sapheacha Aun Pornmoniroth Centre for Policy Studies and Training of ARDB (the ARDB APM Centre), for his review and invaluable comments. We also thank Dr. Sovannroeun Samreth, Vice Chairman of the Board of Directors of the ARDB APM Centre, for his support in facilitating access to journal articles.

Special thanks go to Mr. Sok Ousa, Head of the Research Working Group and Secretary of the Board of Directors of the ARDB APM Centre, for his dedication and coordination efforts. We also thank Mr. Thay Jeudi, Head of the ARDB ACE-GFA Research Working Group, for his efforts in coordinating and supporting the research activities that led to its successful completion.

Finally, we express our gratitude to the entire ARDB team for their valuable comments on this report. Their collective contributions have been fundamental to the success of this important initiative.

Abstract

This report examines the mechanisms of green finance and their relationship to the Sustainable Development Goals (SDGs), with a focus on Cambodia. The study employs a qualitative approach, primarily through a systematic review of secondary sources. Climate change poses significant risks to Cambodia's economic growth, poverty reduction, food security, and human capital, with potential GDP losses projected at up to 9% by 2050.

In response, Cambodia has established a robust climate policy framework, including the Cambodia Climate Change Strategic Plan (CCCSP) 2024–2033, the Long-Term Strategy for Carbon Neutrality, and Nationally Determined Contribution (NDC) 3.0. Key institutions are promoting green finance through initiatives such as the Sustainability Bond Framework, Green Finance Taxonomy, Sustainable Finance Roadmap, and the Cambodia Sustainable Bond Accelerator Program to mobilize climate investment.

Although Cambodia's green finance market remains small, it is steadily growing. Commercial banks, development finance institutions (DFIs), and insurers are introducing green financial products, and green bond issuance is increasing, with recent landmark deals funding solar power projects. Lessons from China's mature green bond market highlight the potential of blended finance and sustainability-linked instruments to accelerate Cambodia's transition to a low-carbon economy.

The Agricultural and Rural Development Bank (ARDB) plays a central role in advancing the Cambodia Sustainable Development Goals (CSDGs) by expanding its green loan portfolio, supporting climate-resilient agriculture, and preparing to launch the Cambodian Climate Financing Facility (CCFF), which will finance renewable energy, energy efficiency, sustainable agriculture, water, and transport projects.

Despite this momentum, growth in green finance faces several constraints, including limited domestic financing capacity, heavy reliance on external funding, and the absence of a comprehensive legal framework integrating climate strategies. Additional barriers include borrowing restrictions on state-owned enterprises (SOEs), the lack of a national green taxonomy and Environmental, Social, and Governance (ESG) standards, high bond issuance costs, and insufficient regulatory and institutional capacity.

To accelerate progress, Cambodia should implement measures to reduce bond issuance costs, allow creditworthy SOEs to issue bonds, and develop a national green finance taxonomy with mandatory monitoring and reporting. Strengthening institutional capacity and building a pipeline of bankable green projects will be essential to mobilize private capital.

Ultimately, green finance is critical for Cambodia to address climate risks and achieve its SDGs. Success will depend on strong partnerships among the government, DFIs, development partners, and the private sector to scale up green finance.

1. Introduction

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, builds on the progress achieved under the Millennium Development Goals (MDGs). The Sustainable Development Goals (SDGs) offer a shared vision for people and the planet. At their core are 17 goals that represent an urgent call to action for all countries, to be achieved through strengthened global partnerships. The SDGs emphasize that ending poverty must go hand in hand with efforts to improve health and education, reduce inequality, foster economic growth, and address the challenges posed by climate change.

According to UNCTAD (2023), the annual SDG investment gap in developing countries has widened to approximately USD 4 trillion, 60% higher than its 2014 estimate of USD 2.5 trillion, made just prior to the adoption of the SDGs. This widening gap reflects persistent underinvestment since 2015 and has been further worsened by multiple global crises, including the COVID-19 pandemic, as well as food, fuel, and financial shocks. Meanwhile, the climate emergency continues to intensify, bringing increasingly severe weather events that disproportionately affect vulnerable populations already facing food and water insecurity.

In September 2015, the Royal Government of Cambodia joined all UN Member States at the UN General Assembly to endorse the SDGs. The government subsequently localized these global goals through the Cambodia SDGs (CSDGs) framework, which adopts all 17 global goals and introduces a unique 18th goal focused on demining and the removal of explosive remnants of war (Royal Government of Cambodia, 2018).

In recent years, green finance has become a priority across Asian economies. Most developing countries in the region remain more carbon-intensive than advanced economies, making Asia both the most populous and one of the most environmentally impactful regions globally. At the same time, many developing Asian nations, including Cambodia, are highly vulnerable to climate change and its adverse effects on human well-being and economic growth. This dual challenge underscores the urgency for Asia to leverage green finance to advance sustainable development through both mitigation and adaptation. Addressing these challenges requires innovative approaches to close significant financing gaps, and the development of effective, context-specific solutions depends on a comprehensive understanding of green finance (Tolliver et al., 2021).

Although much has been written about the importance of green finance, its mechanisms and relationship to the broader SDGs remain relatively underexplored. To address this gap, this report provides an overview of the role of green finance in advancing the CSDGs. It begins by defining key terms, then examines the impacts of climate change on the CSDGs, followed by an assessment of relevant government policies and initiatives. The report also highlights Cambodia's green finance market and the pivotal role of the Agricultural and Rural Development Bank (ARDB) in promoting green finance. It further identifies key challenges to accelerating green finance in the country and concludes with actionable recommendations to advance its implementation.

2. Research Methodology

This study employs a qualitative approach to examine the linkages between green finance and Cambodia's SDGs, with a particular focus on the role of ARDB. The research is based on a systematic desk review of secondary sources, including government policies, national climate strategies, and reports from ARDB and other financial institutions. Publications from international organizations, such as UNCTAD, the IFC, UNDP, and the World Bank, were also reviewed. Media reports and institutional websites provided supplementary data to capture recent developments.

Sources were selected based on their relevance to green finance practices, their connection to Cambodia's SDGs, and their focus on ARDB's initiatives, with additional criteria being credibility and timeliness. The methodology combines policy review, mapping of green financial instruments, and a focused analysis of ARDB's projects. Comparative insights from China's experience with green finance were also incorporated to identify potential best practices for the Cambodian context. This comprehensive approach provides a practical understanding of how green finance contributes to sustainable development in Cambodia.

While this study offers a thorough qualitative analysis, it is limited by its reliance on secondary and publicly available data. Some institutional and project-level information may not be fully accessible, which could restrict the level of detail in certain assessments. Nevertheless, cross-checking information from multiple sources helps address these limitations and supports robust conclusions and actionable recommendations.

3. Definitions

Greenhouse Gases (GHG): are gases that trap heat from the sun in the Earth's atmosphere, helping to keep the planet warm. Since the start of the industrial era, human activities have released dangerous levels of these gases, driving global warming and climate change. The main GHG emitted by human activities are carbon dioxide, methane, nitrous oxide, and fluorinated gases used in cooling and refrigeration (UNDP, 2023).

Global Warming: refers to the rise in the Earth's average surface temperature caused by increased concentrations of GHG in the atmosphere. These gases absorb more solar radiation and trap additional heat, leading to a hotter planet (UNDP, 2023).

Climate Change: refers to long-term shifts in the Earth's climate that are warming the atmosphere, oceans, and land. It contributes to more frequent and intense extreme weather events, such as hurricanes, floods, heatwaves, and droughts, and drives sea-level rise (UNDP, 2023).

Climate Change Mitigation: refers to actions taken by governments, businesses, or individuals to reduce or prevent GHG emissions, or to enhance carbon sinks that absorb these gases from the atmosphere (UNDP, 2023).

Climate Change Adaptation: refers to actions aimed at reducing vulnerability to the impacts of climate change (UNDP, 2023).

The United Nations Framework Convention on Climate Change (UNFCCC): is an international environmental treaty adopted in 1992 to address dangerous human interference with the climate system. It entered into force in 1994 and has 198 parties. The UNFCCC serves as the parent treaty of both the Kyoto Protocol and the Paris Agreement (UNDP, 2023).

The Paris Agreement: is a legally binding international treaty that seeks to limit global warming to 1.5°C, compared to pre-industrial levels. It was adopted in 2015 at COP21 in Paris by 196 parties and entered into force in 2016 (UNDP, 2023).

Nationally Determined Contributions (NDCs): are climate action commitments that each country develops under the Paris Agreement. Their purpose is to support the Agreement's goal of limiting global warming to 1.5°C. NDCs are short- to medium-term plans that are updated every five years with progressively higher ambition.

Each NDC outlines a country's mitigation and adaptation priorities. These include strategies to reduce GHG emissions, build resilience, and adapt to the impacts of climate change. NDCs also detail financing strategies, as well as approaches for monitoring and verification (UNDP, 2023).

Sustainable Finance: refers to public or private, national or international, bilateral or multilateral financial resources and instruments, such as grants, bonds, guarantees, and loans, used to support sustainable development goals. (Figure 1)

Green Finance: refers to financial resources and instruments used to support climate change mitigation and adaptation, natural resource and biodiversity conservation, and pollution prevention and control (IFC, 2023).

Climate Finance: refers to financial resources and instruments used to support climate change mitigation and adaptation (UNDP, 2023).

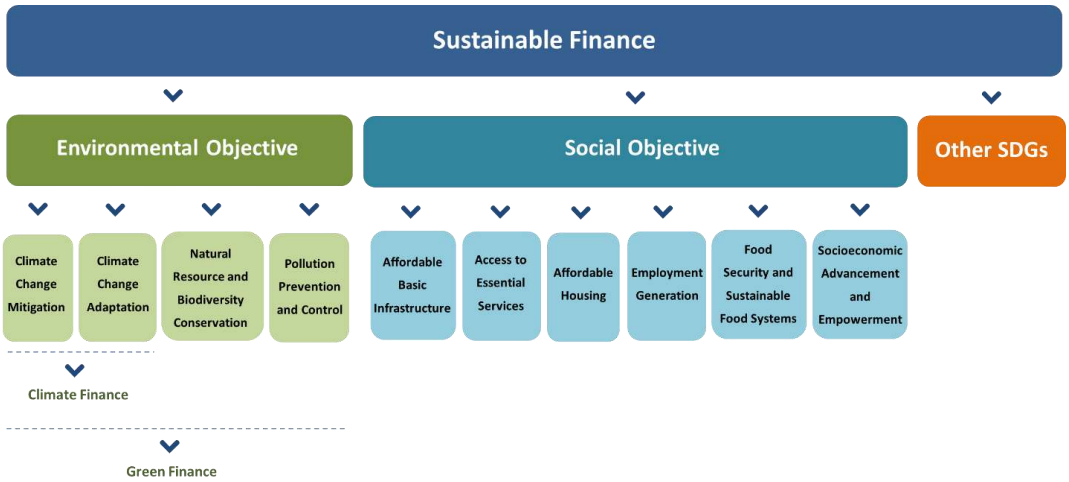
Development Finance Institution (DFI): a specialized financial institution, typically majority-owned by the government, established to support economic development. DFIs include national development banks and multilateral development banks (Climate Bonds Initiative, 2024).

Blended Finance: is the strategic use of concessional capital from public or philanthropic sources to mobilize private commercial capital for projects that address the SDGs (Climate Bonds Initiative, 2024). (Figure 2)

Concessional Capital: is funding provided on preferential, below-market terms. Its forms include grants, free technical assistance, debt, equity, or guarantees, which may feature reduced interest rates and extended repayment grace periods (Climate Bonds Initiative, 2024).

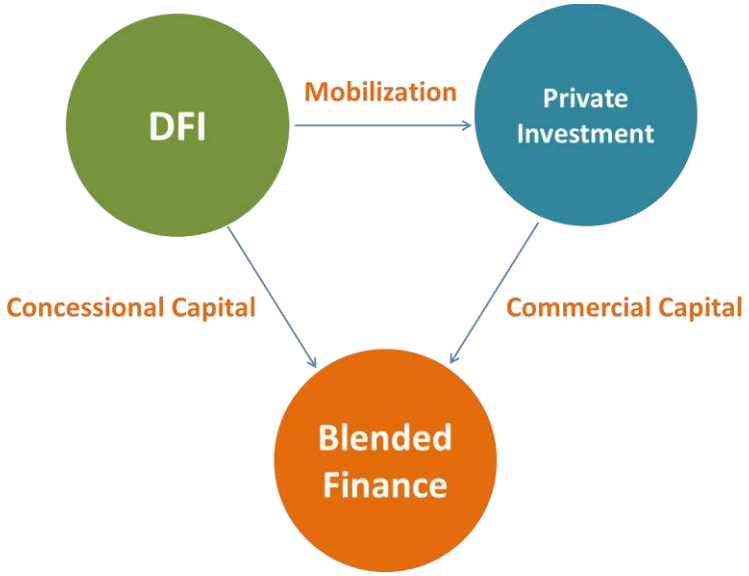
Commercial Capital: is funding provided at market rates. Its source is not limited to private investors, as public entities can also be providers (Climate Bonds Initiative, 2024).

Figure 1: Sustainable Finance Classifications



Source: IFC, 2023

Figure 2: Blended Finance



Source: Climate Bonds Initiative, 2024

4. Climate Risks and Cross-SDG Impacts in Cambodia

Climate change poses significant challenges to Cambodia's development goal of achieving upper-middle-income status by 2030 and high-income status by 2050. According to the World Bank Group (2023), climate change could have wide-

ranging social and economic impacts, potentially reducing Cambodia's GDP by 3–9 percent by 2050. Without adaptation, climate change could increase poverty by 0.3–6.0 percentage points by 2040, threatening progress on SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth). (Table 1)

Physical assets across manufacturing, services, and housing are highly vulnerable to flooding. In 2020 alone, estimated flood-related asset losses were USD 412 million in manufacturing, USD 344 million in services, and USD 108 million in housing, an annual average of approximately USD 530 million. Climate change is projected to increase the frequency of severe flooding, driving annual average losses to USD 3.3 billion by 2050. These risks directly undermine SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Sustainable Cities and Communities).

Flooding also disrupts road infrastructure, significantly increasing travel times, limiting access to hospitals and schools, and causing severe delays in supply chains and freight transport. Such disruptions can hinder educational attainment and weaken human capital development. Cambodia's reliance on a limited number of key road corridors for cross-border trade and logistics makes its economy especially vulnerable to these disruptions, affecting SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and SDG 9 (Industry, Innovation, and Infrastructure).

Climate change is further projected to further reduce agricultural productivity, threatening nutrition, food security, and poverty reduction. Without adaptation, yields of rice, maize, and cassava are expected to decline, most severely for rainfed rice, with projected losses averaging 21 percent between 2030 and 2060. Rainfed maize yields could decline by 6–9 percent, and cassava yields by 5–11 percent. The provinces most exposed to climate hazards are also the most agriculturally productive, particularly in the Mekong River Basin, exacerbating risks to food security. These impacts will disproportionately affect poor farmers, who have limited access to adaptation solutions such as irrigation and storage infrastructure, undermining SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 10 (Reduced Inequalities).

Labor productivity and tourism revenues are also expected to decline. Climate change could reduce labor productivity by about 8 percent, with the largest losses in agriculture between 2041 and 2050, followed by industry and services. Tourism

revenues are projected to decrease by roughly 8 percent by 2050 due to adverse effects on leisure tourism inflows. These challenges threaten Cambodia's efforts to achieve SDG 8 (Decent Work and Economic Growth).

Public health is another area at risk, with cascading effects on human capital. For instance, an average daily rainfall of 20 millimeters, compared with 5 millimeters, has been linked to a 56 percent increase in diarrhea incidence in the following month. Similarly, a monthly average temperature of 35°C, compared with 28°C, has been associated with a 55 percent rise in cough incidence and an 83 percent rise in diarrhea incidence. These health burdens could reduce annual working hours per person by about 1.1 percent, directly affecting SDG 3 (Good Health and Well-being) and SDG 8 (Decent Work and Economic Growth).

Adaptation measures can significantly mitigate these risks. Priority interventions include building flood-resilient infrastructure, implementing risk-informed land-use planning, expanding irrigation systems, and introducing cooling solutions to protect indoor workers. Collectively, such measures could substantially reduce climate-related economic losses. According to World Bank modeling, adaptation could lower projected GDP losses in 2050 from 9.1 percent to 5.0 percent, a 55 percent reduction. These adaptive actions support SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

Table 1: Mapping Climate Change Risks to SDGs at Risk

Climate Risk	Key Evidence / Magnitude	Development Consequences	SDGs at Risk
Macroeconomic losses	GDP losses of **3–9% by 2050**	Slower economic growth, reduced fiscal space, weakened job creation	**SDG 8** (Decent Work & Economic Growth); **SDG 1** (No Poverty)
Increase in poverty	Poverty rate increase of by **0.3–6.0 pp by 2040**	Reversal of poverty reduction gains, higher vulnerability of low-income households	**SDG 1** (No Poverty); **SDG 10** (Reduced Inequalities)
Flood damage to physical assets	Annual losses of **USD 530 million**, rising to **USD 3.3 billion by 2050**	Damage to factories, services, housing; increased reconstruction costs	**SDG 9** (Industry, Innovation & Infrastructure); **SDG 11** (Sustainable Cities & Communities)
Transport and logistics disruption	Flooded roads increase travel time and supply chain delays	Reduced access to hospitals and schools; trade and logistics bottlenecks	**SDG 3** (Good Health & Well-being); **SDG 4** (Quality Education); **SDG 9** (Industry & Infrastructure)
Declining agricultural productivity	Rice yields ↓ **21%** (2030–2060); maize ↓ **6–9%**; cassava ↓ **5–11%**	Food insecurity, income losses for farmers, higher rural poverty	**SDG 2** (Zero Hunger); **SDG 1** (No Poverty); **SDG 10** (Reduced Inequalities)
Impacts on vulnerable rural regions	Mekong Basin highly exposed to climate hazards	Disproportionate impacts on poor, rainfed farmers	**SDG 1** (No Poverty); **SDG 2** (Zero Hunger); **SDG 10** (Reduced Inequalities)
Declining labor productivity	Productivity loss of **~8%**, especially in agriculture	Lower incomes, reduced competitiveness	**SDG 8** (Decent Work & Economic Growth)
Tourism revenue decline	Tourism revenues ↓ **~8% by 2050**	Reduced foreign exchange earnings and employment	**SDG 8** (Decent Work & Economic Growth)
Public health risks	Diarrhea ↑ **56–83%**; cough ↑ **55%** under higher rainfall/temperature	Increased disease burden; reduced working hours (↓ **1.1%**)	**SDG 3** (Good Health & Well-being); **SDG 8** (Decent Work & Economic Growth)

Source: World Bank, 2023

5. National Climate Policies and Green Finance Initiatives

Cambodia's high exposure to climate risks has driven the government to take an active role in international climate change mitigation and adaptation efforts. The country became a Party to the UNFCCC on 17 March 1996, following its ratification in December 1995. Cambodia ratified the Kyoto Protocol in 2002, which entered into force in February 2005. It also signed the Paris Agreement on 22 April 2016 and ratified it on 6 February 2017 (Ministry of Environment, 2020).

To address climate challenges, the Royal Government of Cambodia (RGC) developed the first Cambodia Climate Change Strategic Plan 2014–2023 (CCCSP 2014–2023), aligning climate action with existing policy documents and sectoral development plans. Building on its implementation, the updated CCCSP 2024–2033 was fully adopted in 2025. This new strategy aims to strengthen climate resilience, promote sustainable development, and accelerate the implementation of Cambodia's Nationally Determined Contribution (NDC). It also serves as the country's National Adaptation Plan.

In 2021, Cambodia launched its Long-Term Strategy for Carbon Neutrality, setting a target of achieving carbon neutrality by 2050. Cambodia was the first ASEAN country and only the second least developed country globally to submit a Long-Term Low Emission Development Strategy.

In August 2023, the RGC adopted the Pentagonal Strategy – Phase I, which provides the overarching policy framework for sustainable socio-economic growth and climate change response. Climate policy instruments are expected to support the strategy's fifth pillar, which emphasizes sustainable and inclusive development through environmental protection, natural resource management, and climate resilience.

The Environment and Natural Resources Code, adopted in 2023, established a comprehensive legal framework for environmental management, biodiversity and natural resource conservation, cultural property protection, and sustainable living. Soon after, the Circular Strategy on Environment 2023–2028 was launched, built on three pillars: Clean, Green, and Sustainable, aiming to transform the environmental sector, strengthen climate change response, and promote sustainable development.

On 8 August 2025, Cambodia officially submitted its third NDC (NDC 3.0) to the UNFCCC. The updated NDC sets ambitious mitigation targets across five sectors: Energy, Industry, Agriculture, Forestry and Other Land Use (FOLU), and Waste. The country aims to reduce GHG emissions by 55% (approximately 73.7 $MtCO_2e$). The total estimated funding requirement for NDC 3.0 (2026–2035) is USD 32.2 billion, with USD 22.68 billion allocated for mitigation, USD 9.37 billion for adaptation, and USD 172 million for enabling measures (Table 2). Nearly two-thirds of the funding (USD 20.37 billion) will go to the energy sector, including USD 12.78 billion to raise renewable energy's share to 80% of the electricity mix by 2035. Cambodia's NDC 3.0 is strongly aligned with several SDGs, including SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land) (Ministry of Environment, 2025).

Several government institutions are actively advancing green finance in collaboration with development partners. The Ministry of Economy and Finance (MEF), in partnership with UNESCAP, is developing a Sustainability Bond Framework to enable the issuance of sovereign sustainable bonds to finance green and social projects.

The National Bank of Cambodia (NBC), in collaboration with the IFC, is developing Cambodia's Green Finance Taxonomy – Phase 1, which will guide investments in mitigation sectors such as energy, construction, and transport, with implementation scheduled for 2025. NBC has also partnered with UNESCAP to finalize the Cambodian Sustainable Finance Roadmap, which is currently pending approval from the Green Finance Task Force and is expected to be launched and implemented in 2025 (NBC, 2025).

The Securities and Exchange Regulator of Cambodia (SERC) is working with ADB, UNESCAP, GGGI, GuarantCo, and CGCC to operate the Cambodia Sustainable Bond Accelerator Program. The program supports the issuance of green, sustainability, and sustainability-linked bonds by providing technical assistance, including developing bond frameworks, obtaining second-party opinions, issuance planning and capacity building, and facilitating access to potential investors and guaranteeing support. This initiative aims to unlock financing for projects aligned with Cambodia's climate priorities, including renewable energy, clean transportation, energy efficiency, smart agriculture, and green buildings.

Table 2: Cambodia's NDC 3.0 Funding Requirement

Sector	Funding (USD million)
Adaptation	
Energy	79
Industry	30
Agriculture	960
FOLU	123
Human health and wash	1,222
Infrastructure	5,860
Livelihood and ecosystems	32
Disaster and climate risk management	66
Social protection, social services and child protection	899
Food Systems	45
Air quality	53
Total	**9,368**
Mitigation	
Energy	20,368
Industry	260
Agriculture	321
FOLU	944
Waste	796
Total	**22,688**
Enabling	
Education, Information and awareness raising	96
Governance	26
Policy, Planning, and Capacity building	50
Total	**172**

Source: Ministry of Environment, 2025

6. Cambodia's Emerging Green Finance Market

Cambodia's green finance market remains nascent and small in scale, but it is gradually expanding as financial institutions introduce new products and initiatives. Several major commercial banks now offer green loans. For example, ACLEDA Bank provides Green, Social, Sustainability, and Sustainability-Linked Loans to eligible customers. Priority sectors include renewable energy, green buildings, energy efficiency, clean transportation, sustainable water and wastewater management, climate change adaptation, and pollution prevention and control. These loans offer flexible repayment terms tailored to customer needs, with tenures of up to six years or longer. The annual interest rate is 7.75% for loans in KHR and 6.75% for loans in USD (ACLEDA Bank, n.d.).

Launched in March 2023, Canadia Bank's Green Financing Program supports businesses operating in environmentally friendly sectors by offering favorable terms and conditions. The program provides loans of up to USD 700,000 with a maximum term of ten years, no bank service charges, and financing of up to 100% of the collateral value. Priority sectors include renewable energy, energy efficiency, green eco-tourism, green transportation, waste management, clean water, and certified green buildings (Canadia Bank, 2025).

By the end of 2024, FTB's outstanding green loan portfolio exceeded USD 80 million, financing projects such as solar PV farms, solar panel installations, green buildings, and electric vehicles. The bank also aims to become an Accredited Entity of the Green Climate Fund (FTB, 2025).

The Credit Guarantee Corporation of Cambodia (CGCC), another key national DFI, is also advancing green finance. On 27 September 2024, CGCC officially launched the Sustainable Green Financing Facility (SGFF). Developed in collaboration with UNDP, the SGFF is a blended finance mechanism that allows development partners and participating financial institutions to establish a joint facility with CGCC to provide concessional financing for green investments. With USD 25 million in blended financing, CGCC's guarantee capacity can reach up to USD 50 million (CGCC, 2025).

Another important player in Cambodia's green finance ecosystem is Forte Insurance, which entered the country's micro and agricultural insurance market in 2014. One of its flagship products is the Weather Index-Based Crop Insurance (WICI), developed in partnership with the Ministry of Economy and Finance and the ADB under the Rice Sector Development Program. Under this scheme, the government subsidizes 50% of the premium. Unlike traditional crop insurance, WICI uses scientific weather data to trigger rapid payouts. More than 76,000 farmers have subscribed to WICI to protect themselves against climate risks. The program currently covers approximately 77,000 hectares of rice fields across 600 villages in three provinces: Battambang, Kampong Thom, and Prey Veng. The premium is USD 10 per hectare for coverage worth USD 100. In 2023, 54,800 farmers participated, with 10,000 receiving claim payouts due to excessive rainfall or drought (Khmer Times, 2024).

Cambodia's green bond market is still in its early stages, constrained by high issuance costs, lengthy approval processes, and a nascent regulatory framework.

Nonetheless, issuance activity is increasing. According to the Cambodia Securities Exchange (n.d.), Golden Tree Co. Ltd., a Cambodian real estate company, issued the country's first green bond in 2022, worth USD 1.5 million with ADB support. Proceeds were allocated to green building development. The bond carried a five-year maturity and a fixed coupon rate of 7% per annum.

In 2023, CAMGSM PLC (Cellcard), a leading telecommunications operator, issued Cambodia's first sustainability bond worth USD 20 million. Proceeds were directed toward upgrading network infrastructure, particularly renewable energy projects and expanded connectivity for underserved communities. The bond had a ten-year maturity.

In 2024, Royal Group Phnom Penh SEZ issued a USD 10 million green bond guaranteed by the Credit Guarantee and Investment Facility (CGIF), a trust fund of ADB. Proceeds were used to finance green infrastructure projects, including a wastewater treatment plant.

Most recently, in April 2025, SchneiTec Dynamic issued a 15-year green bond worth USD 49.16 million to finance a 60 MW solar photovoltaic power plant in Kampong Chhnang province. The issuance consisted of three tranches: two CGIF-guaranteed bonds (USD 15 million with a floating coupon rate and USD 20 million with a floating coupon rate featuring a floor and cap) and an unguaranteed USD 14.16 million bond. The plant is expected to reduce GHG emissions by 85,955 metric tons of CO_2 equivalent annually, generate approximately 130 GWh of clean energy per year for the national grid, and create at least 450 green jobs.

7. China's Green Finance in Agriculture: Practices and Lessons for Cambodia

Green Finance Practices in China's Agri-Food Sector

According to the Climate Bonds Initiative (2025), between 2014 and 2024, China issued USD 442.5 billion in green bonds, including USD 68.9 billion in 2024 alone (Table 3). State development banks contributed USD 6 billion, with the Agricultural Development Bank of China issuing USD 3.1 billion, the China Development Bank USD 2.4 billion, and the Export-Import Bank of China USD 0.5 billion, primarily funding renewable energy and low-carbon public transport. Commercial banks accounted for USD 19.7 billion, with the Bank of China, the Industrial and

Commercial Bank of China, and the China Construction Bank, three of the country's "big four" banks, issuing a combined USD 12 billion in green bonds, largely for renewable energy and low-carbon transport projects. Major Chinese commercial banks are leading efforts to strengthen integrity in green finance, directing capital toward assets that comply with credible market standards such as the Green Bond Endorsed Projects Catalogue and the Common Ground Taxonomy.

Currently, climate finance for China's agri-food system originates mainly from DFIs and government programs. The primary instruments are subsidies, grants, and debt financing at market-based interest rates, while equity financing remains limited. Market participants are increasingly exploring sustainability-linked bonds (SLBs), sustainability-linked loans (SLLs), insurance products, and carbon finance solutions. Blended finance approaches also hold potential to enable a just and inclusive transition in the agri-food sector.

For example, Muyuan, one of China's largest agri-food enterprises, released a phased green and low-carbon action plan in 2023 with defined GHG reduction targets. Leveraging its sustainable trade finance framework, Standard Chartered Bank (China) provided Muyuan Grain Trading, a subsidiary of Muyuan, with its first sustainability-linked invoice financing loan in May 2023. The loan supports raw material procurement and operational needs while tying interest rates to key performance indicators (KPIs) such as installed photovoltaic capacity and CO_2 emissions per kilogram of pork production. This structure incentivizes Muyuan's transition to low-carbon operations through financial mechanisms.

Blended finance in China is still in its early stages but provides a strong foundation for scaling innovative climate finance. Examples include rural revitalization and green agriculture projects supported by concessional loans from the China Development Bank and the Agricultural Development Bank, which help mobilize private capital. China has also partnered with international DFIs to attract private investment.

For instance, in 2020, the World Bank extended a 25-year concessional loan to establish the Henan Green Agriculture Fund, aimed at mobilizing private capital for green agriculture in Henan Province. Nonetheless, blended climate finance in China remains limited and will require stronger policy support and increased market awareness to scale effectively (Climate Bonds Initiative, 2024).

Table 3: Issuance Volume of Chinese GSS+ Bonds

Chines GSS+ aligned volume scorecard (2024-24, USD billion)					
	Green	Social	Sustainability	SLB	Grand Total
2014-2018	75.8	0.8	1.0	-	77.7
2019	32.2	-	-	-	32.2
2020	21.9	78.1	0.9	-	100.9
2021	71.7	0.3	8.6	-	80.6
2022	87.8	0.3	3.4	0.1	91.6
2023	84.2	0.5	3.2	-	87.9
2024	68.9	2.5	13.2	0.1	84.6
Grand Total	**442.5**	**82.5**	**30.3**	**0.2**	**555.5**

Source: Climate Bonds Initiative, 2025

Policy and Market Lessons from China for Cambodia

While Cambodia's financial system differs significantly from China's in terms of scale, institutional depth, and fiscal capacity, several elements of China's green finance experience, particularly in agriculture, offer practical and transferable lessons when appropriately adapted to Cambodia's context.

First, the role of DFIs as market builders is highly relevant to Cambodia. In China, state development banks such as the Agricultural Development Bank of China and the China Development Bank played a catalytic role by issuing green bonds, providing long-term loans, and aligning lending with national green taxonomies. Cambodia's DFIs, including ARDB, CGCC, and SME Bank, can adopt a similar sequencing approach by starting with concessional loans, guarantees, and pilot green lending programs before gradually moving toward capital-market instruments. Cambodia's Sustainable Finance Facility Fund (SGFF), for example, mirrors China's early use of policy-driven finance to crowd in private capital, albeit on a much smaller scale.

Second, the gradual development of green standards and taxonomies offers a realistic pathway for Cambodia. China's Green Bond Endorsed Projects Catalogue, along with its alignment with the Common Ground Taxonomy, has helped reduce

greenwashing and build investor confidence. Cambodia does not require a fully-fledged taxonomy at this stage; instead, it can pursue a phased approach by aligning bank-level green lending criteria and bond frameworks with the ASEAN Taxonomy and international standards (e.g., ICMA and CBI). This approach is already partially reflected in Cambodia's green bond issuances supported by ADB and could be further strengthened through clearer regulatory guidance from the NBC and the SERC.

Third, sustainability-linked finance instruments can be adapted to Cambodia's leading agribusinesses. The Muyuan–Standard Chartered sustainability-linked invoice financing case demonstrates how performance-based incentives can drive emissions reductions within agri-food value chains. In Cambodia, similar structures could be piloted with large rice millers, cassava processors, or poultry producers, linking loan pricing or guarantees to measurable KPIs such as renewable energy use, water efficiency, or methane reduction. These instruments are particularly suitable for Cambodia because they do not require upfront green certification or bond issuance, thereby reducing transaction costs.

Finally, Cambodia should draw lessons from China's incremental and pragmatic approach rather than attempting to replicate it in full. China's success stems not from sophisticated financial instruments alone, but from strong policy signaling, long-term planning, and the strategic use of public finance to crowd in private capital. For Cambodia, the key takeaway is not scale but sequencing: beginning with guarantees, concessional loans, insurance products, and sustainability-linked lending, before expanding into green bonds and carbon finance as market capacity matures.

8. ARDB's Contribution to Cambodia's SDGs through Green Finance

The Agricultural and Rural Development Bank (ARDB), formerly known as the Rural Development Bank, was established in 1998 as a specialized bank under a sub-decree dated January 21, 1998. It was later transformed into a commercial bank and renamed ARDB under another sub-decree dated August 27, 2019. ARDB is a state-owned enterprise dedicated to commercial banking, operating with full autonomy under the technical and financial oversight of the Ministry of Economy and Finance and the supervision of the National Bank of Cambodia.

Guided by its mission to support Cambodia's socioeconomic development, ARDB has acknowledged the growing threat of climate change, which poses significant risks to farmers and their livelihoods. In response, ARDB has taken a proactive role in advancing green finance, adopting the Cambodia Sustainable Finance Principles and establishing a Green Finance Department in 2022. Looking ahead, ARDB aims to become an Accredited Entity of the Green Climate Fund and ultimately serve as Cambodia's National Climate Bank.

As of August 2025, ARDB's green loan portfolio stood at approximately USD 21 million, around 4.5% of its total loan portfolio of USD 455 million. About 41% of these loans supported vegetable farming, while 40% were directed to rice millers. Although the portfolio remains relatively small, ARDB has launched several impactful green initiatives that advance both climate action and Cambodia's broader SDGs.

One flagship initiative is the Poverty Reduction Project, which provides loans to poor farming families for building net houses to cultivate safe vegetables. Implemented in Battambang province, the project finances the construction of four net houses per family and promotes Good Agricultural Practices (GAP). ARDB not only provides loans but also covers construction costs, supervises cultivation, and monitors farmers' cash flow.

As of July 2025, the project had supported 13 families with loans totaling USD 130,000, resulting in the construction of 52 net houses, the production of 14.66 tons of vegetables, and approximately USD 9,000 in total income. The project generates jobs for returning migrants and poor farmers (SDG 8: Decent Work and Economic Growth), trains participants in sustainable farming (SDG 12: Responsible Consumption and Production), strengthens climate resilience (SDG 13: Climate Action), promotes entrepreneurship (SDG 9: Industry, Innovation, and Infrastructure), and stabilizes incomes (SDG 1: No Poverty). It also enhances market access and increases the domestic supply of safe vegetables (SDG 2: Zero Hunger), reduces imports, and supports public health (SDG 3: Good Health and Well-Being).

Another significant initiative is the Smart Agriculture Project, which trains farmers in safe vegetable cultivation using GAP techniques, establishes market linkages through agricultural contracts, and promotes solar energy to reduce environmental impacts. These interventions directly support SDG 7 (Affordable and Clean Energy), SDG 2 (Zero Hunger), and SDG 12 (Responsible Consumption and Production).

The project is being implemented in Kandal province on 10–15 hectares of land, with first-phase funding of USD 1 million. Solar-powered irrigation systems are used, with pumps controlled via mobile phone applications. Farmers receive comprehensive training on land preparation, seeding, crop maintenance, harvesting, and planting schedules. The project is expected to generate an estimated monthly income of USD 715 per farmer, contributing to SDG 8 (Decent Work and Economic Growth).

Beyond financing, ARDB provides support in business planning, farming techniques, and market access through contract farming. The bank supplies land for cultivation, installs solar systems, and arranges housing for farmers. It also partners with vegetable wholesalers, solar panel suppliers, and agricultural input providers to ensure the project's success, advancing SDG 17 (Partnerships for the Goals).

ARDB is also preparing to launch Cambodia's first national green financing initiative, the Cambodian Climate Financing Facility (CCFF), to accelerate climate finance and the implementation of Cambodia's NDCs. The CCFF will comprise a USD 100 million Lending Facility and a USD 9 million Technical Assistance Facility, supported by the Green Climate Fund, which will provide USD 50 million in loans and USD 5 million in grants.

The CCFF will channel climate finance through a Wholesale Lending mechanism (20%) to local financial institutions and a Direct Lending mechanism (80%) to private sector actors. This approach addresses financial, capacity, and technology gaps that hinder climate project adoption in Cambodia. Priority will be given to high-impact NDC sectors: Renewable Energy (40%), Energy Efficiency (25%), Sustainable Agriculture and Forestry (20%), Water (10%), and Transport (5%). These sectors align closely with SDG 7 (Affordable and Clean Energy), SDG 13 (Climate Action), SDG 15 (Life on Land), SDG 6 (Clean Water and Sanitation), and SDG 9 (Industry, Innovation, and Infrastructure).

The CCFF is expected to deliver significant outcomes, including the reduction of 11.1 million tCO_2e, enhanced adaptive capacity for 1.3 million direct and indirect beneficiaries, and improved resilience of infrastructure against climate impacts. Its key results areas include health, food, and water security; livelihoods; buildings; energy generation and access; transport; ecosystems; and forest and land use. These outcomes advance multiple SDGs, particularly SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production).

ARDB has also strengthened partnerships with international organizations to advance green finance in Cambodia. On August 8, 2024, ARDB signed a Memorandum of Understanding (MoU) with the Asia-Pacific Rural and Agricultural Credit Association (APRACA) to establish the APRACA Centre of Excellence for Green Finance in Agriculture (ACE-GFA). The center aims to build capacity across APRACA and its member institutions through research, training, knowledge sharing, and innovation in agricultural green finance.

Additionally, on November 29, 2024, ARDB signed an MoU with the Alliance of Bioversity International and CIAT to cooperate on capacity development. This partnership applies CGIAR science and data to assess agro-climatological and environmental risks at the portfolio and loan levels and to inform the design, implementation, and monitoring of targeted lending products for Cambodia's agriculture sector.

9. Key Challenges to Accelerating Green Finance in Cambodia

Despite recent progress in green finance, Cambodia continues to face significant challenges that hinder the acceleration of green financing. The government faces financial capacity constraints. Although Cambodia is steadily incorporating climate change considerations into its national and sectoral planning frameworks, budget development and procurement measures remain insufficient to meet climate goals. As a result, the country remains heavily dependent on external funding sources. Large infrastructure investments, including those with climate-related objectives, are often financed by development partners.

The Royal Government of Cambodia has introduced multiple frameworks and action plans to address a wide range of climate change and environmental issues. While these efforts are commendable, a significant institutional gap remains: the lack of a comprehensive, legally binding framework that integrates these strategies and policies. Cambodia needs a clear hierarchy of climate objectives, greater consistency across legal and planning instruments, and more explicit assignment of administrative responsibilities.

State-owned enterprises (SOEs), including ARDB, face additional financing constraints. According to the Law on Public Finance System, promulgated on March 10, 2023, only the Minister of Economy and Finance is authorized to borrow on behalf of the government. This restriction limits SOEs' ability to issue green bonds, thereby constraining their options for financing large-scale, high-impact climate projects.

Foreign concessional capital typically requires local financial institutions to have robust enterprise risk management systems in place before funds can be disbursed. However, Cambodia's lack of comprehensive environmental, social, and governance (ESG) policies and practices make it increasingly difficult to access these sources of capital.

There is also a lack of clarity and guidance regarding what qualifies as green finance. Cambodia does not yet have a nationally defined green taxonomy, and awareness of potential green projects remains low. Reporting of green loan data by financial institutions is limited, making it difficult for policymakers to identify gaps and design effective incentives. In addition, local financial institutions often lack the capacity, policies, and technical expertise needed to verify, monitor, and evaluate green projects.

The cost of bond issuance in Cambodia remains high. The underwriting fee for domestic bonds is 2.5 percent, significantly higher than comparable USD-denominated Asian high-yield bonds, and the requirement for external review in the case of green bond issuance further increases total costs. Finally, because green policies are not yet embedded within Cambodia's financial ecosystem, the lack of strong regulatory and policy support continues to be a major barrier to the development and scaling of green finance (World Bank Group, 2023).

10. Recommendations

To accelerate the growth of green finance, Cambodia must adopt a targeted mix of policies and capacity-building measures. The government should introduce additional incentives to offset the higher costs of issuing green bonds for both financial institutions and non-financial corporations. Possible measures include tax breaks or direct payments to cover bond listing fees, credit rating expenses, and Second Party Opinion (SPO) fees. These incentives would encourage issuers who might otherwise be reluctant to participate in the green finance market. Grant-funded technical assistance could also support bond design and structuring.

Further policy incentives are needed to foster competition and expand the pool of service providers, including SPO providers, credit rating agencies, and securities firms capable of underwriting bonds. Large securities firms or commercial banks should be engaged to act as market makers, ensuring secondary market liquidity and reducing the overall cost of green financing.

To unlock a major source of capital for large-scale climate projects, the government should consider allowing financially sound state-owned enterprises (SOEs) to issue green bonds directly for approved projects. This could be facilitated through regulatory exemptions or a streamlined approval process.

Developing a green finance taxonomy that captures key sectors of Cambodia's economy, addressing both mitigation and adaptation, is highly recommended. A taxonomy would establish a common investment language and provide the foundation for a well-functioning green financial ecosystem. The National Bank of Cambodia (NBC) could consider introducing mandatory standards in a phased approach, aligned with the sector's capacity and readiness. In addition, NBC may explore collaboration with other countries to develop a common taxonomy, similar to the China–EU–Singapore Multi-Jurisdiction Common Ground Taxonomy (M-CGT), which offers a unified framework for cross-border green investments.

Mandatory monitoring and reporting of green loan data should also be implemented. Reliable data are essential for regulators, lenders, and investors to make informed decisions. This reporting should form part of regular submissions to NBC and be made publicly available, enabling financial institutions to demonstrate alignment with the green finance taxonomy.

Further development of credit enhancement instruments and risk management tools, such as foreign exchange hedging, is necessary to improve the viability of green bonds. Blended finance mechanisms, including affordable credit guarantees, can help de-risk investments, attract private capital, and accelerate the scaling-up of green finance in Cambodia.

Finally, awareness-raising and capacity building efforts must be strengthened across all aspects of green finance. Capacity gaps should be assessed at the institution level, particularly within government bodies, DFIs, and commercial banks, and training programs should be tailored to address these needs. Knowledge-sharing from successful international experiences will be critical. Capacity building should also focus on developing robust green project pipelines, preparing bankable proposals, and enhancing institutional capability to access concessional funds from sources such as the Green Climate Fund, Global Environment Facility, Climate Investment Funds, and other impact investors.

11. Conclusion

The importance of green finance is gaining momentum globally, and in Cambodia it is particularly critical given the country's substantial financing needs to advance climate action and achieve the SDGs. Climate risks threaten progress across multiple SDGs, especially those related to poverty reduction, food security, and economic growth, yet well-designed green finance interventions can generate significant co-benefits for inclusive and resilient development. In this context, coordinated engagement among the government, DFIs, and domestic financial institutions is essential to scale up green finance and ensure that Cambodia's development pathway remains both climate-resilient and socially inclusive.

This study demonstrates that the Agricultural and Rural Development Bank (ARDB) has emerged as a central national actor in linking green finance with Cambodia's SDG agenda. Beyond its role as a lender, ARDB functions as a market builder by piloting green lending models tailored to smallholder farmers and agri-food value chains. Through initiatives such as the Poverty Reduction Project and the Smart Agriculture Project, ARDB has integrated concessional finance, technical assistance, and market linkages to simultaneously advance SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). These projects illustrate how green finance can translate national climate and development objectives into tangible livelihood improvements and resilience outcomes at the community level.

To succeed in the long term, Cambodia must ensure that climate and environmental considerations are systematically embedded in financial decision-making across the entire financial system, with balanced attention to risk, return, and development impact. The experience of ARDB highlights the critical role of strong DFIs in catalyzing private sector participation, de-risking green investments, and ensuring that climate finance reaches vulnerable sectors and communities. Scaling up such models, supported by coherent policy frameworks and sustained partnerships, will be essential to guide Cambodia's transition toward a low-emission, climate-resilient, and competitive economy that leaves no one behind.

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