



GLOBAL  
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ADAPTATION



**Handbook for Financial Institutions**

# **Climate Adaptation Finance**

**Module 5**





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In collaboration with:



**European Bank**  
for Reconstruction and Development

**Handbook for Financial Institutions**

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### **About the Global Center on Adaptation**

The Global Center on Adaptation (GCA) is an international organization that promotes adaptation to the impacts of climate change. It works to accelerate action and support for adaptation solutions by shaping policy reforms and influencing investments made by international financial institutions and the private sector. The goal is to bring climate adaptation to the forefront of the global fight against climate change and ensure that it remains prominent. Founded in 2018, GCA ensures a continuous, two-way exchange of knowledge and best practices that empower communities and drive resilient and inclusive growth worldwide.

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The EBRD works closely with private-sector and public partners to complement its adaptation financing. The Bank has financed climate-resilient infrastructure in its regions, advanced nature-based solutions, and strengthened the management of physical risk across sectors. Through financial institutions, the EBRD channels green finance via hundreds of thousands of sub loans, an intermediation model that the Bank also leverages to expand adaptation lending.

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### **Suggested citation for the Handbook:**

Global Center on Adaptation and the European Bank for Reconstruction and Development (2026). Handbook for Financial Institutions: Climate Adaptation Finance

**Co-produced:**



**Supported by:**





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# Module 5

## Tailoring Solutions to Clients

Climate Adaptation Product and  
Pipeline Development in Financial  
Institutions

# Authors and Acknowledgements

**The Handbook for Financial Institutions: Climate Adaptation Finance (Handbook)** was developed in 2025 through a collaborative review and consultation process co-led by the **Global Center on Adaptation (GCA)**, under the Africa Adaptation Acceleration Program (AAAP), and the **European Bank for Reconstruction and Development (EBRD)**. The process was supported by the **Frankfurt School of Finance & Management**, **RebelGroup**, and **Haskoning**, in close collaboration with **financial institutions (FIs)** and **partner development organizations**.

The resulting Handbook reflects a **co-created approach**, shaped by valuable input and feedback from participating institutions. It draws on **real-world case studies**, **policy tools**, **financial instruments**, and **modelling techniques** relevant to FIs operating across both emerging and developed markets.

This Handbook has benefited from the direction and technical contributions of FIs and partner organizations. GCA and the EBRD would like to extend their gratitude to all partners, staff, and contributors who collaborated in the development of this Handbook. This initiative has particularly benefited from the input of the following contributors:

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**Partner Institutions:** Consultations with colleagues from the **Multilateral Development Bank (MDB) Climate Adaptation Working Group**; and direct inputs and suggestions from **Alliance of Biodiversity International and the International Center for Tropical Agriculture (CIAT)-CGIAR** Richard Newman; **Asian Infrastructure Investment Bank (AIIB)** Xianfu Lu, Wenchao Cao; **British International Investment (BII)** Kushboo Singhania; **Consultative Group to Assist the Poor (CGAP)** Michel Hanouch; **CRDB Bank Plc** Kenneth Kasigila; **Dalmore Capital** James Dunham; **Institutional Investors Group on Climate Change (IIGCC)** Anne Chataigné; **International Finance Corporation (IFC)** Rachel Chi Kiu Mok; **Financial Sector Deepening (FSD) Africa** Reshma Shah; **FMO- Dutch Entrepreneurial Development Bank (FMO)** Elies Fongers; **Islamic Development Bank (IsDB)** Olatunji Yusuf; **Mauritius Commercial Bank (MCB)** Dipeeka Ramgolam; **United Nations Environment Programme Finance Initiative (UNEP FI)** Paul Smith, Gary Power; **UN Principles for Responsible Investment (PRI)** Sudeshna Raychaudhuri; **Oxford Programme for Sustainable Infrastructure Systems (OPSIS)**, **University of Oxford** Jim Hall, Silvia Colombo; **World Bank (WB)** Isfandyar Zaman Khan; **World Resources Institute (WRI)** Carter Brandon.

## Table of Contents

01	Designing Forward-Looking Adaptation Finance Strategies.....	11
02	Designing Scalable Climate Adaptation Products.....	16
03	Engaging Clients in the Climate Adaptation Journey.....	30
04	Additional Resources.....	59
05	Glossary.....	61
06	Key References.....	62
07	Practice Questions.....	64
08	Question Solutions.....	70

## Figures

<b>Figure 1:</b>	Design principles for adaptation products.....	18
<b>Figure 2:</b>	Challenges with existing financial products.....	18
<b>Figure 3:</b>	Product development roadmap.....	18
<b>Figure 4:</b>	Success factors for climate adaptation product design.....	23
<b>Figure 5:</b>	Overview of an integrated climate adaptation facility.....	24
<b>Figure 6:</b>	Good practice elements of modern training delivery.....	29
<b>Figure 7:</b>	Overcoming barriers in client engagement.....	33
<b>Figure 8:</b>	Step-by-step guide for client engagement.....	35

## Tables

<b>Table 1:</b>	Suitable climate adaptation measures for rural/agricultural businesses.....	14
<b>Table 2:</b>	Loan structuring features relevant for adaptation finance in financial institutions .....	21
<b>Table 3:</b>	Technical assistance dimensions in climate adaptation facilities .....	26
<b>Table 4:</b>	Overview of technical assistance topics .....	27
<b>Table 5:</b>	Key reasons for clients to engage with financial institutions .....	32

## Boxes

<b>Box 1:</b>	Example of scalable climate adaptation interventions in smallholder agriculture .....	12
<b>Box 2:</b>	E-bank Example: Climate projects.....	21
<b>Box 3:</b>	Smart cash incentive design in micro, small and medium-sized enterprise climate finance .....	25
<b>Box 4:</b>	Raising awareness through client engagement .....	31

## Acronyms

<b>ALM</b>	Asset Liability Management
<b>B2B</b>	Business to Business
<b>CGIAR</b>	Consultative Group on International Agriculture Research
<b>bps</b>	Basis points
<b>CSA</b>	Climate-Smart Agriculture
<b>DFI</b>	Development Finance Institution
<b>EBank</b>	Export Development Bank of Egypt
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EFSD+</b>	European Fund for Sustainable Development Plus
<b>EGP</b>	Egyptian Pounds
<b>EIB</b>	European Investment Bank
<b>ESG</b>	Environmental, Social and Governance
<b>EU</b>	European Union
<b>EUR</b>	Euro
<b>FAO</b>	Food and Agriculture Organisation
<b>FI</b>	Financial Institution
<b>GCA</b>	Global Center on Adaptation
<b>GCF</b>	Green Climate Fund
<b>GHG</b>	Greenhouse Gas
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit
<b>IFAD</b>	International Fund for Agricultural Development
<b>IRR</b>	Internal Rate of Return
<b>KPI</b>	Key Performance Indicator
<b>LGD</b>	Loss Given Default
<b>MDB</b>	Multilateral Development Bank
<b>MFI</b>	Microfinance Institution
<b>MSME</b>	Micro, Small, and Medium-sized Enterprise
<b>NGO</b>	Non-Governmental Organization
<b>PAYGO</b>	Pay-As-You-Go
<b>PD</b>	Probability of Default
<b>PMT</b>	Payment
<b>PPF</b>	Project Preparation Facility
<b>PPP</b>	Public-Private Partnership
<b>RM</b>	Relationship Manager
<b>ROI</b>	Return-on-Investment
<b>SME</b>	Small and Medium-sized Enterprise
<b>SMS</b>	Short Message Service
<b>SNV</b>	SNV Netherlands Development Organisation
<b>TA</b>	Technical Assistance
<b>TCFD</b>	Task Force on Climate-related Financial Disclosures
<b>TZS</b>	Tanzanian Shilling
<b>UNCDF</b>	United Nations Capital Development Fund

# Module Description

## Module 5: Tailoring Solutions to Clients – Climate Adaptation Product and Pipeline Development in FIs

### Description

This Module guides FIs through the process of designing and deploying climate adaptation financial products tailored to the needs of climate-sensitive clients. It introduces the concept of a climate adaptation anchor product as a practical starting point that is both technically straightforward and financially sustainable. The Module also examines how FIs can identify opportunities within existing client relationships and value chains, engage relevant ecosystem partners, and build the institutional readiness needed to streamline procurement, installation, and maintenance. Together, these elements support the development of a viable adaptation lending pipeline and stronger long-term client relationships.

### Target group

- Sustainability/Environmental, Social and Governance (ESG) Department
- Corporate/ Wholesale, Small and Medium-sized Enterprise (SME) and Retail Banking Departments; Credit, Product and Structured Finance Departments
- Risk Management (incl. Credit Risk, Operational Risk, Market Risk) and Compliance Departments
- Treasury and Asset Liability Management (ALM) Department
- Corporate Communications and External Affairs Department
- Public- and private-sector practitioners involved in identifying, developing and financing adaptation projects at national, regional or local levels.

### Learning outcomes

#### Chapter 1: Designing Forward-Looking Adaptation Finance Strategies

- Demonstrate how adaptation improves resilience and cash flow at the borrower level
- Define characteristics of scalable adaptation solutions, such as technological simplicity, replicability and local content

#### Chapter 2: Designing Scalable Climate Adaptation Products

- Apply a structured approach to develop adaptation products
- Design technical assistance programmes supporting product piloting, pipeline development and client support

#### Chapter 3: Engaging Clients in the Climate Adaptation Journey

- Define a structured client engagement pathway from awareness to investment
- Demonstrate how to tailor engagement strategies for different client segments
- Collaborate across internal and external actors to support client adaptation journeys

01

# Designing Forward-Looking Adaptation Finance Strategies

This chapter explores the first steps FIs can take to integrate adaptation into their operations. It also examines how well-designed climate adaptation interventions can strengthen borrower resilience and improve cash flows, thereby creating a viable and scalable business line for lenders.

**This chapter addresses the following questions:**

- **How can scaling climate adaptation finance be started?**
- **How can climate adaptation interventions improve resilience and cash flow at the borrower level?**



**Target group:** Sustainability/ ESG Department; Corporate/Wholesale, SME, and Retail Banking Departments; Credit, Product and Structured Finance Departments; Risk Management (incl. Credit Risk, Operational Risk, Market Risk) and Compliance Departments; Corporate Communications and External Affairs Department.

## How can scaling climate adaptation finance be started?

Across emerging and developing markets, the physical impacts of climate change are increasingly disrupting economies, straining public infrastructure, and threatening the stability of agricultural and industrial systems that underpin growth. Financial institutions are both exposed to these risks through their portfolios and positioned to respond - by channelling capital toward adaptation at scale and helping entire client segments build resilience. Meeting this challenge requires solutions that go beyond individual transactions and can be systematically deployed across markets. For most FIs, scaling does not start with complex new products. Instead, it begins

by adapting existing loan products or developing simple, standardised solutions, that can be replicated quickly and integrated into the FI's established lending operations. Module 4 discusses in detail how specific climate vulnerabilities can create diverse adaptation needs, opening new financing opportunities for FIs. It also considers which adaptation benefits can be monetized and why this matters to FIs and their borrowers. Both considerations are preconditions to assess the bankability of adaptation solutions. To show how simple, standardised solutions can achieve scale in practice, the example in **Box 1** highlights a widely used intervention in smallholder agriculture.

### Box 1: Example of scalable climate adaptation interventions in smallholder agriculture.

Low-pressure drip irrigation systems help smallholder farmers maintain crop production during dry spells and increasingly erratic rainfall, thereby safeguarding livelihoods and strengthening resilience to climate variability. In many regions, these systems are powered by **solar submersible pumps** (see <https://sunculture.io/>), which provide a reliable water source without the operating costs of diesel. Single kits, combining drip lines with solar pumping technology, are available for under US\$ 1,000 and can be used for vegetable farming, horticulture and other climate-sensitive activities.

By stabilising water availability, drip irrigation improves agricultural yields and revenues and generates more predictable and stable cash flows. This enhances project viability, strengthens farmers' repayment capacity, and lowers credit risk for FIs. The solar pumps also displace traditional diesel-powered systems, creating mitigation co-benefits through reduced fuel cost and **greenhouse gases (GHGs)** emissions.

Because kits are standardised and widely available, loan sizes fall within the typical microcredit range. Supplier partnerships, such as buy-back arrangements or trade-in schemes, further reduce the transaction costs of repossession and resale and enable more efficient portfolio management.

Scaling such an intervention, however, requires more than simply offering credit. Instead, FIs often cooperate with the distributors or suppliers, negotiate credit referral incentives and volume rebates, and arrange for installation, spare parts and maintenance. These activities also create opportunities for MSME finance, such as well-drilling installation and maintenance services. If technology turns out to be a real growth driver, the ecosystem can be expanded even further by:

1. offering certified maintenance technician training plus start-up finance ("livelihood in a box"),
2. exploring local assembly or manufacturing of certain components or fittings,
3. connecting borrowers with agricultural extension services and water management advice, and
4. engaging with agricultural off-takers for supply-chain finance or incentives, etc.

Four takeaways emerge from the drip irrigation example that inform how FIs should start developing adaptation finance products:

1. Adaptation finance interventions should leverage the existing client franchise.
2. Build on the competitive strengths in established consumer market segments and design an adaptation intervention that addresses urgent and widespread climate vulnerabilities. In that way, FIs can create a profitable, scalable loan product that addresses climate vulnerability and reduces credit risk across the conventional loan portfolio.
3. Leverage all available external sources of support for a concerted climate adaptation effort. This includes partnerships for capacity building (e.g., vocational training, technical assistance), market-linkages (e.g., off-takers and suppliers), as well as risk-sharing instruments (e.g., insurance, portfolio guarantees, targeted incentives).
4. Build on existing client relationships. Scaling climate-resilient technologies requires more than providing credit. It begins with understanding client needs, building trust, and ensuring that borrowers can use and maintain the new technologies effectively. Strong client engagement enhances adoption, supports repayment performance and provides pathways for FIs to identify new opportunities within their MSME portfolios.

## How can climate adaptation interventions improve resilience and cash flow at the borrower level?

Climate adaptation interventions enhance borrower resilience by reducing **exposure** to climate-related shocks while simultaneously strengthening cash flow through operational improvements, avoided losses, and more stable revenues. Although this Module primarily discusses examples of micro and small businesses, including agricultural cooperatives, SMEs, local service providers, processors, logistics operators and tourism enterprises, the underlying financial mechanisms apply broadly across sectors that face increasing climate risks. Common adaptation themes include improved management of critical resources (such as land, water and energy), strengthened supply chains and storage systems, and the adoption of climate-smart operational practices.

To understand how these interventions translate into improved client cash flow, it is essential to consider which adaptation benefits can be monetized. Module 4 provides a framework for assessing monetizable benefits, such as avoided damage costs, reduced energy and water consumption, increased productivity and fewer business interruptions. These monetizable benefits form the channels through which adaptation measures generate measurable financial value for borrowers and lenders. By improving cash flow, adaptation interventions enhance resilience to climate hazards and improve the borrower's credit standing (see also Module 1, Figure 4). The central challenge

for FIs lies in designing affordable financial products around these climate adaptation measures that do not exceed the debt service capacity of the borrower and are financially sustainable for the private-sector lender.

The purpose of this Module is to show how well-designed adaptation finance interventions can help FIs recognise the significant opportunities presented by climate-vulnerable MSMEs, households and service providers. These clients and the value chains they participate in can become opportunities for commercially viable climate resilient lending.

As shown in **Table 1** for the agricultural sector, financing climate-resilient storage or transport solutions can strengthen both the client's market access and the resilience of upstream suppliers. Similarly, in food processing and manufacturing, investments in energy-efficient cooling and water-saving technologies, heat-resilient facilities, and climate-proofed production systems can enhance operational efficiency, reduce downtime and stabilise output. In service sectors, such as logistics or tourism, resilient infrastructure and equipment can safeguard revenues and expand operating windows. Solution providers, such as irrigation service companies, cold-chain operators and manufacturers of resilient building materials, may themselves

require financing to scale delivery of adaptation technologies. Risk-sharing mechanisms such as guarantees, blended finance, or index-based insurance (discussed in Module 4) can help reconcile the dual objectives of strengthening financial resilience and

maintaining affordability for clients while safeguarding lender sustainability. For FIs, these borrower-level improvements contribute to a lower **probability of default (PD)**, reduced **loss given default (LGD)**, and a stronger business case for scaling adaptation lending.

**Table 1:** Suitable climate adaptation measures for rural/agricultural businesses

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed	Effect on Borrower Cash Flow
<b>Water Management &amp; Irrigation</b>				
<b>Drip irrigation systems</b>	Improves water use efficiency, ensuring resilient food production despite rainfall variability.	Equipment finance, lease-to-own	Drought  Erratic rainfall	Stabilises yields, lowers input costs and reduces revenue volatility
<b>Water harvesting tanks</b>	Captures and stores rainwater to support crop irrigation and reduce dependence on erratic rainfall.	Equipment finance, lease-to-own		Provides backup water supply and smoother seasonal cash flows
<b>Drainage repair/ upgrade and water retention ponds</b>	Prevents waterlogging and protects assets and farmland from excess rainfall while storing water and reducing excess run-off.	Working capital or medium-term loans	Flood	Avoids crop loss during heavy rains, protects asset values, and reduces income shocks
<b>Resilience of the Supply Chain</b>				
<b>Elevated or waterproofed storage</b>	Minimises damage to crops and inputs during flood events	Equipment finance plus long-term loans for building upgrades.	Flood	Reduces spoilage and replacement costs and preserves sales revenues
<b>Solar-powered refrigeration equipment and thermal insulation</b>	Reduces post-harvest losses and maintains food quality during extreme weather events	Equipment finance or medium-term loans.	Heat & humidity	Higher sales volumes, improved price realisation, and steadier inflows
<b>Climate-resilient drying facilities</b>	Reduces spoilage using passive or energy-efficient designs in high heat/humidity conditions	Equipment finance or medium-term loans.		Improves storage capacity and product quality, leading to higher profit margins

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed	Effect on Borrower Cash Flow
<b>Heat-tolerant warehousing</b>	Maintains product quality and reduces the need for energy-intensive cooling	Equipment finance plus long-term loans for building upgrades.	Heat & humidity	Cuts operating costs, protects product value, and stabilises profit margins
<b>Improved ventilation systems</b>	Supports temperature and humidity control to preserve agricultural products	Equipment finance or medium-term loans.		Extends product shelf life and reduces spoilage losses
<b>Transition to Climate-Smart Inputs and Farming Practices</b>				
<b>Organic composting and biogas capture</b>	Enhances soil health, sequesters carbon, reduces emissions and promotes biodiversity for long-term resilience	Working capital with enhanced grace periods, often linked to offtake contracts in agriculture supply chains	Climate adaptation and mitigation co-benefits.	Cuts input costs, increases soil productivity and creates additional revenue streams (biogas)
<b>Improved cover crops</b>			Addresses chronic climate hazards, e.g., soil erosion and loss of soil fertility	More stable yields and reduced need for costly soil rehabilitation
<b>Intercropping services</b>				Diversified income streams and reduced income volatility



## 02


# Designing Scalable Climate Adaptation Products



This chapter explores how FIs can translate climate risk insights into lending opportunities and apply a climate lens to product development. It also examines strategies for addressing non-commercial viability, success factors for climate-smart financial products, and the role of technical assistance in training and capacity building.

**This chapter addresses the following questions:**

- How can climate vulnerabilities highlighted during client risk assessments be translated into adaptation lending opportunities?
- What are the key principles and design features of financial products for climate adaptation finance, and how can they be marketed effectively?
- How can a climate lens be applied in the product development process?
- What if a climate-smart product cannot be offered on fully commercial terms?
- How can technical assistance (TA) be strategically used across the climate lending facility lifecycle?

 **Target group:** Corporate/Wholesale, SME, and Retail Banking Departments; Credit, Product and Structured Finance Departments; Risk Management (incl. Credit Risk, Operational Risk, Market Risk) and Compliance Departments; Corporate Communications and External Affairs Departments; Public- and private-sector practitioners.

## How can climate vulnerabilities highlighted during client risk assessments be translated into adaptation lending opportunities?

For commercial FIs, climate adaptation finance ultimately means providing *repayable* loans at sustainable margins to clients whose operations are increasingly exposed to climate hazards, but who can still manage debt responsibly. The challenge is that many client segments operate in regions where climate impacts are intensifying.

Climate risk insights should be used to design targeted adaptation finance solutions. By linking specific vulnerabilities (e.g., flood exposure, drought sensitivity or dependence on fragile supply chains) to practical adaptation measures, FIs can convert risk assessments into lending opportunities.

Affordability constraints differ significantly across client segments and will require varying responses in the design of financial products. For low-income households, rural borrowers and informal entrepreneurs, incorporating an additional

loan instalment for adaptation measures may not be feasible, particularly where incomes are volatile and debt service capacity is limited. In such cases, effective adaptation investments often require broader solutions that combine finance with public support, de-risking instruments, or targeted incentives to improve affordability and reduce repayment risk.

In contrast, for creditworthy clients, such as established SMEs, corporates or households with stable incomes, adaptation measures can often be embedded into standardised financial products, including asset finance, working capital loans or mortgages. For these segments, the task for FIs is to identify a key set of scalable adaptation solutions aligned with the most material climate risks in the given context, and to package them into simple, well-defined products that relationship managers (RMs) and loan officers can confidently originate and scale.

## What are the key principles and design features of financial products for climate adaptation finance, and how can they be marketed effectively?

A climate adaptation measure that can be reliably financed with a repayable loan should demonstrate a self-financing business case that generates incremental cash flows to cover the debt service. Often, these cash flows arise from resource efficiency gains, long term maintenance cost reductions, or energy savings, often at the intersection of mitigation and adaptation. Typical examples from the above list in the agricultural value chain include drip irrigation, ventilation and refrigeration equipment. Module 4 explores which benefits of climate adaptation can be monetized in greater detail.

In contrast, cash flows from avoiding future losses through improved resilience are more difficult to quantify and thus less suitable as the basis for lending. The business case becomes stronger if the adaptation investment reduces borrowers' exposure to climate-related losses, thereby improving overall financial resilience and debt service capacity. Four core principles for designing adaptation financial products (see **Figure 1**) provide the lens through which every product design decision should be tested.

**Figure 1:** Design principles for adaptation products

Identify Climate Vulnerability	Develop the Business Case	Structure the Loan Product	Engage with the Enabling Ecosystem
<p>Focus on key client risks (e.g. drought, heat, floods) and needs.</p> <p>Match with tangible measures (e.g. drip irrigation, ventilation, refrigeration).</p> <p>Prioritise options that generate cash flows.</p>	<p>Show savings (e.g. fuel, energy, productivity).</p> <p>Highlight resilience and loss avoidance.</p> <p>Leverage insurance access or lower premiums.</p>	<p>Define size, tenor, and rate.</p> <p>Add incentives or concessional terms.</p> <p>Ensure resale markets and alternative collateral.</p>	<p>Secure suppliers and service providers.</p> <p>Provide training and maintenance.</p> <p>Engage off-takers to stabilise income.</p>

Source: Authors.

In practice, most adaptation solutions are not created from scratch. FIs can tweak or redesign existing financial products from a climate perspective. The design task is to ask: *Can the product work as is? Can it be adapted? Or do we need to develop something fundamentally new?*

Challenges and potential responses can be grouped into four broad areas, as illustrated in **Figure 2**. By clustering challenges this way, it becomes clear that adaptation finance requires both product adjustments and enabling measures around them.

**Figure 2:** Challenges with existing financial products

Risk and viability	Affordability and cost of funds	Risk-sharing and protection	Capacity and delivery
<p>Standard underwriting undervalues long-term resilience benefits.</p> <p>New metrics and appraisal tools are needed to capture adaptation outcomes.</p>	<p>Adaptation projects often require longer tenors and lower-cost capital.</p> <p>Concessional pricing, blended finance, and guarantees can bridge gaps.</p>	<p>Many MSMEs are excluded by strict collateral rules or lack of climate insurance.</p> <p>Public-private de-risking partnerships, guarantee schemes, and tailored insurance can expand access.</p>	<p>Loan officers need training to recognise viable adaptation investments.</p> <p>Clients often need technical assistance to prepare proposals and manage new technologies.</p>

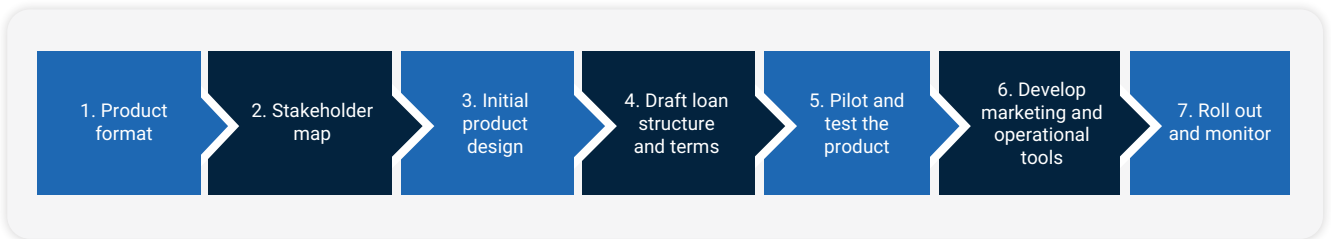
Source: Authors.

## How can a climate lens be applied in the product development process?

FIs need a structured process to come from an idea to an implementable, marketable loan. **Figure 3** shows a

seven-step product development roadmap, where the climate lens is applied at each step.

**Figure 3:** Product development roadmap



### Step 1. Define the product format:

The starting point is to decide what kind of financial product is being designed, including tenor, repayment method and basic structure. Applying a climate lens means shaping the format around the vulnerabilities of the client segment, for example, structuring agricultural loans with repayment linked to harvest cycles, or embedding risk-sharing features such as insurance in areas prone to floods or droughts.

A critical element here is technical product design. To make climate adaptation finance accessible to mass-market borrowers, interventions must be simple, replicable and scalable. To do this, FIs can focus on a small set of standardised, high-impact adaptation investments. Module 4, Table 20, provides examples of such scalable opportunities across economic sectors. By anchoring products in simplicity and scalability, FIs reduce complexity for clients while creating the basis for efficient procurement, installation, maintenance and remarketing.

### Step 2. Map the stakeholders:

Effective product development requires a broad coalition of actors. Beyond clients, financiers, and regulators, a climate lens highlights the need to include technology suppliers, insurers, off-takers, and service providers for training and maintenance.

These partners help create an ecosystem that makes adaptation solutions accessible and sustainable. Two success factors are central here:

- **Cultivating partnerships:** Strategic partnerships can include corporate off-takers, chambers of commerce, industry associations, engineering consultants, vocational training providers, equity investors, start-up incubators, industrial anchor projects with corporate social responsibility (CSR) programmes, wholesale vendors, and equipment importers. By leveraging these partnerships, FIs can scale adaptation finance while also creating unlocking new business opportunities, and enabling the development of new technical skills across the MSME ecosystem. The type of collaboration very much depends on the nature of existing relationships and the client profiles that a FI can build upon.
- **MSME ecosystems:** Integrating adaptation finance into larger infrastructure projects reflects an ecosystem-based approach. Standardised interventions (e.g., procurement, installation, maintenance and remarketing) can reduce technical complexity and enable scale. These supporting activities are opportunities for cultivating technical skills, creating livelihoods, and growing employment.

### Step 3. Initial product design:

The next step is to specify who qualifies for the loan and for what purposes and outline the first version of the financing package. This includes defining target sectors, climate exposures, and eligible uses of funds. Applying a climate lens ensures that products are focused on the client segments most affected by hazards and positioned to benefit from adaptation measures. This might include agribusinesses investing in water-efficient irrigation, MSMEs acquiring cold storage to reduce losses, or households upgrading to resilient housing materials.

Here, two success factors are critical:

- **Tailor-made product packages:** Climate adaptation products should reflect the FI's client base and sustainability strategy. A microfinance institution may focus on household resilience solutions, while commercial banks may focus on standardised adaptation solutions for SMEs or corporates, such as supply-chain resilience. Each FI should design packages that build on its strengths and create a competitive position in the market.
- **Pre-approved eligibility:** FIs should aim to minimise uncertainty around whether a borrower's investment qualifies as climate adaptation. This can be achieved by investing upfront in the development of a clear, positive list of eligible technologies, equipment and project types under the adaptation facility.

Such lists can be informed by publicly available platforms and refined to reflect the specific climate risks, sectors and geographic contexts in which the FI operates. This process can be supported through internal sustainability expertise and/or targeted technical assistance or capacity-building activities.

According to the European Investment Bank (EIB, 2025) and the European Bank for Reconstruction and Development (EBRD) (2025b), best practice approaches rely on *ex ante* eligibility determination, supported by standardised and transparent tools. Examples include the EIB's Green Eligibility Checker and the online Green Technology Selector deployed by the EBRD (Module 4). Such pre-approval systems establish upfront clarity on what qualifies as a green investment, reducing uncertainty for loan officers and borrowers alike. To maximise effectiveness, FIs may further refine green eligibility lists by identifying a targeted subset of investments that qualify as adaptation solutions under specific products. This refinement, based on sector, climate risk and geographic context, supports standardised application, faster eligibility assessment, and scalable origination. The localisation also makes sense for an impactful TA project that international development partners could support as a market readiness intervention. Some FIs are even piloting generative AI to improve the client experience in navigating eligibility rules.



## Box 2: Ebank Example: Climate projects

Established in 1983, the Export Development Bank of Egypt (EBank) is a state-owned FI dedicated to enhancing Egypt's export capabilities across agriculture, industry and commerce. The bank's business model emphasises support for SMEs, recognising their pivotal role in Egypt's economy. EBank offers a range of financial products, including corporate lending and syndicated loans, to both exporting and non-exporting industries (Ebank, 2023).

EBank actively finances green projects, including renewable energy, climate-smart agriculture, water conservation and waste management initiatives. To reduce the operational footprint, Ebank implements energy efficiency programmes, transitions to renewable energy and enhances resource efficiency. Measures include solar water heaters, digitalisation to reduce paper consumption, and optimised water management systems. The polyethylene terephthalate (PET) Recycling Loan Initiative also demonstrates EBank's support for the circular economy, providing 230 million Egyptian Pounds (EGP) in financing for recycling businesses.



Source: Ebank (2023).

### Step 4. Draft loan structure and terms:

Loan terms, such as grace periods, repayment schedules, pricing and collateral requirements, need to match client realities. A climate-smart approach

could involve tailoring these features to the variability of climate-exposed cash flows, for example, by offering seasonal repayment options, concessional rates through blended finance or collateral substitutes backed by guarantees.

**Table 2:** Loan structuring features relevant for adaptation finance in financial institutions

Loan Design Feature	Climate-Specific Application	Rationale for Adaptation Context
<b>Repayment scheduling</b>	Seasonal repayment aligned with agricultural cycles, tourism seasons or other variable cash flows from climate-exposed sectors	Reduces the probability of default linked to climate-related income variability
<b>Grace periods</b>	Contingent deferral mechanisms triggered post-disaster or during recovery periods	Provides liquidity buffer and portfolio stability under climate shock <b>scenarios</b>
<b>Concessional pricing mechanisms</b>	Application of blended finance to reduce interest rates on adaptation-related investments	Enhances affordability and uptake of adaptation technologies in risk-prone markets

Loan Design Feature	Climate-Specific Application	Rationale for Adaptation Context
<b>Collateral frameworks</b>	Substitution with guarantees, group liability or insurance-backed instruments	Addresses collateral constraints common among climate-vulnerable clients lacking formal assets
<b>Index-linked adjustments</b>	Loan terms contingent on predefined climatic thresholds (e.g., rainfall, temperature indices)	Internalises climate risk signals into credit contracts and mitigates systemic exposure
<b>Inclusion-oriented structuring</b>	Differentiated terms for underserved groups (e.g., women-led MSMEs, smallholders)	Supports equitable access while recognising heterogeneity in climate vulnerability profiles

**Step 5. Pilot and test the product:**

Before full rollout, adaptation products should be piloted with selected clients and relevant stakeholders. Applying a climate lens during testing ensures that the assessment goes beyond financial feasibility to consider real-world usability and uptake. For example, pilot studies can help determine whether farmers have reliable access to suppliers of drip irrigation technologies or whether cooperatives are interested in and able to adopt climate-smart cold storage solutions.

**Step 6. Develop marketing and operational tools:**

A successful rollout depends on clear messaging and robust systems. A climate-smart approach focuses on communicating product benefits in practical, client-relevant terms, such as reduced post-harvest losses, lower energy and cooling costs, and decreased operational disruptions from climate hazards, rather than abstract climate objectives, as well as training loan officers to understand these benefits and communicate them. Operational tools, such as eligibility checklists, green loan reporting templates, and advisory services, reinforce the adaptation focus. A key success factor here is ensuring that products are clear and compelling for borrowers. They should:

- deliver benefits that clients can easily understand and value,
- offer repayment profiles that reflect seasonal or variable income streams, and
- be delivered through channels that borrowers already trust and use.

These principles also guide marketing strategies: using simple, solution-oriented messages, demonstrating impact through early adopters, and aligning closely with clients’ most immediate concerns, such as mitigating drought risk and heat stress, reducing post-harvest losses and stabilising energy costs. Effective communication also depends on client engagement (see Chapter 3) and on training for loan officers and product staff, who must be able to translate technical climate solutions into relatable, bankable offers.

**Step 7. Roll out and monitor:**

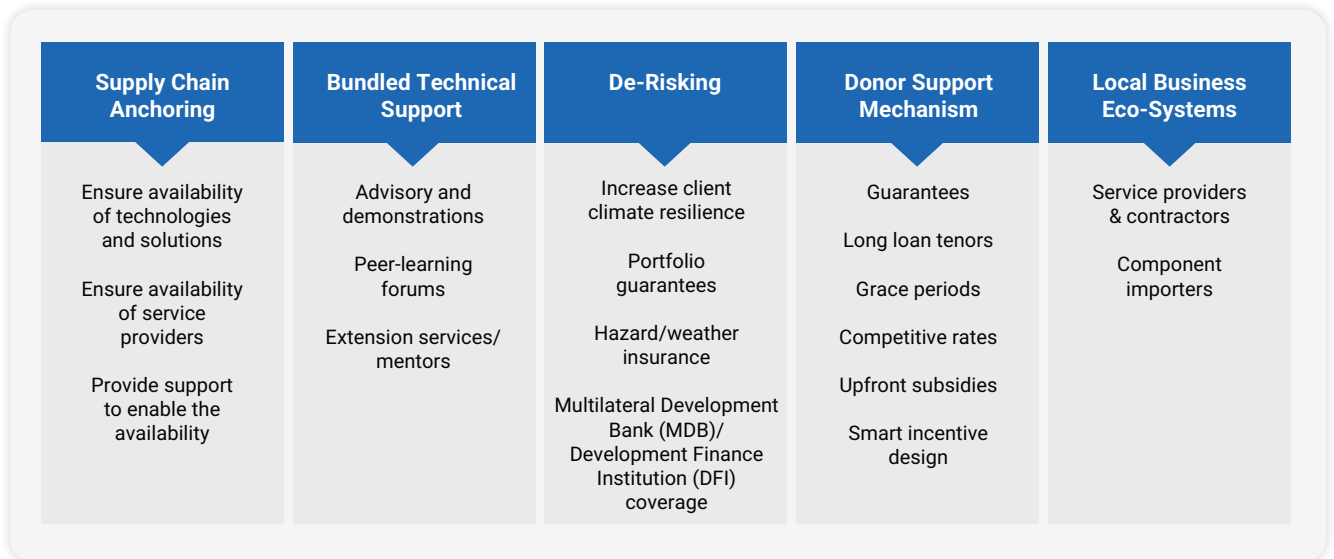
The final step is scaling the product while monitoring outcomes. A climate lens requires tracking not just financial key performance indicators (KPIs), such as repayment and portfolio quality, but also adaptation results, for example, improved yields, lower climate-related losses and increased client resilience. These metrics strengthen the case for concessional funding and continuous product improvement.

A key success factor at this stage is ensuring that climate-smart products are embedded into the FI’s existing credit risk cycle. Loan origination should include climate risk indicators, portfolio monitoring should track both financial KPIs and adaptation outcomes, existing early warning systems should be enhanced to reflect climate-related triggers, and recovery processes should account for the collateral and insurance features specific to adaptation lending. Closing the loop, lessons from performance monitoring should feed back into updated credit scoring, eligibility lists and product redesign. By

anchoring climate adaptation lending in the credit risk cycle, FIs ensure that new products are not treated as one-off initiatives but as part of the institution's

core business processes. **Figure 4** uses the example of SME lending and additional success factors in adaptation product design.

**Figure 4:** Success factors for climate adaptation product design



Source: Authors.

## What if a climate-smart product cannot be offered on fully commercial terms?

Certain climate resilience investments cannot be offered on standard credit terms. Long maturities, uncertain cash flows and limited repayment capacity often mean that even well-designed products fall short of bankability. For retail and MSME clients, the standard instrument for delivering climate adaptation finance will be a *repayable* loan, a finance lease or other senior credit instrument at (near-) commercial terms. The central challenge is therefore to turn a long-term investment in climate resilience into a loan that is bankable.

The solution lies in a simple, standardised technical design that keeps investment volume in line with the financial circumstances of the consumer and small business clientèle. When climate-smart products cannot be sustained on fully commercial terms, externally funded green credit facilities provide the enabling architecture to make them viable. Multilateral institutions such as EBRD (2025b) follow this approach. They channel sustainable-finance resources through partner FIs and combine concessional

funding, incentive mechanisms and technical assistance to support green and climate-resilient investments across MSMEs and households.

More generally, given the affordability and risk challenges of adaptation finance, the design of the financial product itself and the sub-borrower terms must leverage all available incentives and de-risking instruments to build a sustainable deal pipeline. The success of such products depends on how effectively they balance financial sustainability, risk sharing and market development support. The products include:

- ➔ **Concessional refinancing terms** to the FI, longer tenors, lower rates, and internal revolving of the funding following first use.
- ➔ **Partially green credit lines**. Under partially green facilities, only a portion of the credit line is initially earmarked for green or adaptation lending, with the remainder available for conventional MSME finance. Over time, FIs commit to increasing

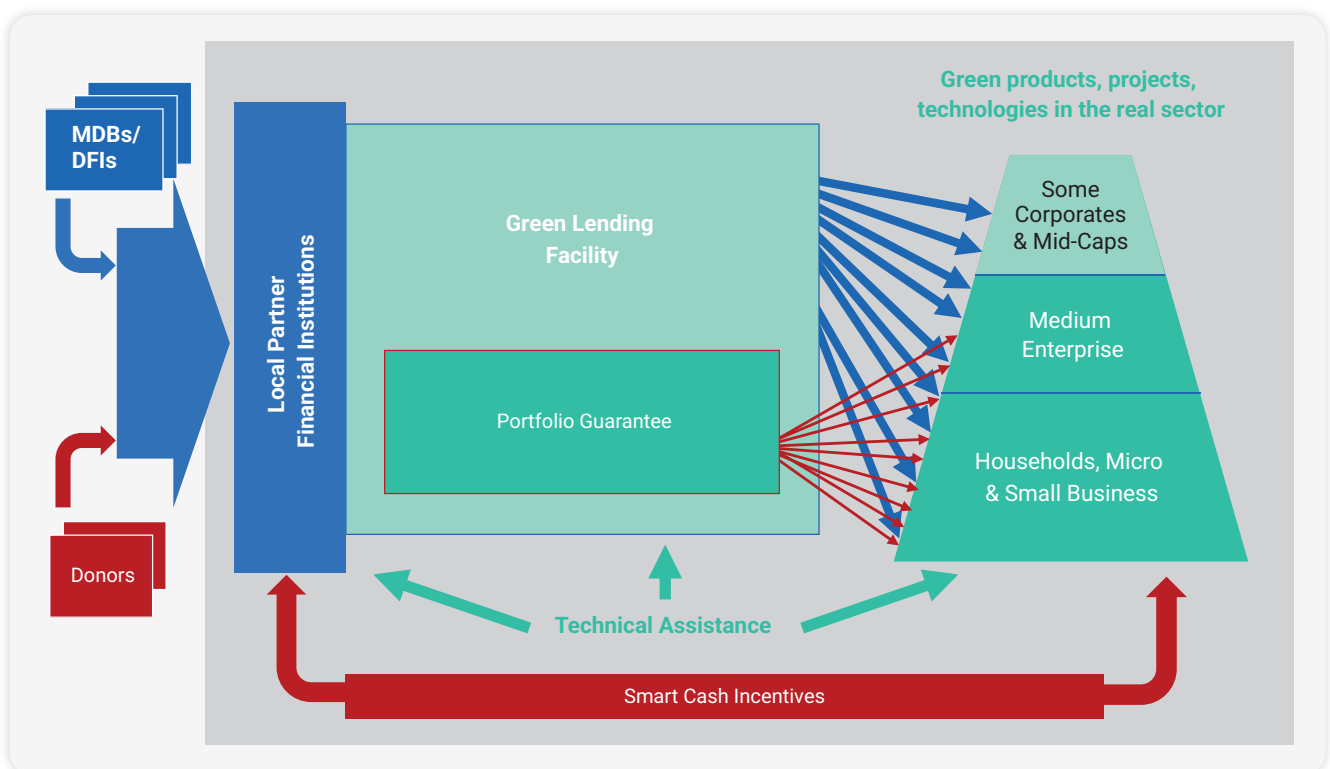
the green share, enabling gradual market development and internal capacity building without restricting lending volumes.

- **First loss portfolio guarantees** are supported by the European Union (EU), European Fund for Sustainable Development Plus (EFSD+) and other multilateral or national donors. A typical first-loss guarantee reimburses FIs for 70% of every loss incurred on covered end-beneficiary loans up to a pre-agreed loss cap of the portfolio. This subsidises the expected loss for the FI with the objective of moving more “almost bankable” loan proposals into the feasible space.
- **Cash incentives**, calculated as a percentage of the investment volume, are provided for eligible adaptation projects and disbursed directly to endborrowers once project implementation has been verified. These incentives, tailored to the sector, and the country context, help cover part of the upfront investment, lower the associated debt service, and enhance overall affordability. As a result, they make those projects that would otherwise not be feasible for borrowers under existing affordability constraints financially viable.

→ **TAs** will typically be co-funded by donor grants and address bottlenecks in the initial roll-out of climate adaptation facilities. In a minimal scope, TA supports the FI in administering the lending facility and accompanying portfolio guarantee in terms of eligibility conditions, drawdown process and reporting. The next level would be to guide technical and financial product development, analyse client needs, support supply chain partnerships and, more generally, build the adaptation finance deal pipeline.

**Figure 5** illustrates one example of an integrated climate adaptation facility that leverages all key success factors of the financial product design in a finely calibrated package: (a) a concessionary green lending facility for FIs, (b) a first loss portfolio guarantee covering green MSME exposures, (c) “smart” cash investment incentives and (d) TA provided to FIs and MSMEs. This illustration is deliberately comprehensive. In practice, not every facility will include all these elements. The actual design depends on local market needs, institutional capacity, and available donor resources.

**Figure 5:** Overview of an integrated climate adaptation facility



### Box 3: Smart cash incentive design in micro, small and medium-sized enterprise climate finance

Without complementary donor grants, the budget for client incentives in intermediate facilities consists essentially of the funding cost advantage conferred by the concessionary green lending facility. The EIB, for example, requires that partner FIs pass through a portion of financial advantage associated with EIB funding to end borrowers. This advantage may take the form of an interest rate reduction, typically ranged between 20 and 40 basis points (bps). This must be disclosed to the client and attributed to EIB support. (EIB, 2024).

A 50 bps per annum rate reduction is significant on large corporate project loans financed in a low base-rate currency. Larger borrowers also tend to evaluate financing proposals in terms of the effective cost of funds and other typical investment metrics like Internal Rate of Return (IRR) and Net Present Value. Smaller projects proposed by micro- and small businesses, however, react more strongly to highly visible lump-sum incentives.

This leads us to advocate for a “**Future Value Incentive**” that should be built into the contractual design of climate finance products in the retail and small business market. This mechanism would deliver the full combined benefit of a funding cost advantage and any other available cash resources from donors and additional marketing budgets mobilised internally by the partner FI.

**Example:** EUR 100,000 loan to a small business borrower, repayable in monthly equal instalments over five years at a standard interest rate of 10% per annum before the rate reduction. Conversion of an interest rate reduction of 50 bps per annum into a present value equivalent lump sum payment at the end of the loan schedule:

- The monthly payment at the standard rate would =  $PMT(0.1/12,60 - 100000) = \text{EUR } 2,125$ .
- After the 50-bps rate reduction, the instalment =  $PMT((0.1 - 0.005)/12,60 - 100000) = \text{EUR } 2,100$ .
- With the 10% original rate as a discount factor, this equates to a net present value =  $PV(0.1/12,60 - 2,100.19) = \text{EUR } 98,846$ , i.e., a present value equivalent saving of EUR 1,154.
- This can be restated as a future value equivalent cash payment of EUR 1,858 in five years at the 10% per annum standard client rate as  $1,154 * (1.1)^5 = 1,858$ .

There is the psychological effect that a small cash benefit appears more substantial when restated in future value terms with compound interest. More importantly, the future value cash benefit would only be paid to those borrowers who repay their loan as per the payment schedule without any arrears. The partner FI would write this feature into the end-borrower loan agreement such that “perfect pay” clients will receive the future value benefit by waiving an equivalent number of monthly instalments at the end of the contractual payment schedule. This is a powerful behavioural mitigant for the opportunistic default problem under the portfolio guarantee. Similar incentives have long been used in ordinary (non-green) microcredit operations in emerging markets.

Source: Authors.

## How can TA be strategically used across the climate lending facility lifecycle?

We define TA in the context of intermediated development finance as accompanying consulting services that are financed at least in part by grants offered by the DFI partner or development donors.

These advisory services are typically delivered by specialised consultants who bid for the contracts in competitive tenders. **Table 3** shows the main dimensions of TA in climate adaptation facilities.

**Table 3:** Technical assistance dimensions in climate adaptation facilities

Cluster	Technical Assistance Functions
<b>Facility design &amp; setup</b>	<ul style="list-style-type: none"> <li>Support MDBs or DFI sponsors in configuring the facility, creating roll-out strategies and signing partner FIs.</li> <li>Guide FI management/boards in articulating or updating climate finance strategies.</li> </ul>
<b>Administration &amp; operations</b>	<ul style="list-style-type: none"> <li>Efficiently administer the facility under MDB/DFI agreements.</li> <li>Advise on organizational adjustments, streamlining lending processes, and restructuring sales incentives.</li> </ul>
<b>Product &amp; ecosystem development</b>	<ul style="list-style-type: none"> <li>Design technical and financial terms of end-beneficiary products.</li> <li>Develop supply chain and ecosystem aspects of pre-approved adaptation packages.</li> </ul>
<b>Market development &amp; client engagement</b>	<ul style="list-style-type: none"> <li>Create awareness, educate target clients and build a bankable project pipeline.</li> <li>Liaise with regulators, public institutions and community organizations.</li> </ul>
<b>Engineering &amp; quality assurance</b>	<ul style="list-style-type: none"> <li>Provide engineering support, monitoring and quality assurance pre- and post-implementation.</li> <li>Develop and maintain eligibility guidance.</li> </ul>
<b>Data &amp; risk integration</b>	<ul style="list-style-type: none"> <li>Plan data development strategies and integrate climate risk drivers into credit risk assessment and portfolio management.</li> </ul>

Source. Authors.

The objective is to build up in-house capacity at the FI, strengthen market readiness, and then gradually phase out or refocus the TA support. Importantly, TA is never intended as permanent outsourcing of core operational functions but as a catalyst for mainstreaming climate adaptation into the institution's own processes. Investments in project design,

eligibility tools, and local technical capacity create long-term value by lowering equipment sourcing costs, improving quality standards, and fostering local ecosystems of service providers. These outcomes make adaptation technologies more affordable and accessible in the mass market, while reducing dependency on subsidies.

TA investments in adaptation project design, eligibility tools, and local technical capacity can translate into cost-efficient sourcing of green equipment, for example, and foster local business eco-systems that will, in turn, drive the mass-market uptake of adaptation technology. **Table 4** provides an example of possible topics structured into a TA catalogue from which development partners and implementing FIs can assemble a customised package that suits their climate finance strategy and level of experience

in this new market. The phases in the columns below (pre-disbursement, during disbursement and post-disbursement) refers to the disbursement of the underlying climate lending facility offered to the partner FI. The table presents the example of an FI that is relatively new to green finance and is currently rolling out the first dedicated climate adaptation facility for the retail and small business segment.

**Table 4:** Overview of technical assistance topics

	Essential	Recommended	Complementary
Stakeholders	Pre-Disbursement	During Disbursement	Post-Disbursement
<b>MDB - Facility Structuring</b>	<ul style="list-style-type: none"> <li>Design facility components (lending, guarantees, TA, incentives).</li> <li>Eligibility criteria.</li> <li>Facility pricing structure.</li> </ul>	<ul style="list-style-type: none"> <li>Eligibility verification and allocation process.</li> <li>Build an interactive eligibility rule book.</li> <li>Facility marketing support.</li> </ul>	<ul style="list-style-type: none"> <li>Facility-wide verifications, reporting and monitoring.</li> </ul>
<b>FIs</b>	<ul style="list-style-type: none"> <li>Business development.</li> <li>Pipeline generation.</li> <li>Compliance &amp; risk.</li> <li>Facility reporting.</li> </ul>	<ul style="list-style-type: none"> <li>Product development.</li> <li>Pipeline generation.</li> <li>Monitoring and reporting.</li> </ul>	<ul style="list-style-type: none"> <li>Impact documentation.</li> <li>Structured in-house feedback generation.</li> </ul>
	<ul style="list-style-type: none"> <li>Initial portfolio screening.</li> <li>Staff training &amp; certification.</li> <li>Paris Agreement alignment assessment.</li> <li>Environmental &amp; social assessment.</li> <li>ISSB orientation.</li> <li>Green lending standards.</li> </ul>	<ul style="list-style-type: none"> <li>Staff training &amp; certification.</li> <li>ISSB implementation.</li> <li>Green lending standards.</li> <li>Climate risk analytics.</li> </ul>	<ul style="list-style-type: none"> <li>Staff training &amp; certification.</li> <li>ISSB refreshers.</li> </ul>

Stakeholders	Pre-Disbursement	During Disbursement	Post-Disbursement
<b>FIs</b>	<ul style="list-style-type: none"> <li>• Climate risk strategy.</li> <li>• Market communication.</li> <li>• Adaptation finance training.</li> <li>• GHG Accounting training.</li> </ul>	<ul style="list-style-type: none"> <li>• Sales force boosters.</li> <li>• Stakeholder conferences.</li> <li>• Using carbon credits or co-benefits in adaptation project design.</li> </ul>	
<b>MSMEs</b>	<ul style="list-style-type: none"> <li>• Design of pilot projects.</li> <li>• Recruitment of early MSME champions.</li> <li>• Business development support (with sector focus).</li> </ul>	<ul style="list-style-type: none"> <li>• Technical advice on project design and credit application.</li> <li>• Monitoring and reporting.</li> <li>• Due diligence support.</li> </ul>	<ul style="list-style-type: none"> <li>• Continued idea generation and transformation of project leads into loan applications.</li> <li>• Impact reporting.</li> </ul>
	<ul style="list-style-type: none"> <li>• Stakeholder workshops and awareness-raising.</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing events.</li> <li>• Stakeholder workshops and awareness-raising.</li> </ul>	<ul style="list-style-type: none"> <li>• Gather impact testimonials.</li> </ul>
	<ul style="list-style-type: none"> <li>• Publish localised adaptation finance handbook.</li> <li>• Financial literacy training.</li> <li>• Climate finance/Green Ecosystems Academy.</li> </ul>	<ul style="list-style-type: none"> <li>• Publish SME Decarbonization guide.</li> <li>• Financial literacy training.</li> <li>• Climate finance/Green Ecosystems Academy.</li> </ul>	<ul style="list-style-type: none"> <li>• Feedback workshops.</li> <li>• Climate adaptation project incubators.</li> </ul>

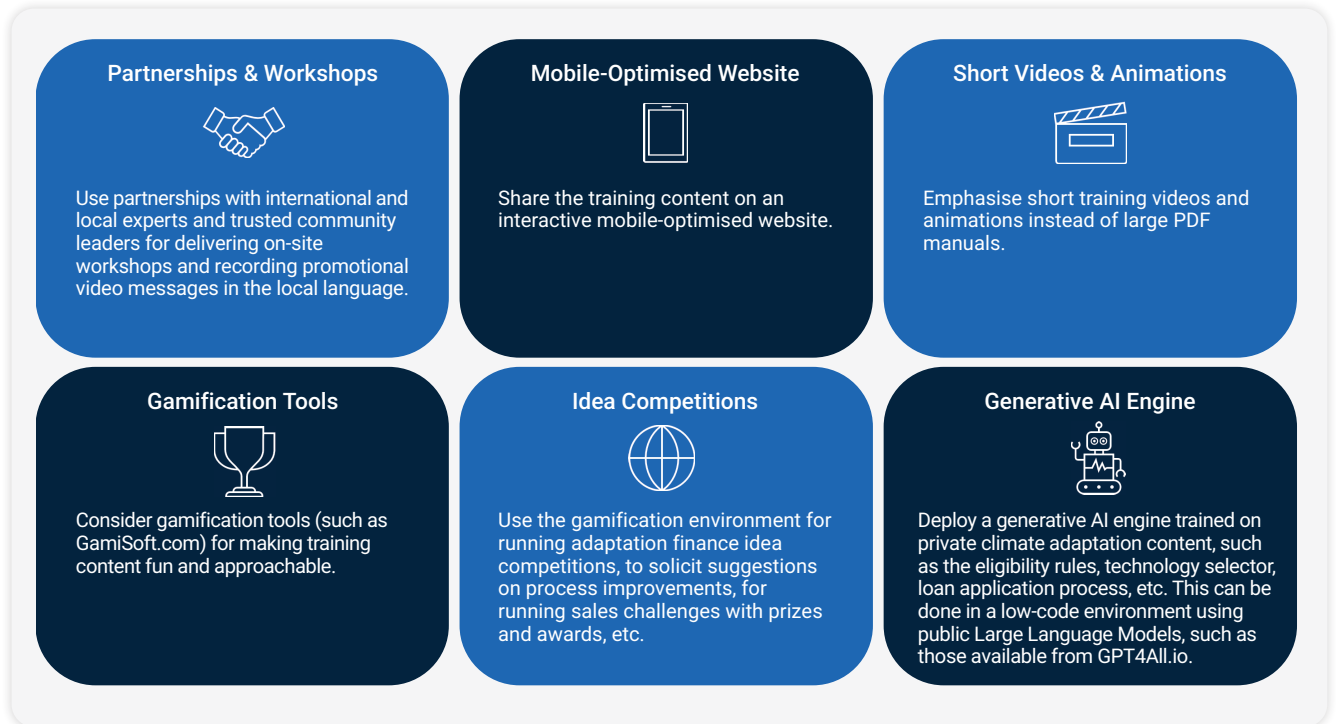
Source: Authors.



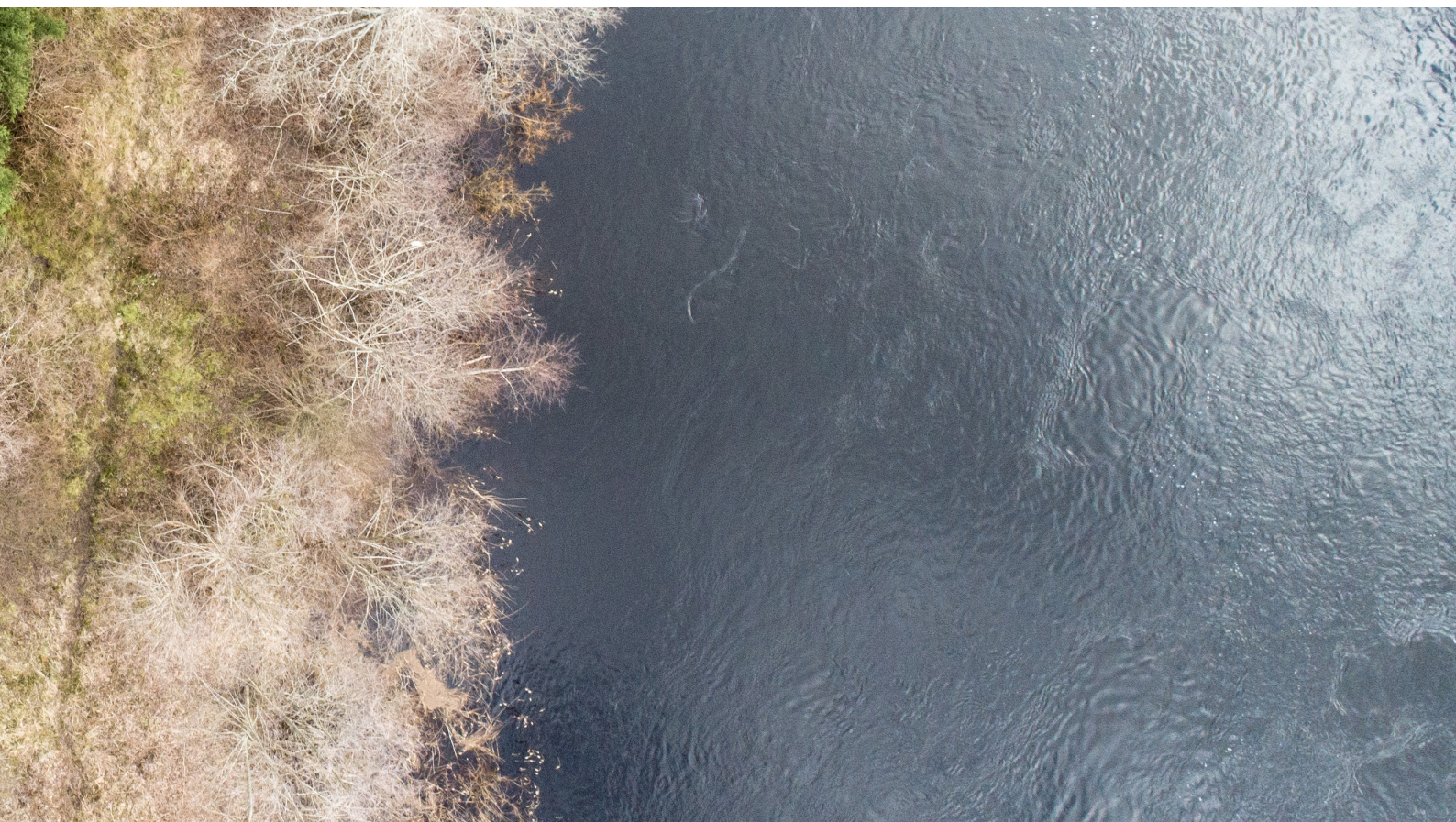
TA budgets should be invested in designing the content and delivery channels for capacity-building and awareness-raising interventions. **Figure 6** shows

some good practice elements of modern training delivery that should be part of an effective TA programme.

**Figure 6:** Good practice elements of modern training delivery



Source: Authors.



## 03

# Engaging Clients in the Climate Adaptation Journey

Client engagement is a core pillar of adaptation finance and a necessary condition for scaling climate-resilient lending. While earlier modules focused on identifying climate vulnerabilities, designing products, and understanding borrowers, this chapter shifts the focus towards addressing engagement strategies across a broader spectrum of clients. Climate adaptation requires clients to change practices, adopt new technologies, and make forward-looking investments. These actions depend heavily on trust, guidance and support from their FI. This chapter provides a holistic engagement framework that supports clients across different market segments and provides a suggestion on how FIs can position themselves as trusted partners. It concludes with a step-by-step engagement approach and a set of client engagement fact sheets.

**This chapter addresses the following questions:**

- **Why is client engagement relevant for FIs in adaptation finance?**
- **What are the key barriers in client engagement for climate adaptation, and how can they be overcome?**
- **How should FIs engage clients on adaptation investment?**
- **What are the key steps in client engagement and their outcomes?**



**Target group:** Sustainability/ ESG Department; Corporate/ Wholesale, SME and Retail Banking Departments; Credit, Product and Structured Finance Departments; Corporate Communications and External Affairs Department.

# Client Engagement Approaches

## Why is client engagement relevant for FIs in adaptation finance?




In this context, client engagement refers to the process of building relationships, identifying needs and providing the necessary financial and non-financial support to manage and address climate risks while achieving long-term resilience. It goes beyond selling financial products. Effective engagement involves understanding how climate

change affects different client segments, helping clients identify viable adaptation measures, and linking them to the suppliers, technicians, extension agents, and institutions needed to implement climate-resilient solutions. A practical example of effective client engagement in adaptation finance is illustrated in **Box 4**.

### Box 4: Raising awareness through client engagement

The CRDB Bank is implementing the Tanzania Agriculture Climate Adaptation Technology Deployment Programme, which aims to strengthen climate resilience in agriculture. Supported by US\$ 100 million from the Green Climate Fund and an equal co-financing commitment from CRDB, the programme has already deployed its first US\$ 35 million tranche to finance agricultural adaptation investments, subsidise Weather Index Insurance and provide targeted technical assistance. By December 2024, 248 million Tanzanian shillings (TZS) had been disbursed, with over TZS 80 billion in the pipeline. The programme is anchored in strong partnerships, including Memorandums of Understanding with the Ministry of Agriculture and collaboration with stakeholders such as Financial Sector Deepening Tanzania, the Office of the Vice President, Tanzania Insurance Regulatory Authority and the Tanzania Meteorological Authority. These alliances have been critical for effective roll-out and scaling across Tanzania's climate-vulnerable communities.

A central success factor has been proactive outreach to clients and stakeholders. Through regional awareness campaigns, training sessions, and information-sharing events, the programme has improved understanding of climate-smart agriculture, lending opportunities, and adaptation technologies. This client engagement strategy has boosted uptake of financial products and fostered stronger institutional collaboration, ensuring that climate adaptation finance reaches those who need it most.

Region/Group	Awareness Activity	Outcome/Impact
<b>Central Zones</b>	Dissemination of climate-resilient technologies (drought-resistant seeds, irrigation, water management)	 Improved farming stability and productivity
<b>National &amp; Zonal</b>	Training workshops for farmers, extension officers, and bank staff	 Enhanced institutional understanding of climate finance.
<b>Highlands Zone</b>	Physical awareness sessions in 10 out of 23 branches	 1,000+ community members reached; 437 loan applications; 15 new groups benefited from GCF support.

Source: CRDB Bank (2024).

Robust client engagement helps FIs anticipate climate-related stresses on income and operations, support clients in identifying appropriate adaptation investments, and offer tailored products that protect both livelihoods and loan performance. Strong engagement offers benefits for FIs, such as:

- **Climate risks and financial stability:** Engaging clients on adaptation helps FIs manage climate risks, reduce defaults, improve repayment capacity and protect loan portfolios. It also helps FIs meet climate risk regulations.
- **Financial inclusion and resilience:** Climate adaptation finance helps vulnerable groups, like smallholder farmers, SMEs and municipalities,

become more resilient, promoting financial inclusion and sustainable development.

- **Market expansion and client loyalty:** Offering tailored climate adaptation products builds long-term client relationships, expands market reach, and fosters client loyalty.
- **Access to climate finance:** Effective engagement provides access to adaptation finance from MDBs, DFIs, donors, and climate funds to mobilise private finance.

Key reasons for clients to engage with FIs on climate adaptation finance are summarised in **Table 5**.

**Table 5:** Key reasons for clients to engage with financial institutions

Client benefit	Reasons
<b>Access to Finance for Resilience</b>	Tailored loans or insurance to invest in climate-resilient practices, infrastructure and technologies.
<b>Risk Reduction</b>	Tools like weather-indexed insurance or adaptive inputs can protect livelihoods and reduce losses.
<b>Business Continuity and Growth</b>	Adaptation investments reduce climate-related disruptions, enabling long-term stability and competitiveness.
<b>Technical Advice and Partnerships</b>	FIs can connect clients to non-governmental organizations (NGOs), government programmes, and technical service providers
<b>Stronger Financial Profile</b>	Improved resilience enhances creditworthiness and access to better loan terms.

Source: Authors.

## What are the key barriers in client engagement for climate adaptation, and how can they be overcome?

While it would be ideal for clients to independently initiate climate adaptation investments, this remains relatively uncommon, particularly for individuals and MSMEs. Unlike large corporates, smaller-scale clients often lack awareness, data and technical capacity to

assess climate risks and identify appropriate adaptive actions. **Figure 7** outlines the key barriers FIs face in engaging clients on climate adaptation finance, along with practical strategies to overcome each challenge and strengthen client relationships.

**Figure 7:** Overcoming barriers in client engagement

Barrier	Description	How to Overcome
Lack of Awareness and Knowledge	Many clients are unaware of climate risks or adaptation finance options available.	<b>Education and Awareness Campaigns:</b> FIs can run workshops, webinars, or community outreach programs to educate clients about climate risks and adaptation solutions.
Inadequate Financial Literacy	Clients may lack the financial literacy to understand the benefits and structuring of adaptation finance.	<b>Training and Capacity Building:</b> Offer financial literacy training sessions to clients to improve their understanding of financial products and how they can benefit from adaptation finance.
Unclear or Complex Product Offerings	Clients may find adaptation finance products complex or difficult to understand.	<b>Simplified Products and Communication:</b> Develop easy-to-understand product brochures and financial advisory services to help clients navigate available solutions.
Perceived High Costs	Clients may view adaptation investments as too expensive or not a priority compared to immediate financial needs.	<b>Flexible Financial Solutions:</b> Offer low-interest loans, microfinance products, or grants to lower the perceived cost. Use blended finance or concessional terms to reduce the upfront burden.
Perceived Low Return on Investment (ROI)	Clients may not see immediate or tangible returns from adaptation investments.	<b>Highlight Co-benefits and Long-Term Value:</b> Focus on co-benefits, such as increased productivity, reduced risks, and improved business continuity, to demonstrate the value beyond just financial returns.
Short-Term Focus	Clients may prioritise immediate needs over long-term investments in resilience.	<b>Link to Immediate Benefits:</b> Emphasise how climate resilience improves immediate business operations (e.g., through improved yields, energy savings, or reduced downtime due to climate events).
Limited Access to Data and Climate Risk Information	Clients may lack reliable data to assess their climate risks, making it hard to justify investment in adaptation.	<b>Data Partnerships and Local Expertise:</b> Collaborate with meteorological agencies, research institutions, or NGOs to provide clients with accurate, localised climate risk data and analysis.
Collateral Requirements	Many smallholders and SMEs may not have sufficient collateral to access traditional adaptation finance.	<b>Alternative Collateral Models:</b> Offer innovative collateral models like using future crop yields, insurance policies, or group guarantees to mitigate the lack of tangible assets.

Source: Authors.

## How should FIs engage clients on adaptation investment?

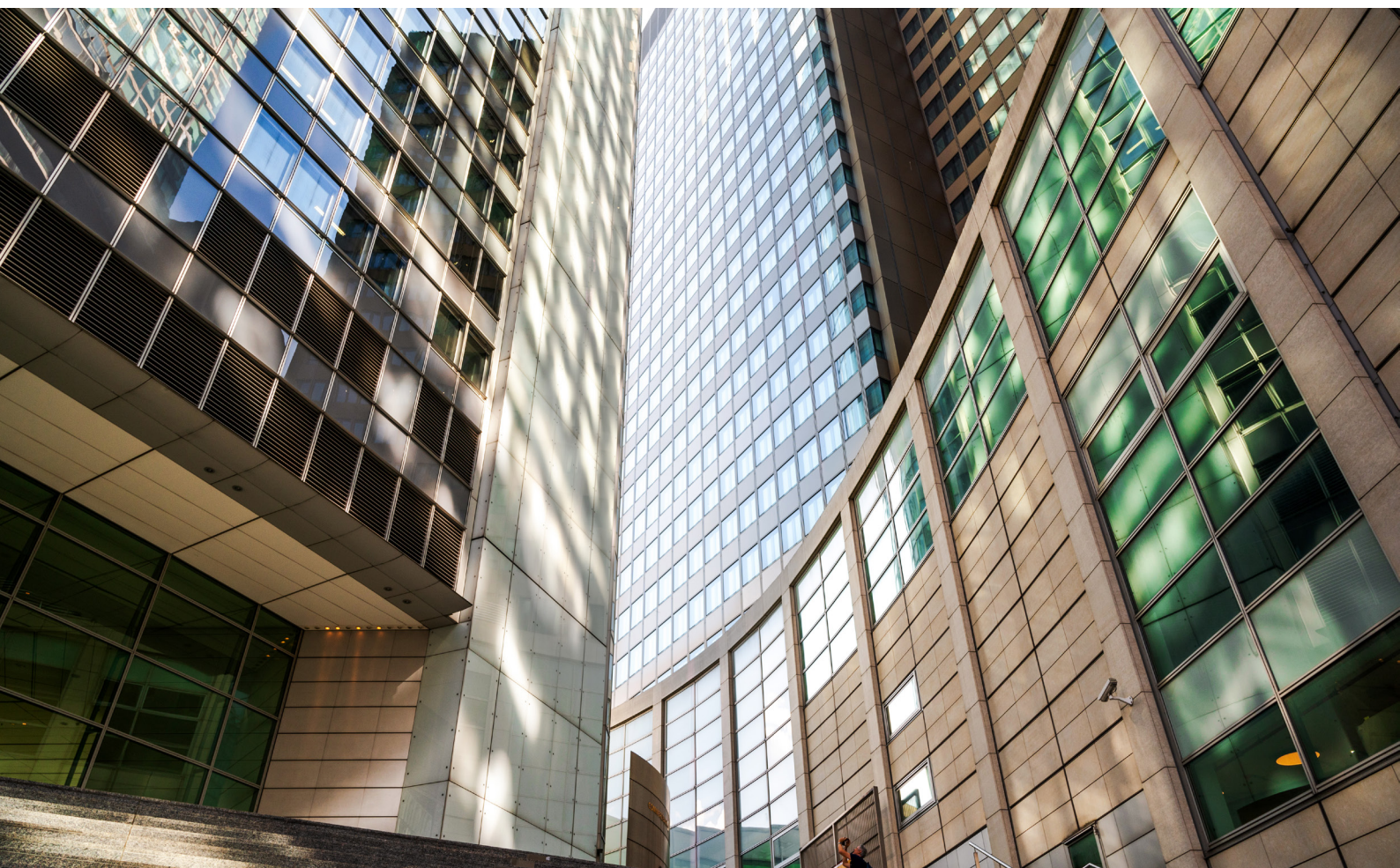
FIs have a unique opportunity to act as enablers of climate resilience across a range of sectors due to their deep understanding of their borrowers' business needs. Supporting adaptation begins with initiating conversations with clients about the long-term sustainability of their operations, understanding how climate risk is likely to affect them and their long-term plans. Rather than viewing climate risks solely as liabilities, FIs can

reframe these risks as opportunities to engage borrowers with tailored advisory services, technical guidance or co-development of solutions that safeguard both business continuity and future loan performance. By helping clients identify and respond to climate threats within their own operations, FIs stimulate demand for adaptation finance and strengthen the resilience and viability of their portfolios over time.

## What are the key steps in client engagement and their outcomes?

Client engagement can serve several outcomes, such as a deeper understanding of clients' business and financing needs or a stronger strategic partnership. The step-by-step approach below can serve as a reference to engage and inform clients on climate adaptation measures. Relationship managers should determine the most relevant entry point based on their

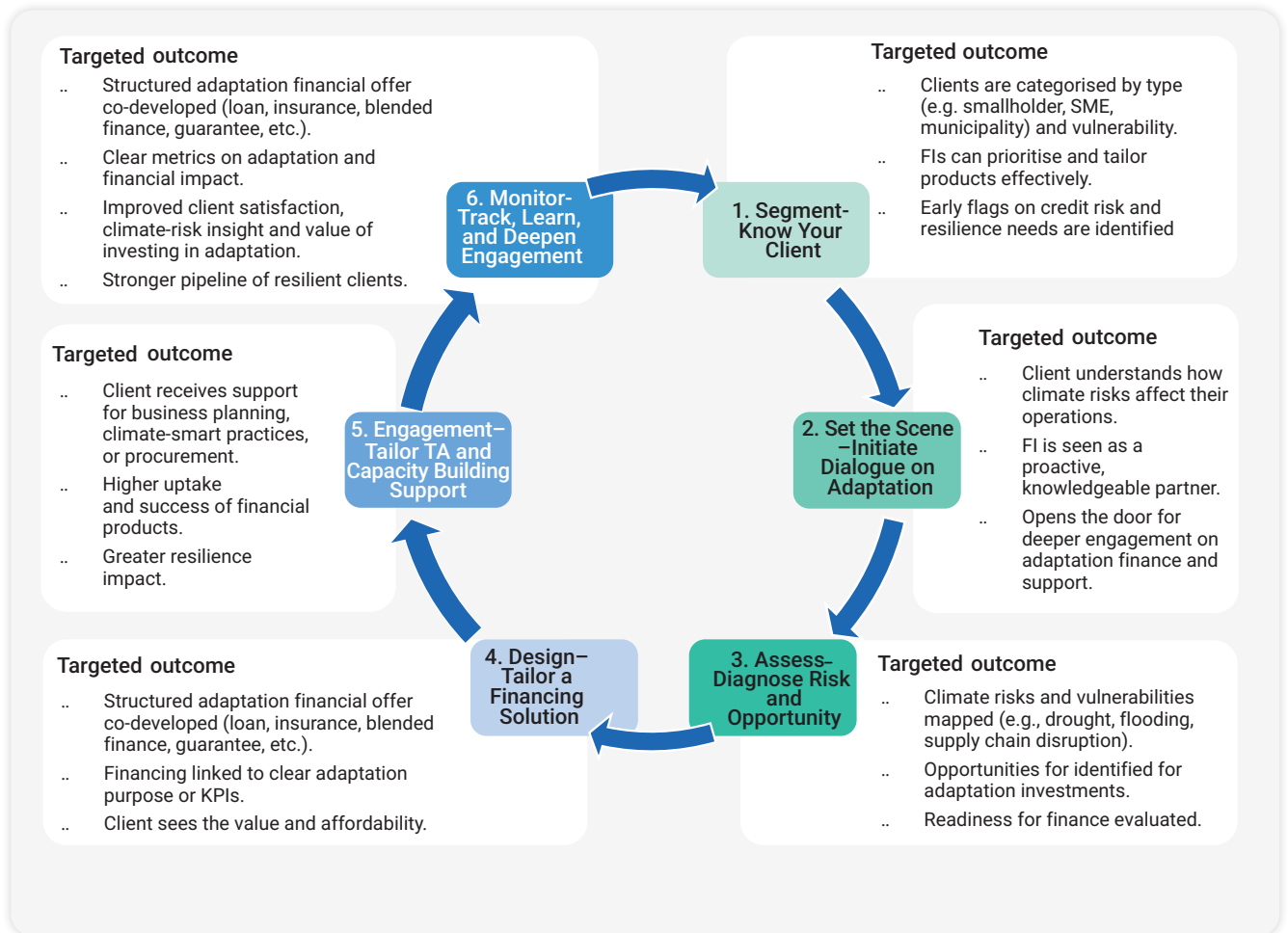
existing knowledge and interactions with each client, recognising that the journey may not be linear. As clients progress in their adaptation journey, the RMs can return to the step-by-step approach to incorporate more advanced elements and stay updated on adaptation pathways and financing considerations.



# Step-by-Step Approach in Client Engagement

Effective approaches to client engagement often follow six key steps tailored for adaptation finance by FIs (see **Figure 8**). The style of the approach is similar to the bank-client engagement guide in the context of the net-zero transition from the University of Cambridge Institute for Sustainability Leadership (2021).

**Figure 8:** Step-by-step guide for client engagement



Source: Authors.

## Step 1: Segment – Know Your Client

**Purpose:** The first step in client engagement is segmentation (e.g., using the borrower typology in Module 4). This involves categorising clients based on their climate vulnerabilities, financial needs and ability to adapt. FIs need to understand the different borrower types as each has unique characteristics and needs regarding adaptation finance. By using this segmentation, FIs can tailor their approach to specific client types, which enables them to offer the right products, services and guidance when meeting the clients (see Module 4 for adaptation opportunities per borrower and sector).

### Outcomes of this phase:

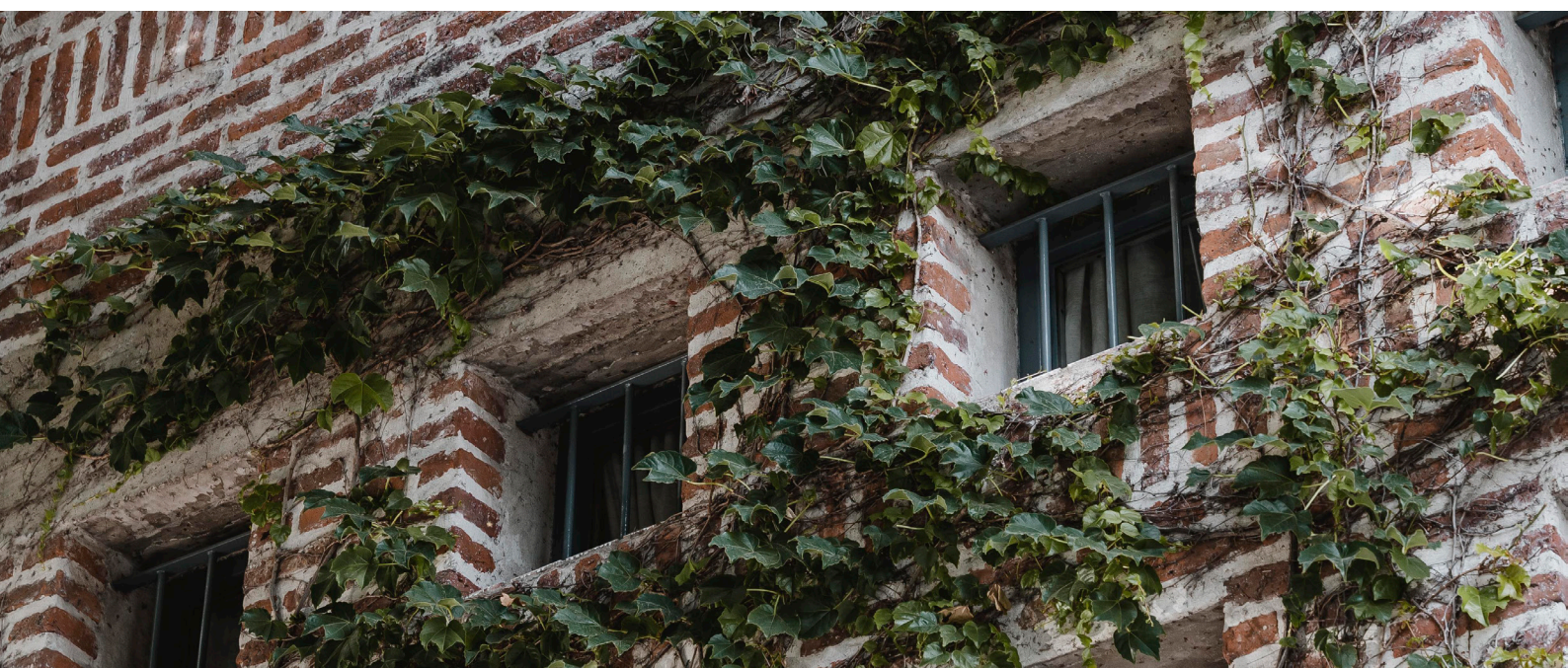
- Clients are categorised by type (e.g., smallholder, SME, municipality) and vulnerability
- FIs can prioritise and tailor products effectively, approaching clients with relevant solutions or questions
- Early identification of climate-related credit risks and resilience gaps

### Wider bank collaboration:

- **Collaboration with credit and risk teams to integrate climate vulnerability into scoring systems.**
- **Coordination with product development to design client-specific adaptation finance instruments.**
- **Input from sustainability/climate teams to ensure alignment with the bank's ESG strategy**
- **Support from IT/data management teams to map climate exposure by segment and region.**

### External partners:

Climate data providers (e.g., International Fund for Agricultural Development, the Consultative Group on International Agriculture Research, national meteorological agencies), Technical Assistance providers (e.g., Deutsche Gesellschaft für Internationale Zusammenarbeit, United Nations Capital Development Fund, Global Center on Adaptation [GCA]), Sector specialists (e.g., agricultural extension services, industry associations), development finance institutions (e.g., Green Climate Fund, MDBs) for vulnerability assessments and co-financing opportunities.



## Step 2: Set the Scene – Initiate Dialogue on Climate Adaptation

**Purpose:** Initiate meaningful conversations with new or existing clients by introducing climate adaptation as a core business topic. This step is about building awareness, aligning the client's risk landscape, and demonstrating FI's role as a knowledgeable, long-term partner. It creates a foundation for trust by showing how climate risks affect the client's operations and highlighting opportunities for resilience through strategic investment, not just compliance.

### Outcomes of this phase:

- Client and FI develop a shared understanding of climate vulnerabilities affecting the client's operations, location, and sector.
- FI helps the client connect climate risk to tangible business issues like revenue volatility, asset protection, supply chain continuity, and market positioning.
- Clients recognise the FI as a strategic partner in financing and unlocking resilience-enhancing solutions, including access to grants or concessional capital.
- Adaptation is framed as a strategic investment, aligned with growth, risk management, and innovation.
- The dialogue lays the foundation for tailored advisory, financial structuring and technical support in the next engagement steps.

### Wider bank collaboration:

- **Consistent messaging from executive leadership on climate risk and resilience.**
- **Sector-specific briefing notes or client playbooks on climate impacts and adaptation options.**
- **Awareness-building campaigns and frontline staff training in climate risk language**
- **Inclusion of adaptation in the RM advisory toolkits and KPIs, such as percentage of adaptation finance products in the entire portfolio, green asset ratios, number of customers with green assets (green-related customers), partnerships and collaborators that have been onboarded, and percentage of deposits generated by these green-related customers**
- **Clear signposting to internal experts (e.g., climate risk, agrifinance, SME teams).**

### External partners:

Technical Assistance Providers (e.g., GIZ, UNDP, GCA), Local Chambers of Commerce, Industry Associations, Government agencies, and National Designated Authorities for GCF, NGOs or platforms offering localised climate data (e.g., the Climate and Development Knowledge Network, World Wildlife Fund (WWF), Alliance for a Green Revolution in Africa, Development partners offering co-financing or grants (e.g., MDBs, DFIs).

## Step 3: Assess – Diagnose Climate Risk and Adaptation Opportunities

**Purpose:** This step helps FIs assess the specific climate risks that each client faces. FIs must gather data on the local climate risks impacting their clients and assess the vulnerability of the borrower's assets, operations and livelihoods, as discussed in Module 2 and in Chapter 2 above. Once key risks are understood, the FI can identify and prioritise where adaptation investments are most needed. These needs may vary by client segment, for example, upgrading farming practices for smallholders, strengthening supply chains for SMEs, and investing in resilient infrastructure for municipalities. In addition to adaptation needs, it is important to consider the co-benefits, which can make the case for investment more attractive and viable. Module 3 provides an overview of risk modelling techniques that can be scaled to the specific resources and circumstances of the FI. Chapter 2 of this Module highlights the data requirements and practical simplifications for mapping physical and transition climate risks into MSME portfolios.

### Outcomes of this phase:

- Climate risks and vulnerabilities are mapped for each client (e.g., drought, flood, extreme heat, market disruption).
- Clients gain an increased understanding of the relevance of climate risks to their business model and bottom line.
- Priority areas are identified for adaptation investment or business model adjustments.
- Co-benefits (e.g., improved yields, water efficiency, input cost savings) are documented to support the investment case.
- Clear entry points for financial products (e.g., loans, guarantees) and/or advisory services are agreed upon with the client.

#### Wider bank collaboration:

- **Risk and data teams support with the analysis of geospatial data, climate hazard overlays and regional risk maps.**
- **Credit teams assess how climate risks affect repayment capacity and how adaptation measures can enhance creditworthiness.**
- **Product teams explore how existing products can be tailored to meet emerging adaptation needs.**
- **TA partners and agriculture-extension teams help gather localised data and conduct field assessments when needed.**
- **Sustainability teams help apply internal climate risk tools and ensure alignment with overall ESG strategy.**

#### External partners:

Technical assistance providers (e.g., GIZ, Food and Agriculture Organisation [FAO], UNDP, SNV Netherlands Development Organisation [SNV], GCA), government extension services, local research institutions (e.g., universities), regional climate hubs or meteorological agencies.

## Step 4: Design – Tailor a Financing Solution

**Purpose:** After identifying a client’s climate risks and adaptation needs, the next step is to design a fit-for-purpose financing solution that aligns with the client’s risk profile, business model, and capacity to implement resilience measures. The financing solution should be positioned not just as a source of capital, but as a tool to strengthen the client’s long-term viability and competitiveness in the face of climate change. The type of solution will vary depending on the borrower type; for example, smallholders may require microloans bundled with insurance and advisory support, while SMEs may benefit from equipment finance linked to resilient inputs or technology upgrades (see the Factsheet later in this chapter).

For larger clients such as municipalities or corporates, structured finance solutions or project finance may be appropriate, particularly when backed by concessional or blended finance. FIs should also consider product features that respond to climate variability, such as seasonal repayment schedules, grace periods, or weather-indexed insurance. Digital delivery (e.g., via mobile platforms) can further enhance access and reduce costs for vulnerable segments.

Ultimately, FIs must see their role as more than just lenders; they must act as trusted partners and facilitators of resilience. RMs are uniquely positioned to identify climate vulnerabilities during routine engagements and to collaborate with clients in identifying viable, financially feasible adaptation options that enhance long-term outcomes for all parties involved.

### Outcomes of this phase:

- A tailored financial product or service is designed to address the client’s specific adaptation needs (e.g., climate-resilient loans, credit lines, insurance, leasing).
- Climate indicators and performance metrics (e.g., yield improvement, water use efficiency, flood protection) are integrated into financial terms and monitoring requirements.
- The client understands the value proposition and sees the affordability and return of investing in adaptation.
- Blended finance, donor funding, or guarantee mechanisms are explored and linked to reduce costs or risks.

### Wider bank collaboration:

- **Product development team adapts products to suit climate-resilient needs.**
- **Product development customises financial offerings, bundling finance with technical support or climate services.**
- **Legal and compliance review new products and draft documentation aligned with sustainability-linked finance standards.**
- **Marketing and communications teams help frame the offer with clear messaging on resilience, value and innovation.**
- **Impact and ESG teams define outcome indicators and suggest mechanisms for reporting adaptation benefits.**
- **Risk management provides input on how resilience investments mitigate credit risk and outlines safeguards.**
- **Treasury and blended finance teams source concessional funding or guarantees from donors or DFIs.**
- **Syndication or structured finance units help pool resources for large or public-sector adaptation projects.**
- **Partnership and donor relations teams engage with climate funds (e.g., GCF, Adaptation Fund) and philanthropic actors.**

### External partners:

Insurance and reinsurance providers (e.g., for crop or weather-indexed insurance), public or private concessional financiers (e.g., GCF, MDBs, UNCDF), development partners and donors (e.g., DFIs such as Foreign and Commonwealth Development Organisation, The Kreditanstalt für Wiederaufbau, etc.), technical assistance providers (e.g., GCA, GIZ, FAO, local agriculture-extension services), sector experts (e.g., irrigation, logistics, renewable energy) to help co-design bundled solutions

## Step 5: Engagement – Tailor TA and Capacity Building Support

**Purpose:** In this step, the FI enhances the financing solution by offering tailored TA, climate information services and capacity-building support that aligns with the client's adaptation investment. This is especially important for clients who may lack the technical know-how or institutional capacity to implement resilience measures effectively. TA support can include advice, tools to assess risks and corresponding adaptation solutions, infrastructure planning, or training on new technologies.

FIs play a critical role in connecting clients with relevant technical service providers, climate data, and tools, either directly or through partnerships with donors, development agencies, NGOs, or public institutions. For FIs, TA helps de-risk adaptation finance, increases product uptake, and ensures that the financed adaptation measures deliver tangible impact. This phase also reinforces the FI's role as a trusted advisor, not just a lender.

### Outcomes of this phase:

- Relevant TA and advisory services are identified and bundled with financing where appropriate.
- Client capacity gaps are addressed (e.g., in implementation, maintenance, monitoring).
- Linkages established with local climate information or technical providers (e.g., meteorological services, climate vulnerability assessments, crop/weather apps, engineering and technical consulting for adaptation solutions)
- Partnerships formed with public or donor-funded programmes to reduce client costs, risk of investment, and support implementation.
- Better client outcomes and improved credit performance due to increased technical support.

### Wider bank collaboration:

- **RM teams coordinate with TA providers during project implementation.**
- **Sustainability and ESG teams map external TA opportunities and ensure alignment with internal sustainability goals.**
- **Training and learning teams develop or promote capacity-building offers for clients (e.g., digital literacy, climate-smart practices).**
- **Marketing and communications raise awareness of TA offerings and build client trust.**
- **Credit/risk teams monitor how TA uptake mitigates implementation or default risks.**
- **Partnerships teams seek out and structure collaborations with DFIs, research bodies and government schemes.**

**External partners:**

Technical assistance providers and think tanks: GCA, GIZ, SNV, FAO, CGIAR (e.g., the International Crops Research Institute for the Semi-Arid Tropics, International Institute of Tropical Agriculture, local NGOs, training institutes and capacity development organizations (e.g., Frankfurt School of Finance and Management, African Rural and Agricultural Credit Association, African Banker training platforms), government extension services and meteorological agencies, climate data and analytics platforms (e.g., Climark, World Meteorological Organization, local agriculture-climate information services), DFI and climate funds (e.g., GCF, MDBs).

## Step 6: Monitor – Track, Learn, and Deepen Engagement

**Purpose:** Ongoing follow-up and monitoring are crucial to ensure that climate adaptation solutions are effectively implemented and achieve the desired outcomes. By tracking the financial performance of clients and verifying the contractual implementation of the adaptation measures, FIs can assess whether clients are making progress in becoming more resilient. Resilience will manifest, i.e., as improved agricultural yields, reduced climate-related losses, better water resource management, and enhanced infrastructure resilience. Monitoring also serves as a vital feedback loop that provides real-time insights into how well the adaptation solutions are working, highlighting areas for improvement. This information helps FIs to fine-tune their products and services, keeping them aligned with clients' evolving needs, and enhancing the value of adaptation finance offerings.

**Outcomes of this phase:**

- Improved client satisfaction and increased understanding of climate risks, fostering the value of continued investment in adaptation.
- Measurable resilience progress in terms of tangible outcomes, such as improved crop yields, reduced climate-related disruptions, or enhanced infrastructure resilience.
- Identification of scaling opportunities for adaptation solutions, particularly in underserved client segments or new geographies.
- Stronger client pipeline as the FI establishes a reputation for delivering successful, adaptable financial solutions.
- Continuous feedback loops help improve products and enhance client satisfaction through iterative design.

**Wider bank collaboration:**

- ➔ **Monitoring and evaluation teams integrate specific adaptation indicators (e.g., resilience metrics, climate risk reduction).**
- ➔ **RMs and client support staff gather qualitative feedback from clients during interactions and at follow-up stages.**
- ➔ **Impact and ESG teams track and report on the adaptation impact of financial products, potentially creating case studies and public reports.**
- ➔ **Digital and data units assist in automating reporting processes and providing clients with mobile-based tools for ongoing performance tracking.**
- ➔ **Product development teams review outcomes and feedback to refine and adjust financial offerings to better meet client needs.**
- ➔ **Risk management uses adaptation performance data to assess credit risk and adjust portfolio strategies where necessary**

### External partners:

Academic/research or think tank partners, external communications teams, digital platforms, or app developers.

## Client Engagement Fact Sheets

Building on the borrower classification introduced in Module 4, the remaining chapter provides client engagement fact sheets for various borrower types. Please note that the adaptation and TA measures, as

well as the engagement strategies mentioned in the factsheet, are just examples and can be expanded or tailored as needed.

## Examples for Individuals and Households

**Examples:** Urban and rural residents

**Characteristics:** Low- to mid-income, high exposure to climate risks (e.g., floods, heatwaves, water scarcity), limited access to formal finance

**Lending Considerations:** Microfinance, community-based finance, consumer lending, small ticket sizes, short-to-medium term, flexible repayment options

### Adaptation Measures:

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Infrastructure &amp; Building Resilience</b>			
<b>Elevating homes and drainage installation</b>	Infrastructure upgrades to reduce household flood exposure and damage	Consumer loans, microfinance and public subsidies	Flooding, heavy rainfall
<b>Flood-resilient building materials and upgrades</b>	Use of materials and construction techniques that withstand flooding	Home improvement loans, green building finance	
<b>Water Management Solutions</b>			
<b>Household rainwater tanks</b>	Improve local water storage to enhance water access during dry periods	Microfinance, household-level subsidies, water credits	Water scarcity, drought
<b>Greywater reuse systems</b>	Recycle water for non-potable use to reduce pressure on the freshwater supply	Blended finance, household adaptation grants	

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Energy-efficient cooling technologies (e.g., air conditioning, heat pumps, fans, etc.)</b>	Provide cooling solutions during extreme heat,	Consumer loans, micro-leasing, pay-as-you-go (PAYGO) models	Heat stress
<b>Roof and wall insulation; shading systems</b>	Improve thermal comfort and reduce indoor temperatures and energy costs	Energy efficiency loans, green home finance	
<b>Energy Access &amp; Efficiency</b>			
<b>Solar kits and clean cookstoves</b>	Provide reliable off-grid energy and reduce dependence on high-emission fuels	PAYGO models, carbon finance and development grants	Energy stress
<b>Low-energy lighting</b>	Improve energy efficiency and reduce power costs in energy-scarce areas	Micro-leasing, energy access funds	

**Tips for engagement:**

- **Simplify Messaging:** Package adaptation finance in a specific product that is affordable, simple and urgent.
- **Use Storytelling:** Showcase testimonials from residents who benefited from climate loans.
- **Use Local Language and Symbols:** Partner with trusted community figures and media, communicating in local languages; use visual aids (e.g., photos of drought or adaptation solutions). Avoid jargon, for example, say “Protect your home from floods” instead of “Enhance resilience”.
- **Connect to People:** Focus on personal security, family health and home protection. Relate adaptation to everyday risks (e.g., flood-damaged homes, rising food prices).

**Engagement activities:**

- **Climate literacy:** Raise awareness on climate risks and adaptation benefits using relatable stories and analogies.
- **Bundle climate adaptation services with basic financial products:** For example, combine loans with microinsurance (weather-triggered payout) and energy savings calculators or link with remittance flows and social protection programmes.
- **Digital delivery channels for remote areas:** Use mobile apps or short message service (SMS) for product education, loan application, digital green loans with PAYGO options, and reminders.
- **Climate Resilient Housing Scorecards:** Use a mobile app to self-assess home risk, linked to financing.

**Channels:**

- **Mobile:** SMS/unstructured supplementary service data, interactive voice response calls.
- **Community-based:** Women's groups, religious leaders, and school-based campaigns.
- **Media:** radio, community theatre, local television.
- **Institutional:** Microfinance Institutions (MFIs), NGOs, remittance agents, social protection delivery platforms.
- **Door-to-door campaigns** via community health workers or local promoters.

**Examples:**

- **Green Heart sustainable living in Kilifi (Kenya):** Eco-housing pilot with water harvesting and solar cooling involving local artisans (NTV, 2023).
- **Kigali's green neighbourhood (Rwanda):** Affordable, climate-smart housing integrating rainwater systems and passive cooling (Greencity Kigali, 2025).

- **Bo-Kaap affordable housing in Cape Town (South Africa):** Integrated green building techniques and community training in retrofitting (SA Affordable Housing, 2021).

**Other resources:**

- **UNCDF LoCAL:** Local Climate Adaptive Living Facility, with performance-based grants to households (UNCDF, 2025).
- **Build Change** – Guidelines for climate-resilient retrofitting of low-income homes for resilient housing retrofits (Build Change, 2021, 2024).
- **Resilient Housing Toolkits** by the World Bank: Practical tools for assessing housing vulnerability and guiding upgrades (World Bank, 2022).

## Examples for Smallholder Farmers

**Examples:** Individual or family farms

**Characteristics:** Often informal, highly climate-vulnerable

**Lending Considerations:** Small loans, mobile disbursements, group lending, flexible repayment linked to harvest cycles

**Adaptation Measures:**

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Climate-Resilient Inputs &amp; Practices</b>			
<b>Loans for drought-tolerant seeds</b>	Improve resilience to dry conditions with stress-tolerant crop varieties	Bundled loans via cooperatives or MFIs, with in-kind inputs and advisory	Drought
<b>Flood-resilient seed varieties</b>	Use of seeds that can survive waterlogging or delayed planting	Microfinance and input credit via agricooperatives	Flooding

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Bio-pesticide access</b>	Safer pest control alternatives to reduce crop loss	Input finance and vouchers via cooperatives and agridealers	Pest and disease pressure due to increased temperature
<b>Crop rotation support</b>	Promote soil and pest management through diverse planting cycles	Advisory bundled with input loans via extension agents and demo plots	
<b>Water Management Solutions</b>			
<b>Drip irrigation systems</b>	An efficient water delivery system for crops under limited rainfall	Bundled finance (equipment and credit) through agri-input providers and MFIs	Drought
<b>Rainwater harvesting systems</b>	Capture and store rainwater for later agricultural use	Product-linked loans and subsidies delivered via MFIs and agritech platforms	Unpredictable rainfall
<b>Infrastructure &amp; Land Management</b>			
<b>Mulching kits</b>	Reduce soil moisture loss and increase drought resilience	Bundled loans via agrico-ops or MFIs, paired with training services	Drought
<b>Raised seed beds</b>	Elevate crops above flood levels to prevent waterlogging	Cooperative loans or microfinance delivered via farmer groups	Flooding
<b>Soil erosion barriers</b>	Physical structures or plantings to reduce runoff and maintain soil	Smallholder credit via local co-ops and technical assistance partners	
<b>Digital &amp; Information Tools</b>			
<b>Mobile-based weather forecasts</b>	Provide real-time weather information for better decision-making	Subscription or bundled digital services via agritech apps and cooperatives	Unpredictable rainfall
<b>Pest scouting apps</b>	Digital tools to monitor and report pest outbreaks	Freemium or subsidised access via extension agents or agritech platforms	Pest and disease pressure due to increased temperature
<b>Risk Transfer &amp; Insurance Solutions</b>			
<b>Index-based weather insurance</b>	Protect farmers financially from losses due to irregular rainfall	Insurance bundled with input loans, distributed through MFIs and mobile platforms	Unpredictable rainfall

### Engagement activities:

- **Agri-extension and climate-smart practices:** Partner with public and private extension agents to promote climate-smart agriculture (CSA) techniques.
- **Bundle input packages:** Offer “kits” combining certified seeds, fertiliser, pest control, finance and insurance.
- **Digital Climate Services:** Provide localised SMS weather alerts, early warnings, and forecast-linked planting advice via platforms like iShamba, WeFarm, or Farm.ink.
- **Climate Credit Score:** Use soil health and adaptation practices to improve lending terms.
- **Weather-Indexed Lending:** Disburse top-ups if rainfall drops below a threshold.
- **CSA Loyalty Programmes:** Reward farmers with cheaper inputs if they adopt conservation tillage, tree planting or mulching.

### Tips for engagement:

- **Simplify messaging:**
  - Emphasise productivity, input efficiency and future-proofing their yields.
  - Promote adaptation finance as a risk-reduction tool or an opportunity to strengthen the income base.
  - Avoid jargon like “resilience”; rather, use terms like “improve your yield,” or “get a good harvest even in dry seasons”.
- **Trust and familiarity first:**
  - Leverage farmer groups, cooperatives, and agrodealers as trusted intermediaries.
  - Share peer farmer success stories, demo plots.
- **Value-based messaging:**
  - Emphasise “Better yields, lower risks, and improved soil for your children”.
  - Frame loans or insurance around planting/harvest dates: “Protect your next harvest”.

### → Use examples

- **Use a practical, seasonal lens.** Tie finance (disbursement/repayment) to planting cycles, yield protection, and soil conservation.
- **Use return-on-investment (ROI)** charts and demo plots.

### Channels:

- **On-the-ground:** Extension agents, cooperatives, agrodealers, demo plots, and village-based promoters.
- **Digital:** Agritech platforms (e.g., iShamba, WeFarm), WhatsApp groups, radio and SMS alerts.
- **Institutional:** Agricultural fairs, agri-NGOs, public-private extension programmes.

### Examples:

- **Abi Finance (Uganda):** Finances climate-smart agriproducts via commercial banks and microfinance institutions. Focus on farmer groups and blended finance. Abi Finance provides short, animated videos to raise awareness on climate change and its products.
- **Microfinance for Ecosystem-based Adaptation: Options, Costs and Benefits (Latin America).** Provides an overview of 40 measures with cost, adaptation benefits and a short description (United Nations Environment Programme, 2020).
- **One Acre Fund bundles (Kenya, Nigeria, Rwanda, Burundi, Tanzania, Malawi, Zambia, Uganda and Ethiopia):** Bundles loans with drought-resistant seeds, CSA training, and extension support. Farmers are repaid in instalments during harvest. Engagement with farmers is through village-based promoters.
- **YAPU Digital NbS Solutions (Latin America, East Africa):** subscription-based software platform for digitalisation of lending processes from FIs that includes nature-based solutions and climate data validation (GCA, 2020).

**Other resources:**

- **IFAD ASAP:** Adaptation for Smallholder Agriculture Programme providing financing, case studies and tools.
- **CGIAR/CCAFS Climate Tools:** Climate-smart agriculture tools and village models; includes climate-smart agriculture profiles.
- **World Food Programme Climate Services:** Forecasts, early warnings, and adaptive safety nets for farmers.
- **FAO Climate-Smart Agriculture Sourcebook:** In-depth guide to implementing CSA practices with finance links.

## Examples for SMEs and Cooperatives

**Examples:** Producer groups, farmer cooperatives, processors, aggregators, SME traders, local agri-enterprises

**Characteristics:** Semi-formal, embedded in value chains, limited access to long-term capital or collateral, potential to scale impact through members or suppliers

**Lending Considerations:** seasonal or irregular cash flows, require collateral support, require working capital, and equipment loans

### Adaptation Measures:

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Water Management &amp; Irrigation</b>			
<b>Drip irrigation systems</b>	Improves water use efficiency, ensuring resilient food production despite rainfall variability	Equipment finance, lease-to-own	Drought, erratic rainfall
<b>Water harvesting tanks</b>	Captures and stores rainwater to support crop irrigation and reduce dependence on erratic rainfall	Equipment finance, lease-to-own	
<b>Drainage upgrades</b>	Prevents waterlogging and protects assets and farmland from excess rainfall	Working capital or long-term loans	Flood
<b>Resilience of the Supply Chain</b>			
<b>Weather-resilient processing infrastructure</b>	Maintains processing continuity and food quality during weather fluctuations	Equipment finance, lease-to-own	Drought, erratic rainfall

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Resilience of the Supply Chain</b>			
<b>Elevated or waterproofed storage</b>	Minimises damage to crops and inputs during flood events	Working capital or long-term loans	Flood
<b>Cold chain enhancement</b>	Reduces post-harvest losses and maintains food quality during extreme weather events	Working capital or long-term loans	
<b>Climate-resilient drying facilities</b>	Reduces spoilage using passive or energy-efficient designs in high heat/humidity conditions	Asset financing with grace periods	Heat & humidity
<b>Heat-tolerant warehousing</b>	Maintains product quality and reduces the need for energy-intensive cooling	Asset financing with grace periods	
<b>Improved ventilation systems</b>	Supports temperature and humidity control to preserve agricultural products	Asset financing with grace periods	
<b>Transition to Climate-Smart Inputs</b>			
<b>Transition to climate-smart inputs (e.g., organic composting, cover crops, intercropping services)</b>	Enhances soil health, sequesters carbon, reduces emissions, and promotes biodiversity for long-term resilience	Input finance linked to the offtake contracts	Multi-hazard

**Engagement activities:**

- **Climate risk self-assessment tools** (e.g., risk dashboards, ROI calculators).
- Provide **overview of adaptation solutions** (incl. costs, benefits, dealer providing the solution, risks).
- **Business continuity planning** tailored to sector and region.
- **Bundled support:** Loans + TA + tech demonstrations (e.g., storage redesign or smart irrigation).
- **Workshops and peer-learning forums** led by buyers, agribusiness mentors or lead firms.
- Use buyer contracts, co-op guarantees or value chain anchoring as **collateral**.
- Collaborate with **anchor firms** for de-risking.
- Incentivise the adoption of **adaptive technology**.
- Encourage **co-investment** from members or donors.

## Tips for engagement

### → Position adaptation as business continuity

- Frame adaptation finance as a profitability and continuity tool, not just a climate measure.
- Highlight cost savings, avoided losses, or productivity gains. Frame as futureproofing against market disruptions.

### → ROI-driven messaging

- Use dashboards or calculators to show “before and after”, for example, savings or avoided losses, stable supply or increased market value.

### → Peer Benchmarking

- Share stories of nearby cooperatives that protected yields or retained contracts thanks to climate-smart investments.
- Use sector-specific examples

### → Leverage anchor firms: Engage through supply chains: buyers and processors can co-invest or guarantee repayment.

### → Make it visual: Use sector-specific visual guides (e.g., coffee drying infrastructure, storage redesign) and video explainers during webinars or fairs.

### → Speak the SME language: Use terms like “protect your market access”, “cut your downtime”, or “increase your shelf life”. Avoid “climate resilience” jargon.

## Channels:

### → Value Chain Anchors: Buyers, processors, certification schemes (e.g., Fairtrade), anchor-led programmes.

### → Digital and Mobile Platforms: WhatsApp Business groups, SMS alerts, fintech apps, agritech platforms (e.g., iShamba).

### → Extension and TA Channels: Agri-extension services, lead farmers, input suppliers, NGO field agents.

### → Events and Media: Webinars, newsletters, agrifairs, local radio, demo days.

## Other resources:

### → [International Finance Corporation \(IFC\)](#): How Zambeef is powering jobs, communities, and food security in Zambia.

### → [Global Innovation Lab for Climate Finance](#): Pilot tools for SME-focused climate finance instruments.

### → [GCF Private Sector Facility](#): Offers SME readiness support through financial intermediaries.

### → Case study on [ECLOFs Climate Smart Agriculture Dairy Loan](#), a Climate Smart Agriculture Dairy Loan programme, enabling farmers to access affordable loans for climate-resilient practices (ECLOF Kenya, 2018).

## Examples for Service Providers

**Examples:** Contractors, irrigation tech firms, and logistics providers

**Characteristics:** Provide enabling services for adaptation

**Lending Considerations:** Working capital and asset-backed loans

**Adaptation Measures:**

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Contractor</b>			
<b>Flood-resistant construction materials</b>	Building materials designed to withstand flood impacts, reducing damage to infrastructure	Equipment finance, project financing and construction loans	Flooding
<b>Climate-resilient housing</b>	Housing designed to resist climate stresses like storms, floods and heat	Equipment finance, project financing and construction loans	Flooding, heat stress
<b>Disaster-resistant infrastructure</b>	Infrastructure engineered for durability against extreme weather events	Equipment finance, project financing and construction loans	Flooding, extreme weather
<b>Irrigation Tech Firms</b>			
<b>Solar-powered irrigation systems</b>	Renewable energy irrigation reduces fossil fuel use and increases water efficiency	Equipment finance, lease-to-own and working capital loans	Drought, erratic rainfall
<b>Water harvesting tanks</b>	Systems for rainwater capture and storage to improve water availability	Equipment finance, lease-to-own and working capital loans	Drought, erratic rainfall
<b>Weather-resilient processing equipment</b>	Processing machinery built to operate reliably under variable weather conditions	Equipment finance, lease-to-own and working capital loans	Droughts and flooding
<b>Logistics Providers</b>			
<b>Climate-resilient transportation networks</b>	Robust transport routes and systems designed to operate in adverse climate conditions	Trade finance, supply chain financing and invoice financing	Flooding and extreme weather
<b>Robust logistics infrastructure for agri-inputs</b>	Facilities and systems that ensure a steady supply of agricultural inputs despite climate disruptions	Trade finance, supply chain financing and invoice financing	Flooding and drought
<b>Temperature-controlled storage for perishable goods</b>	Cold chain infrastructure to reduce spoilage and maintain food quality	Trade finance, supply chain financing and invoice financing	Heat Stress and flooding
<b>Combined: Contractors, Irrigation Tech Firms, and Logistics Providers</b>			
<b>Energy-efficient cooling systems</b>	Energy-efficient cooling solutions for storage and processing	Working capital loans, digital financing platforms and microloans	Heat stress and drought

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Combined: Contractors, Irrigation Tech Firms, and Logistics Providers</b>			
<b>Water-efficient irrigation technologies</b>	Advanced irrigation tech to reduce water use and improve efficiency	Working capital loans, digital financing platforms and microloans	Drought and erratic rainfall
<b>Climate-smart warehouses</b>	Warehousing is designed to be resilient against climate impacts and optimise energy use	Working capital loans, digital financing platforms, and microloans	Heat stress and flooding
<b>Weather forecasting tools</b>	Tools providing climate and weather data to optimise operations and reduce risks	Working capital loans, digital financing platforms and microloans	Erratic rainfall and extreme weather

### Engagement activities:

- **Business development support:** Help clients strengthen their business models to scale climate-smart solutions.
- **Market linkage facilitation:** Connect clients with off-takers, cooperatives and government schemes for climate-smart services.
- **Demonstration or pilot financing:** Offer concessional finance for early adopters to showcase adaptation solutions.
- **Performance-based incentives:** Provide interest rebates or better terms for verified use of adaptive technology.
- **Support for green certification:** Assist clients in accessing sustainability certifications to tap new markets.
- **Knowledge sharing and peer learning:** Organize webinars, demo days and field visits highlighting successful peers or viable adaptation technologies and services.

### Tips for engagement

- **Position adaptation as business growth:**
  - Frame adaptation finance to launch or expand profitable climate-smart products and services.
  - Highlight potential new revenue streams.

### → Highlight value chain impact:

- Show how clients enable farmer resilience through their services (e.g., tech, logistics, irrigation).
- Position firms as value chain multipliers delivering climate-smart services.

### → Visualise business opportunities:

Use data or examples to illustrate increased revenues, market access and cost savings.

### → Promote scalable partnerships:

Link clients to government programmes, anchor firms, or extension services to support expansion and credibility.

### Channels:

- **Industry networks and forums:** Business-to-business (B2B) networks, agribusiness forums, supplier networks.
- **Digital platforms and marketplaces:** Digital platforms like AgroMall, Twiga Foods, Tulaa, or Hello Tractor, Fintech and AgriTech apps that enable business matchmaking or service delivery.
- **Information and communications:** Fintech and Information Communication Technology (ICT) sector newsletters, email campaigns, sector-specific bulletins, or partner distribution lists.

**Examples:**

- [BFA Global Inclusive Tech Solutions](#) focuses on fintech and inclusive digital solutions to improve resilience in underserved populations, offering valuable lessons for integrating financial services into climate adaptation strategies.
- The [Ghana Agriculture and Agribusiness Platform](#) is an integrated and interoperable web-based platform that provides agribusiness value chain actors with information, insights, inputs, agronomic practices, markets, and other resources to enhance coordination, transparency, interaction, tracking, monitoring and reporting in real-time.

**Other resources:**

- [GSMA AgriTech Hub](#) offers insights on how digital agriculture services and business models can enhance farmer engagement and resilience. It helps in understanding how digital tools can be integrated into adaptation finance for SMEs.
- [GSMA Agritech Toolkit](#) provides practical guidance for deploying mobile-enabled services, including digital finance and weather advisory tools; it is critical for supporting SMEs in the agricultural sector.
- [SEforALL – Cooling for All Solutions Guide](#) offers solutions for affordable, sustainable cooling, which is essential for SMEs in sectors like agriculture, processing and food storage under climate stress.

## Examples for Corporates (Mid to Large)

**Examples:** Agribusinesses, food processors, developers

**Characteristics:** Bankable, regulated entities

**Lending Considerations:** Structured/project finance, long-term lending

**Adaptation Measures:**

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Large-scale water management systems (e.g., efficient irrigation, stormwater control)</b>	Infrastructure that improves water availability and flood control under climate stress	Project finance, blended finance (e.g., concessional and commercial loans), and public-private partnerships (PPPs)	Drought, flooding and water scarcity
<b>Supply-chain climate-risk mapping and resilience upgrades</b>	Enhancing the robustness of suppliers through assessment and adaptation investments	Corporate lending, ESG-linked credit lines and sustainability-linked loans	Extreme weather events, supply chain disruptions and temperature extremes
<b>Diversification of climate-vulnerable sourcing regions</b>	Reducing exposure by expanding procurement to less climate-exposed areas	Long-term working capital, value chain finance and structured trade finance	Drought, flooding, cyclones and heatwaves

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Green-certified processing/storage infrastructure (e.g., solar cold storage)</b>	Climate-resilient, energy-efficient infrastructure for perishable goods	Green loans, leasing models, results-based finance (linked to verified impact or certification)	Heatwaves, energy insecurity and spoilage risk due to temperature rise

### Engagement activities:

- **Climate risk self-assessment tools** (e.g., dashboards, ROI calculators).
- **Support to meet regulatory disclosure requirements:** Assist in fulfilling obligations like risk and materiality assessments.
- **Technical assistance for adaptation project design:** Provide expertise in developing effective adaptation initiatives.
- **Offer incentive-linked loans** (e.g., interest rebates for verified adaptation investments).
- **Workshops and peer-learning forums** hosted by buyers, lead firms, or ESG experts, focusing on climate risks and investment strategies, sector examples.
- **Encourage co-investment** from private investors, development partners, or facility members to scale capital.

### Tips for engagement

- **Adaptation finance is integral to ESG strategy:**
  - Position adaptation as integral to ESG goals and compliance.
  - Emphasis on regulatory readiness, reputational risk management and branding.
- **Emphasise supply chain resilience:** Highlight how adaptation measures secure supply chains against climate risks.
- **Adaptation as opportunity:** Emphasise how proactive investment can protect margins and maintain investor confidence.

### → Use analytical, data-driven storytelling:

- Employ risk maps and **scenario analysis** aligned with frameworks like Task Force on Climate-Related Financial Disclosures (TCFD).
- Use sector case studies, dashboards and risk-return models.

### → Offer incentive-linked loans:

Provide financial incentives, such as interest rebates, for verified adaptation investments.

### Channels:

- **Professional and Financial Networks:** Corporate bankers, investor briefings, Chamber of Commerce, ESG/sustainability newsletters, sector-specific sustainability conferences.
- **Digital and Communication Channels:** LinkedIn campaigns, email campaigns, company intranets and B2B portals.

### Examples:

- **CRDB's Green Bond Loan (Tanzania):** CRDB provides loans to individuals, SMEs, and corporates with green projects or business proposals in the renewable energy, sustainable agriculture, clean transport, waste recycling, sustainable building, energy efficiency technologies, and sustainable production and distribution of clean and safe water and wastewater management.
- **ABSA Group Limited (South Africa):** a bank with headquarters in South Africa that offers financial services across the African continent. ABSA has reported its climate risks aligned with the TCFD framework since 2021.

**Other resources:**

- [WWF's Report](#) on the importance of the TCFD framework for South African companies and investors.

## Examples for Infrastructure project companies

**Examples:** PPPs for irrigation, energy, transport

**Characteristics:** Highly structured, long-term planning and asset cycles, often with multi-stakeholder processes

**Lending Considerations:** Blended/project finance, multilateral co-funding, climate-aligned safeguards

**Adaptation Measures:**

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Urban Developers / Public-Private Partnership Consortia</b>			
<b>Green urban infrastructure (permeable pavements, bioswales, green corridors)</b>	Enhances flood control, reduces urban heat island effects, and improves liveability	Green bonds, blended finance	Flooding, heat stress and urban heat islands
<b>Transport</b>			
<b>Elevated roads</b>	Protects critical transport infrastructure from flooding and climate shocks	Blended finance, long-tenor loans and PPPs	Flooding
<b>Cooling stations</b>	Provide relief from heat stress for commuters, enhancing health and comfort	Blended finance, long-tenor loans, PPPs	Heat stress
<b>Climate-proof transit corridors</b>	Ensures continuous service despite extreme weather or climate events	Blended finance, long-tenor loans and PPPs	Flooding and extreme weather
<b>Water / Utility Consortia</b>			
<b>Stormwater retention ponds</b>	Captures and slowly releases runoff to reduce urban flooding	Blended finance and long-term loans	Flooding

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Wastewater reuse systems</b>	Treats and reuses water to improve resilience during dry periods	Blended finance and long-term loans	Drought and water scarcity
<b>Flood-resilient water systems</b>	Infrastructure designed to maintain service during flood events	Blended finance and long-term loans	Flooding
Infrastructure Planners			
<b>Feasibility studies with climate risk scenarios</b>	Early-stage project planning to increase resilience and bankability	Technical assistance and project preparation facilities (PPFs)	All (flooding, heat, drought, etc.)
<b>Stress testing tools</b>	Tools to assess infrastructure vulnerability under climate stress	Technical assistance and PPFs	All (flooding, heat, drought, etc.)

#### Engagement activities:

- **Climate risk** self-assessment and vulnerability mapping tools.
- **Support at early stage**, e.g. MDB-aligned climate screening at concept stage, early-stage co-financing structuring with TA for resilience design integration and grant elements.
- **Sector-specific public-private partnership (PPP)** readiness assessments with adaptation lens (e.g. feasibility studies with climate scenarios).
- **Workshops and peer-learning forums** on climate risks and resilience for infrastructure, project preparation pipelines with embedded climate criteria and sector examples.

#### Tips for engagement:

- **Position adaptation as a de-risking strategy:**
  - Emphasise resilience as enhancing asset longevity, investor confidence, and creditworthiness (e.g. show how adaptation reduces asset lifecycle cost and increases bankability).

- Use climate modelling and IRR impacts to demonstrate lifecycle risk reductions and cost savings.
- **Promote access to finance:** Frame adaptation as enabling access to green bond markets, sovereignty and development partner co-funding.
- **Use data and financial analytics:** Incorporate KPIs, ROI projections, stress-test scenarios and resilience metrics into communication.
- **Bundle TA with project design:** Embed adaptation early, i.e., during origination, design and structuring.

#### Channels:

- **Government and Institutional:** PPP units, national planning agencies, donor coordination groups and project prep pipelines
- **Finance and Infrastructure Platforms:** Infrastructure finance platforms, climate-resilient infrastructure summits and project developer academies

**Examples:**

- [Banjul Port 4th Expansion Project \(Gambia\)](#) incorporates climate-resilient design features, including raised quay levels, enhanced stormwater drainage, and reinforced breakwaters, to protect against sea-level rise and increased storm intensity. The project is financed via a PPP model, blending sovereign loans, private equity, and concessional climate finance. It demonstrates how major transport infrastructure can integrate adaptation up-front, safeguarding national trade gateways and reducing long-term maintenance costs.
- [Kyrgyz Republic Climate Resilient Rail Infrastructure](#) is an example where the EBRD supported landslide protection upgrades to a vital rail infrastructure. The project also facilitates the integration of climate risk management approaches into the rail operations in line with international best practice.

**Other resources:**

- [Masterclass for Scaling Up Climate-Resilient Infrastructure Public-Private Partnerships in Africa – Global Center on Adaptation](#) provides capacity-building and TA framework for designing resilient PPPs, including a case study collection.
- [World Bank – Lifelines: The Resilient Infrastructure Opportunity](#) quantifies the economic benefits of resilient infrastructure and investment returns.
- [World Bank Climate and Disaster Risk Screening | The World Bank Climate and Disaster Risk Screening Tools and PIANC Infrastructure Resilience Guidelines offer Climate Change Adaptation Planning for Ports and Inland Waterways](#), provide infrastructure-specific standards for resilience in ports, logistics and water-borne transport.

## Examples for Municipalities/Utilities

**Examples:** Water boards, transport authorities and local governments

**Characteristics:** Public mandates and infrastructure focus

**Lending Considerations:** Need for concessional or blended finance

**Adaptation Measures:**

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Green roofs, street-tree plantings and reflective pavements</b>	Reduces ambient temperatures in dense urban zones, improving health and comfort	Green bonds, PPPs and concessional grants	Urban heat islands
<b>Greywater reuse systems, decentralised treatment units and rainwater harvesting</b>	Provides alternative water sources for non-potable uses, relieving pressure on the mains supply	Municipal green infrastructure loans and blended finance	Water scarcity and inefficiency

Adaptation Measure	Description	Finance Mechanism	Climate Hazards Addressed
<b>Raised roadways, permeable pavements, floodwalls and detention basins</b>	Shield critical infrastructure and built environments from flood damage	Concessional adaptation loans, resilience grants and results-based finance	Flooding and storm surges
<b>Enhanced drainage networks, bioswales and retention ponds</b>	Improves runoff management and reduces urban flooding and pollution	MDB co-financing, city-level climate funds and performance-based grants	Stormwater overload

### Capacity building and TA Support Measures:

- ➔ **Climate Strategy Workshops:** Facilitate multi-day sessions to help municipal planning teams integrate climate risks into their development plans and budgets.
- ➔ **Green Procurement Seminars:** Equip procurement officers with guidelines on tendering for “green-grey” and nature-based solutions, including drafting resilient design specifications.
- ➔ **PPFs:** Underwrite early-stage feasibility studies and cost-benefit analyses that embed climate scenarios (e.g., through MDB-aligned templates).
- ➔ **Climate Stress-Testing Reviews:** Provide expert reviews of preliminary designs (e.g., stormwater networks, flood defences) to ensure they meet defined resilience KPIs.



**Tips for engagement:**

- **Align with public service continuity and Nationally Determined Contributions and National Adaptation Plans:**
  - Show how adaptation keeps water, transport, and public services running, while advancing national climate commitments.
  - Emphasise service continuity (e.g., drainage, water supply), cost avoidance, and budget resilience.
- **Use impact-driven framing:** Leverage maps, dashboards, and long-term cost-savings data to illustrate health, equity and economic benefits.
- **Emphasise co-financing and concessional options:** Highlight blended finance, grants, and concessional loans to ease budgetary pressures.
- **Leverage peer city platforms:** Share peer case studies via mayoral forums to build political buy-in and best-practice exchange.
- **Frame around cost avoidance and resilience dividends:** Communicate how proactive upgrades avoid expensive disasters and support steady municipal budgeting.

**Channels:**

- **Governments, city leadership and peer forums:** National municipal networks, utility regulators, mayor/city forums (e.g., C40), utility associations, public investment dialogues and urban resilience forums.
- **Finance and donor coordination:** Donor coordination groups.

**Examples:**

An illustration of urban adaptation finance is highlighted by the EIB's support for cities to integrate "green-grey" infrastructure solutions. For example, in urban climate adaptation, the EIB describes financing packages that blend traditional drainage upgrades with nature-based measures, such as bioswales, green roofs, and permeable pavements, to reduce flood risks and mitigate heat islands simultaneously. By structuring loans that combine concessional rates for green components with commercial tranches for hard infrastructure, the EIB enables municipalities to mainstream resilience into routine capital works, unlocking both climate and broader socio-economic benefits (EIB, 2019).

**Other resources:**

- **ICLEI TAP** – Project Pipeline for Resilient Cities provides templates and tools for identifying and de-risking urban adaptation projects.
- **C40 Knowledge Hub** is a repository of city case studies, toolkits and funding pathways for climate action.
- **Global Covenant of Mayors** supports city climate planning, reporting and access to finance through standardised frameworks

## 04

# Additional Resources



## Further sources on climate adaptation product and pipeline development in financial institutions



### Reports

- [From Bonds to Blended Finance: How a Diverse Range of Financial Instruments Are Financing Climate Adaptation and Resilience](#) – World Resources Institution, 2025. This study by the World Resources Institute highlights the diversity of financial instruments used for climate adaptation. It compiles a dataset of 11 different instrument types used in 162 cases from 2015-2025 to finance adaptation to six different types of physical climate risks. The financial instruments include blended finance, bonds, concessional and market-based loans, debt swaps, disaster risk financing, equity, grants, guarantees, insurance/risk transfer, and payment for ecosystem services.
- [Financing Adaptation: 11 Financial Instruments that Help Build Climate Resilience](#) – World Resources Institute, 2025. An accessible companion to the working paper above, this WRI insights piece describes how the 11 financial instruments can be used in practice to finance climate resilience, offering a practical overview for practitioners looking to match instruments to client needs.

- [Methodology: Developing an Investible Universe of Climate Adaptation and Resilience Companies](#) – MSCI Sustainability Institute and the Global Adaptation and Resilience Investment Working Group, 2024. The methodology developed by the MSCI Sustainability Institute provides a structured approach to identifying companies whose core products and services contribute to climate adaptation and resilience, using data analytics and AI-based screening of corporate activities. By mapping and classifying over 800 listed companies that deliver solutions addressing physical climate risks (e.g., water management, climate-resilient infrastructure, early warning systems), it demonstrates that adaptation constitutes a measurable and investable market segment.
- [Investing in the Green Economy 2025: Navigating Volatility and Disruptions](#) – London Stock Exchange Group, 2025. This annual LSEG report provides a comprehensive data-driven overview of the global green economy, covering its size, growth, and performance alongside an in-depth analysis of green equity and bond investment characteristics, and a dedicated section examining climate adaptation solutions as an emerging investment industry.
- [Principles for Responsible Banking: Climate Adaptation Target Setting](#) – United Nations Environment Programme, Financial Initiative (UNEP Finance Initiative), 2025. This guidance aims to help banks accelerate their efforts in managing climate-related impacts and financing climate adaptation. It sets out an initial, guiding approach for setting adaptation targets and incorporating adaptation considerations in their transition plans and sustainability strategies, while leveraging co-benefits of adaptation with climate, nature, and other aspects of the UN Sustainable Development Goals (SDGs)
- [Principles for Responsible Banking: Practical Guidance on Implementing Adaptation and Resilience for Banks](#) – UNEP Finance Initiative 2025. Building on the PRB's Climate Adaptation Target Setting guidance (2023), this document provides a practical roadmap for banks to implement climate adaptation and resilience across three interconnected areas: assessing physical climate risk materiality, defining strategy to manage those risks and pursue adaptation opportunities, and taking action through client engagement, product development, and governance.

05

# Glossary

Unless otherwise specified, all the definitions are drawn from the IPCC (2023) Glossary.

**Exposure:** The presence of people; livelihoods; species or ecosystems; environmental functions, services and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected.

**Greenhouse gases (GHGs):** Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of radiation emitted by the Earth's surface, by the atmosphere itself, and by clouds. This property causes the greenhouse effect. Water vapour (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and ozone (O<sub>3</sub>) are the primary GHGs in the Earth's atmosphere. Human-made GHGs include sulphur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), chlorofluorocarbons (CFCs) and perfluorocarbons (PFCs); several of these are also O<sub>3</sub>-depleting (and are regulated under the Montreal Protocol).

**Hazard:** The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure,

livelihoods, service provision, ecosystems and environmental resources.

**Loss given default (LGD)** is the estimated credit loss that results if a borrower defaults on their financial obligation (Authors).

**Probability of default (PD)** is a measure used in credit risk management to estimate the percentage probability of a borrower defaulting on their loan obligations within a given time frame, usually one year (Authors).

**Scenario:** A plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts but are used to provide a view of the implications of developments and actions.

**Scenario analysis:** A forward-looking tool that examines the effects of various hypothetical climate futures (e.g., 1.5°C or 4°C warming) on assets or portfolios to test resilience and inform strategy (Authors).

## 06

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## 07

# Practice Questions



The following set of 15 single-response, multiple-choice questions is designed to test understanding of key concepts covered in **Module 5: Tailoring Solutions to Clients**. The questions are intentionally challenging and go beyond simple recall, requiring application, analysis, and comparison of concepts. The questions cover the following chapters of Module 5:

- **Chapter 1:** Designing Forward-Looking Adaptation Finance Strategies
- **Chapter 2:** Design of Scalable Climate Adaptation Products
- **Chapter 3:** Engaging clients in the Climate Adaptation Journey

Each question has **four answer options**, with only **one correct solution**. The MC questions are followed by an explanation clarifying the reasoning and key learning point.

**1 A commercial FI wants to begin scaling climate adaptation finance in response to increasing climate risks affecting its retail and MSME clients. Based on best practices for scaling adaptation finance, which approach is most likely to be effective and commercially viable?**

- A. Develop new adaptation-specific loan products supported by external concessional finance, while gradually transitioning away from existing MSME lending operations.
- B. Integrate adaptation finance into existing retail and MSME loan products by standardising simple, replicable solutions that address widespread climate vulnerabilities and leverage the institution's current client relationships.
- C. Delay adaptation lending until comprehensive climate risk data and advanced monetization models for adaptation benefits are fully developed.
- D. Focus primarily on large-scale infrastructure adaptation projects financed through PPPs, rather than small-ticket lending to existing clients.

**2 When assessing the bankability of climate adaptation solutions for retail and MSME clients, which factor is most critical for a FI to evaluate to scale adaptation lending?**

- A. Whether the adaptation technology qualifies under international climate finance taxonomies and reporting standards.
- B. The extent to which adaptation benefits can be monetized through improved client productivity, reduced losses or enhanced repayment capacity.
- C. The availability of external grant funding to fully subsidise the adaptation investment.
- D. The potential to rebrand existing products as climate finance without modifying credit assessment processes.

**3 How do climate adaptation interventions most directly improve cash flow for climate-vulnerable MSMEs and small businesses?**

- A. By increasing loan tenors and grace periods, which temporarily reduce repayment obligations regardless of operational performance.
- B. By generating monetizable benefits such as avoided damage costs, reduced resource consumption, increased productivity, and fewer business interruptions.
- C. By shifting climate risks entirely to insurers and public sector actors, removing financial exposure from borrowers.
- D. By prioritising compliance with climate standards over operational efficiency improvements.

#### **4 From the perspective of a FI, why do borrower-level climate adaptation investments strengthen the business case for scaling adaptation finance?**

- A. They allow FIs to reclassify existing loans as climate finance without changing credit risk profiles.
- B. They primarily reduce exposure to transition risks while leaving physical climate risks unchanged.
- C. They improve borrower resilience and cash flow, leading to a lower PD, reduced LGD, and more sustainable lending outcomes.
- D. They enable FIs to replace credit assessments with climate vulnerability indicators.

#### **5 A small food processing enterprise operating in a heat- and humidity-prone region is experiencing frequent product spoilage and unstable revenues due to inadequate temperature control during storage and processing. The enterprise is seeking financing to improve resilience and stabilise cash flow. Which adaptation finance intervention is most appropriate?**

- A. Provide medium-term financing for improved ventilation systems and minor facility upgrades to enhance air circulation and reduce humidity-related spoilage.
- B. Provide equipment finance or medium-term loans for solar-powered refrigeration and thermal insulation to reduce spoilage, maintain product quality, and stabilise revenues during extreme heat and humidity.
- C. Offer working capital loans with extended grace periods to help the enterprise absorb climate-related losses during peak heat periods.
- D. Finance energy-efficiency retrofits primarily to reduce electricity costs, without explicitly addressing climate-related spoilage risks.

#### **6 How can climate vulnerabilities identified during client risk assessments be most effectively translated into climate adaptation lending opportunities by commercial FIs?**

- A. By using climate risk scores primarily to restrict lending to highly exposed clients to protect portfolio quality.
- B. By postponing lending decisions for climate-vulnerable clients until comprehensive public adaptation programmes are in place.
- C. By linking identified climate vulnerabilities to a limited set of practical, affordable adaptation measures and structuring these into standardised loan products that loan officers can confidently offer.
- D. By offering generalised emergency credit to climate-exposed clients without tailoring loan design to specific vulnerabilities or affordability constraints.

**7 What combination of principles and design features best supports the development and effective marketing of financial products for climate adaptation finance by commercial FIs?**

- A. Designing entirely new, highly customised adaptation loan products that prioritise resilience benefits, even when incremental cash flows are difficult to quantify.
- B. Focusing product design primarily on avoided future climate losses and marketing adaptation loans as risk-prevention tools, regardless of immediate financial returns for borrowers.
- C. Applying uniform product terms across all climate adaptation investments to simplify marketing and minimise operational complexity.
- D. Structuring adaptation finance products around self-financing business cases that generate incremental cash flows, adapting existing loan products where possible, and bundling product adjustments with enabling measures that support affordability and uptake.

**8 When applying a climate lens in the early stages of financial product development for climate adaptation, which approach best supports scalability and operational feasibility for mass-market clients?**

- A. Designing bespoke, project-specific loan products tailored to individual client needs and local climate conditions.
- B. Structuring standardised loan products around a small set of high-impact adaptation investments with predictable costs and technologies that can be replicated across client segments.
- C. Prioritising large community infrastructure projects as the primary vehicle for adaptation finance, with MSMEs participating only indirectly.
- D. Developing technically sophisticated adaptation products first and simplifying them after pilot testing if demand emerges.

**9 Which set of actions is most critical to effectively market and operationalise climate adaptation finance products once they have been designed?**

- A. Emphasising the long-term resilience benefits of adaptation investments in marketing materials, even if short-term financial gains are difficult for clients to observe.
- B. Delegating responsibility for climate adaptation products to specialised sustainability teams, while maintaining existing credit and marketing processes unchanged.
- C. Focusing monitoring efforts primarily on climate impact indicators, with financial performance assessed through standard portfolio reviews.
- D. Supporting product rollout with clear, client-relevant messaging, loan officer training, and operational tools such as eligibility checklists and advisory services that translate climate solutions into bankable offers.

## 10 When a climate-smart financial product cannot be offered on fully commercial terms due to affordability and risk constraints, which approach most effectively enables FIs to scale climate adaptation finance?

- A. Redesign the product to focus primarily on long-term resilience benefits, even if short-term cash flows remain insufficient to service debt.
- B. Deploy intermediated climate facilities that combine concessional refinancing, risk-sharing instruments, targeted cash incentives, and technical assistance to improve affordability, reduce risk, and support market development.
- C. Restrict adaptation lending to clients with strong collateral and proven repayment histories to preserve portfolio quality.
- D. Postpone scaling adaptation finance until donor funding is sufficient to fully subsidise climate resilience investments.

## 11 How should TA be strategically deployed across the lifecycle of a climate adaptation lending facility to maximise long-term impact and sustainability?

- A. By using TA primarily to outsource core lending, risk assessment, and product development functions for the duration of the facility.
- B. By concentrating TA resources on upfront training workshops, with limited engagement once the facility has been disbursed.
- C. By deploying TA in a phased and targeted manner, from facility design and product development to market creation and data integration, while gradually building in-house capacity and reducing reliance on external support.
- D. By prioritising cash subsidies to end borrowers over TA investments, subsidies have a more immediate impact on affordability.

## 12 Why is client engagement a critical component of climate adaptation finance for FIs?

- A. Client engagement primarily helps FIs market climate adaptation products more aggressively and increase short-term loan volumes.
- B. Client engagement enables FIs to better understand client-specific climate risks, identify viable adaptation measures, and connect clients to the technical and institutional ecosystems required to implement climate-resilient solutions.
- C. Client engagement allows FIs to transfer responsibility for climate risk management entirely to borrowers.
- D. Client engagement is mainly relevant for donor-funded projects and plays a limited role in commercially oriented adaptation lending.

**13 Why is proactive client engagement critical for FIs as climate risks increasingly affect borrower creditworthiness over time?**

- A. Because traditional credit scoring models already fully account for future physical climate risks, reducing the need for additional client engagement.
- B. Because engaging clients enables FIs to anticipate evolving climate-related stresses on income and operations, reducing defaults and protecting portfolio stability.
- C. Because client engagement allows FIs to shift full responsibility for identifying and managing climate risks to borrowers, without adjusting their own risk management processes.
- D. Because engagement is mainly required to comply with disclosure regulations, rather than to manage climate risk.

**14 From the client's perspective, what is the most compelling reason to engage with FIs on climate adaptation finance?**

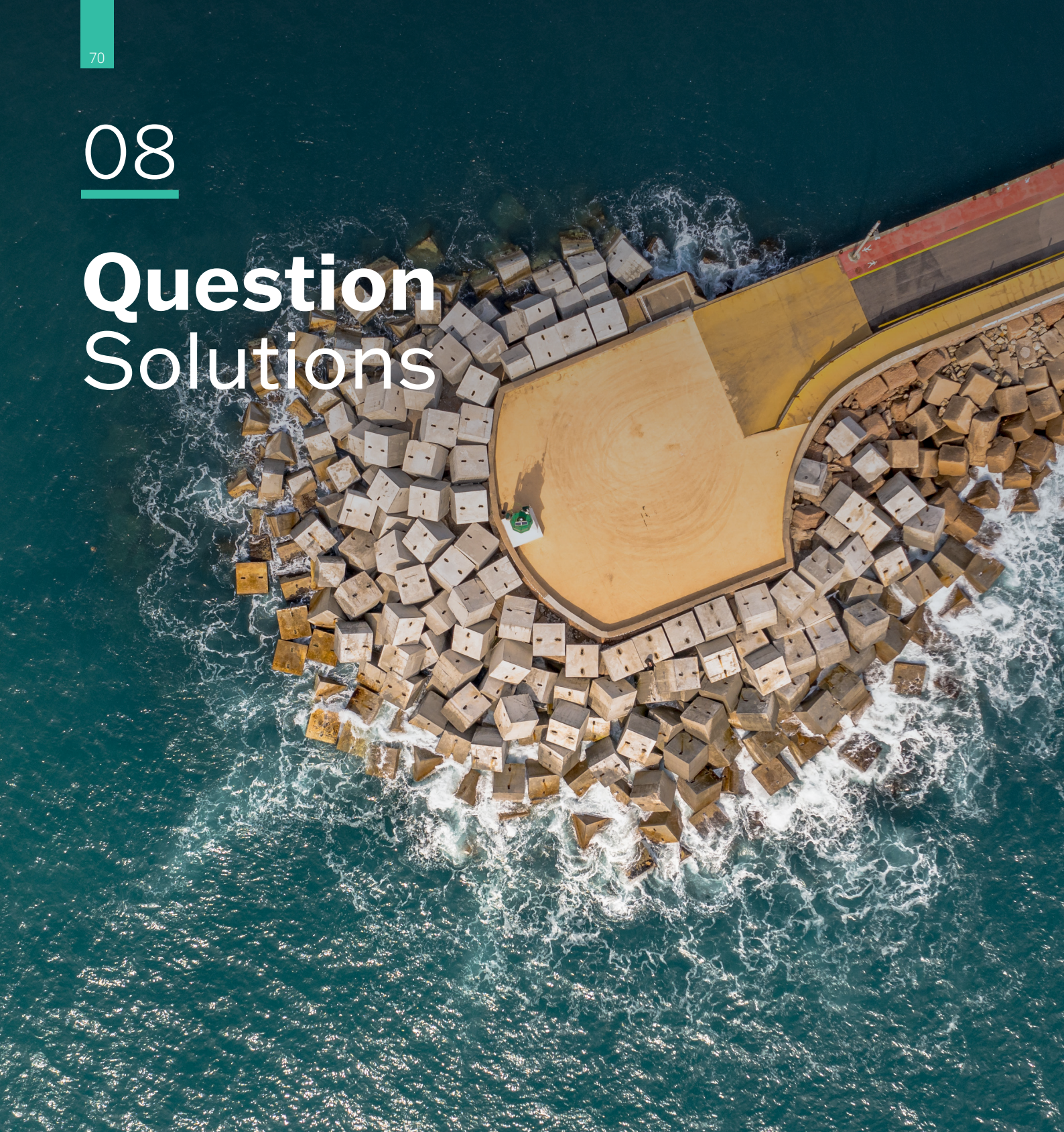
- A. Engagement ensures automatic approval of adaptation loans regardless of repayment capacity.
- B. Engagement provides access to tailored finance, technical advice, and partnerships that strengthen resilience, improve creditworthiness, and support long-term business continuity.
- C. Engagement allows clients to shift all climate-related losses to FIs.
- D. Engagement is primarily required to meet government reporting obligations.

**15 How should FIs most effectively engage clients to promote climate adaptation investments?**

- A. By focusing discussions on compliance risks and potential loan restrictions linked to climate exposure.
- B. By limiting engagement to clients who proactively request climate-related financing.
- C. By offering standardised adaptation products without adapting them to client-specific vulnerabilities.
- D. By initiating forward-looking conversations on how climate risks affect clients' operations and reframing these risks as opportunities for tailored advisory services and adaptation finance solutions.

## 08

# Question Solutions



1

**Correct:** B

**Explanation:** Scaling climate adaptation finance is most effective when FIs leverage existing client relationships and loan products, allowing simple, standardised adaptation solutions to be replicated quickly and integrated into core retail and MSME lending operations, while remaining commercially viable.

2

**Correct:** B

**Explanation:** Scaling adaptation finance depends on demonstrating that adaptation investments generate tangible economic benefits for borrowers, such as reduced climate-related losses or increased productivity, which directly improve cash flows and creditworthiness and therefore underpin loan bankability.

3

**Correct:** B

**Explanation:** Climate adaptation interventions improve borrower cash flow by creating tangible, monetizable benefits, such as reduced losses, lower energy and water costs, and more stable revenues, which strengthen financial performance and repayment capacity.

4

**Correct:** C

**Explanation:** Borrower-level adaptation investments reduce physical climate risk while improving cash flow, which strengthens creditworthiness and contributes to lower PD and LGD over time and a stronger commercial rationale for scaling adaptation lending.

5

**Correct:** B

**Explanation:** Solar-powered refrigeration and thermal insulation directly address heat and humidity risks, generate clear monetizable benefits through reduced spoilage and improved product quality, and deliver sustained cash-flow stabilisation rather than temporary relief or partial efficiency gains.

6

**Correct:** C

**Explanation:** Climate risk assessments can be converted into lending opportunities when specific vulnerabilities are directly linked to practical adaptation solutions, structured into simple, affordable products that enable responsible lending rather than client exclusion.

7

**Correct:** D

**Explanation:** Commercially viable adaptation finance products must be grounded in monetizable cash-flow improvements, build on existing financial products,

and combine targeted product adjustments with enabling measures that support affordability, adoption and scalability.

8

**Correct:** B

**Explanation:** Applying a climate lens requires simple, standardised, and scalable solutions that can be efficiently delivered across many clients, reducing complexity while enabling rapid replication and integration into existing lending operations.

9

**Correct:** D

**Explanation:** Successful adaptation finance depends on clear value propositions for clients, well-trained loan officers, and operational tools that embed climate considerations into day-to-day lending and marketing processes.

10

**Correct:** B

**Explanation:** When adaptation investments fall short of full bankability, facility-level solutions, combining concessional funding, guarantees, incentives, and technical assistance, can bridge affordability and risk gaps while maintaining commercially viable lending through partner FIs.

11

**Correct:** C

**Explanation:** TA is most effective when it supports the full facility lifecycle, builds institutional and market capacity, and is designed to be catalytic rather than permanent, enabling FIs to eventually internalise climate adaptation lending processes.

12

**Correct:** B

**Explanation:** Effective client engagement helps FIs translate climate risks into practical, bankable adaptation solutions, while linking clients to the broader ecosystem needed to implement and sustain climate-resilient investments.

13

**Correct:** B

**Explanation:** Engaging clients helps FIs anticipate climate-driven changes in cash flow and risk profiles, enabling timely adaptation investments that protect both borrower livelihoods and loan performance.

14

**Correct:** B

**Explanation:** Clients benefit from engagement because it unlocks tailored finance, risk-reduction tools, and technical partnerships that enhance resilience and improve their long-term financial profile.

15

**Correct:** D

**Explanation:** Effective engagement starts with understanding client-specific climate risks and reframing them as opportunities for adaptation investments that support both business continuity and loan performance.



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