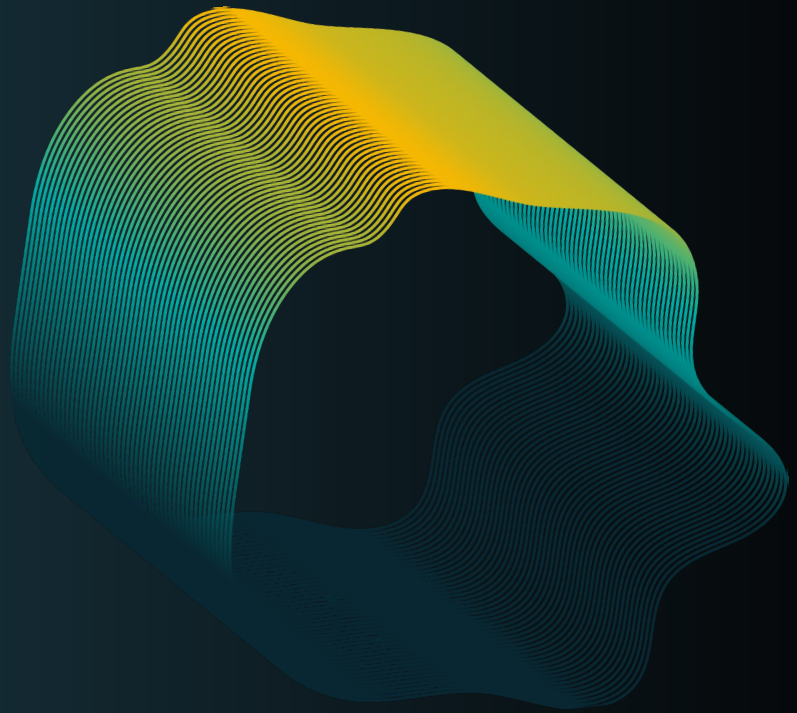
Climate Finance Taxonomies: Frameworks for the current landscape

The Climate Landscape Series



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Our Climate Landscape Series Decks

- → **Conceptual Frameworks for Climate Action:** Climate Justice, Digital Finance and Climate Finance Flows
- → **Climate Finance Taxonomies**: Frameworks for the current landscape
- → Climate Change and **Gender**
- → **Climate Innovation**: Climate Smart Essential Services & The Opportunity for Philanthropy
- → **Climate Resilience Insurance**: Learnings, Gaps, Opportunities
- → **Inclusive Climate Finance**: G2P Programs
- → Building an **Inclusive Voluntary Carbon Market** for **Resilient Communities**
- → **Climate Finance**: Data and Data Platforms

What are taxonomies?

- Classification systems designed to categorize economic activities based on their environmental sustainability, particularly their contribution to climate mitigation and adaptation.
- They are still under development, and **there is no single taxonomy that is universally accepted.**
    - The European Union's (EU) taxonomy for sustainable finance is a **classification system to help investors and businesses determine which activities are genuinely 'green' or sustainable.** It's one of the most detailed taxonomies available, providing specific criteria for determining whether an economic activity is environmentally sustainable.
    - The CGAP's taxonomy of climate-responsive financial services aims to provide a framework for the development and delivery of financial products that respond to climate challenges. **This taxonomy classifies products based on their objectives, such as mitigation, adaptation, or a combination of both.** It then further delineates the types of services provided, like loans, insurance, savings, or payment services, and how they address specific climate vulnerabilities.

(contd…)

What are taxonomies?

- The **Alliance for Financial Inclusion (AFI)** focuses on empowering policymakers to increase access to quality financial services for the underserved through inclusive and responsible policies. While their research might not be a taxonomy in the strictest sense, it provides insights into **how digital financial mechanisms can be categorized based on their utility in supporting green finance and inclusivity.**
- **Adaptation Solutions Taxonomy** which aims to enhance the availability and uptake of climate adaptation solutions by identifying, engaging and empowering SMEs providing such solutions in developing countries.

How does a taxonomy work for regulators?

To-	Determine details on who the taxonomy applies to and when	Define which economic activities should fall under the taxonomy scope	Establish scientific technical screening criteria to determine if the selected activities should be defined as sustainable or not	Outline and guide stakeholders on how to use the taxonomy for different needs
EU Taxonomy examples	Companies: Operating in Europe with more than 500 employees and $40 million annual revenue Investors: Any financial product sold in Europe that is marketed as sustainable	1. Electricity generated from hydropower 2. Manufacturing of aluminium 3. Freight rail transport 4. Manufacture of food products and beverages 5. Tanning of leather	1. Emissions from the generation of electricity from hydropower energy are lower than 100gC02e/kWh 2. Emissions from the manufacturing of aluminium do not exceed 1.5 tCO2e per ton of aluminium	1. Generate investment for green projects (i.e. green bonds) 2. Company sustainable evaluation 3. Comparing level of sustainability of financial products

How does a taxonomy work for companies?

A self assessment process by the company to decide if it can be considered "green" or not

- Investors who are selling financial products in Europe as "sustainable" are required to report their taxonomy assessment.
- Taxonomy figures of invested companies/securities are disclosed after companies themselves have reported their taxonomy assessments.

Step 1

The company identifies which of their own economic activities are in the taxonomy.

Step 2

The company reviews the scientific thresholds to evaluate whether the economic activity passess the technical screening. criteria.

Step 3

The company checks that the activity does not harm any of the other environmental objectives outlined in the taxonomy.

Step 4

The company confirms that it complies with minimum social standards (i.e. labor rights) established in the taxonomy.

Step 5

The company determines if the activity is green.

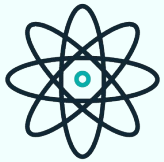
Current status of taxonomies around the world

Around 30 taxonomies exist or are in development globally

- The EU is a frontrunner in terms of taxonomy development. Many countries or regions have based their own frameworks on the EU's.
- 16 of the G20 countries have already implement, announced or worked on a taxonomy.
- In place (part of EU - France, Germany, Italy), China, Indonesia, Russia, South Korea, South Africa)
    - Announced: Brazil
    - Working on creating their own: Australia, UK, India, Mexico, Canada and Japan
    - Considering: US, Argentina and Turkey.

Source: The International Platform on Sustainable Finance

How to create a taxonomy

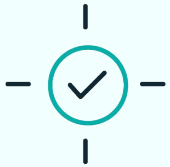


Build a network of experts

Bring together a mix of sustainability experts and academics and consider reviewing and inviting experts from the International Platform on Sustainable Finance (IPSF)

Agree framework and objectives

Advise on defining the scope of the taxonomy, methodology, principles, and objectives.



Define technical criteria

Define “carbon emissions thresholds”, social impact definitions, etc. Leverage expertise in existing taxonomies.

EU Taxonomy for sustainable finance

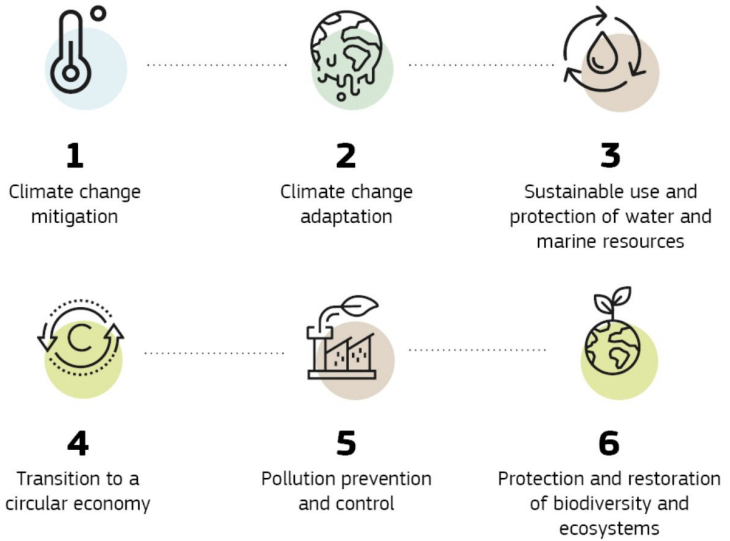
The Taxonomy Regulation also sets out 4 overarching conditions that an economic activity must meet in order to qualify as environmentally sustainable:

1. Making a **substantial contribution** to at least one environmental objective
2. Doing **no significant harm** to any of the other five environmental objectives
3. **Complying** with **minimum safeguards**
4. Complying with the **technical screening criteria** set out in the **taxonomy delegated acts**

Source: https://commission.europa.eu/business-economy-euro/banking-and-finance/sustainable-finance_en

EU Taxonomy for sustainable finance

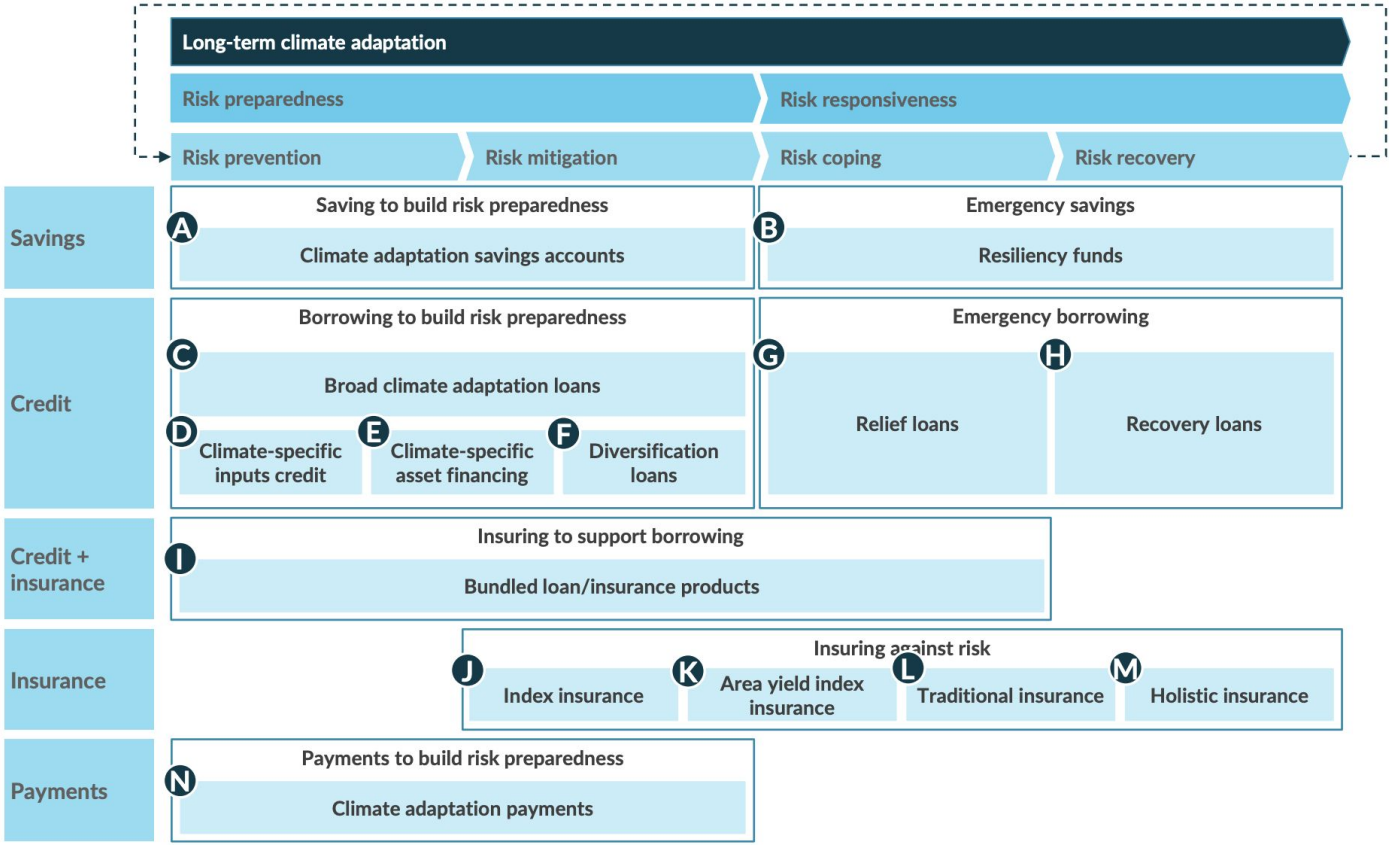
Climate and Environmental Objectives of the Taxonomy Regulation:



- The EU Taxonomy or Taxonomy Regulation is a cornerstone of the EU's sustainable finance framework and an important market transparency tool. It helps direct investments to the economic activities most needed for the transition, in line with the European Green Deal objectives.
- **The taxonomy is a classification system that defines criteria for economic activities that are aligned with a net zero trajectory by 2050 and the broader environmental goals other than climate.**

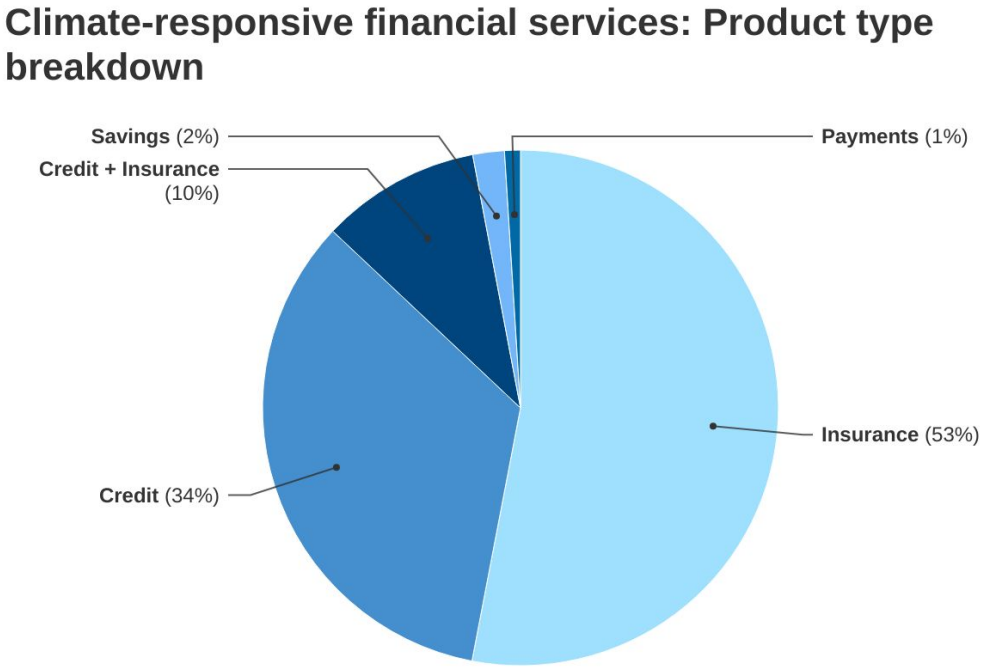
Source: https://commission.europa.eu/business-economy-euro/banking-and-finance/sustainable-finance_en

CGAP's proposed taxonomy of climate-responsive financial services



Source: CGAP

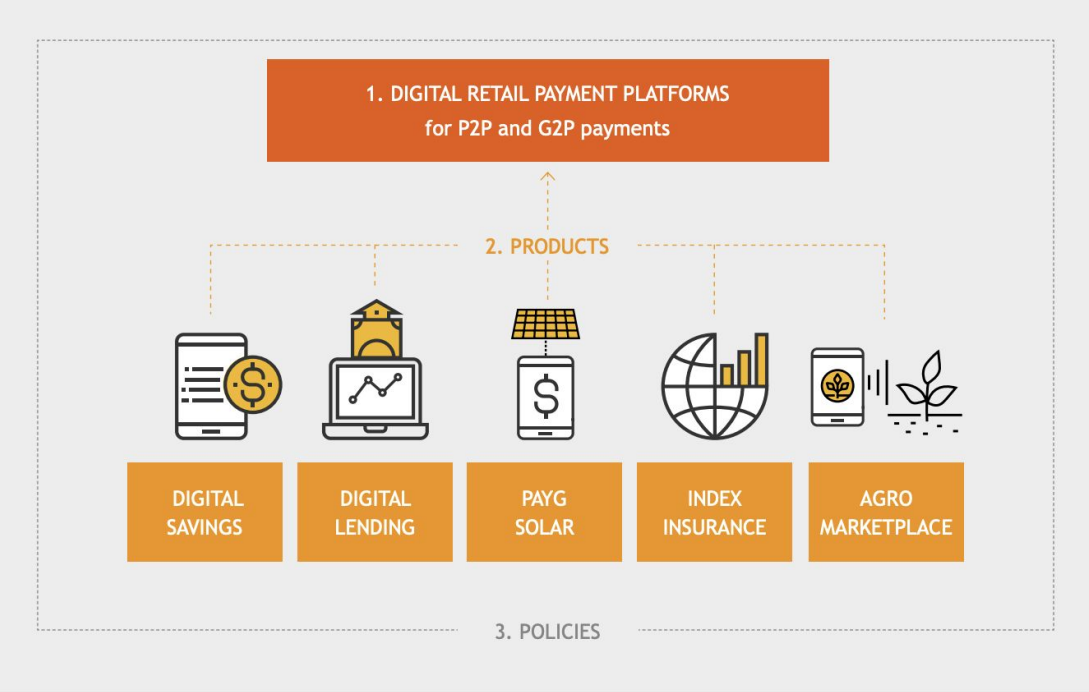
CGAP's analysis on identified climate-responsive financial services



Source: CGAP | Dalberg

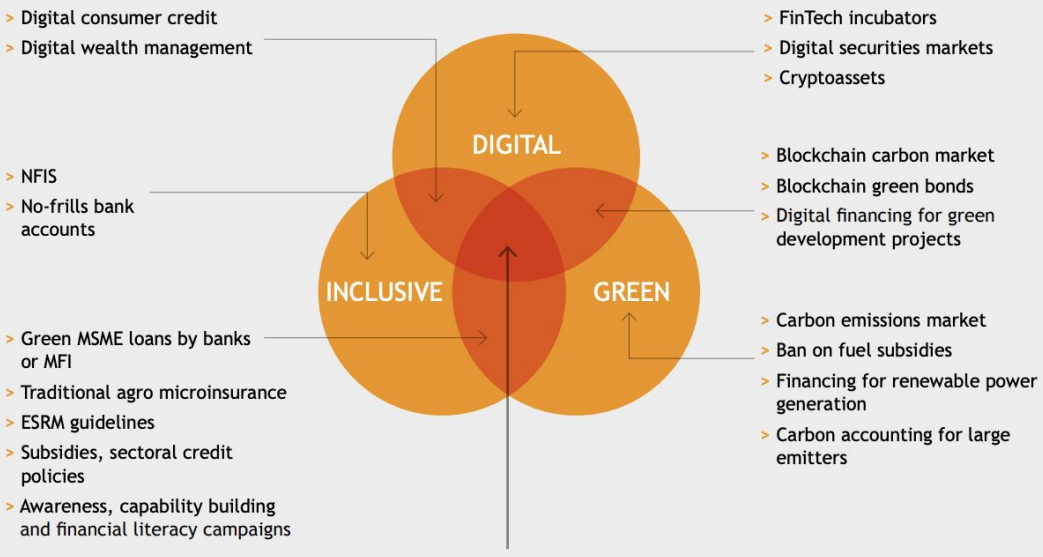
AFI's analysis on climate-responsive financial services

While their research might not be a taxonomy, AFI provides insights into how digital financial mechanisms can be categorized based on their utility in supporting green finance and inclusivity.



AFI's analysis on climate-responsive financial services

FIGURE 3: SCOPE OF THIS REPORT



CFI's Green Inclusive Finance framework

A framework for understanding how financial services can help low-income and vulnerable people respond to climate change

TABLE 1: Framework for Green Inclusive Finance

Pathway	Role of Inclusive Financial Services	Example of Inclusive Financial Solution
 **Mitigation**	To support the adoption of green technologies and practices that can improve local environmental conditions for households and communities	↗ Installment plans to pay for solar lighting systems ↗ Financing of "clean" cookstoves (e.g., those powered by electricity or biogas)
 **Resilience**	To support the financial resources needed to prepare for, manage through, and recover from climate-related shocks	↗ Weather/livestock index insurance ↗ Easy-access savings ↗ Social protection payments for food or wage security
 **Adaptation**	To support necessary changes to livelihood strategies in response to longer-term climate-related events	↗ Financing to farmer producer groups for high-value crop diversification and value chain linkages ↗ Financing to support weatherproofing homes
 **Transition**	To support shifts to new livelihood strategies in response to and in anticipation of future climatic events	↗ Financing/remittances for migration to new locations ↗ Financing to invest in vocational training for new livelihoods

"Evaluative researchers have only just begun to carefully characterize and determine how **financial services influence how low-income** and **vulnerable populations respond to and recover from current climatic impacts**."

Source: AFI Global report

Climate shocks and finance

"**Research** has shown that most households affected by shocks face increased expenses.

They need to secure their food supplies, make essential house repairs and replace essential tools and equipment, including mobile phones, electricity, livestock and farming equipment, that were damaged or lost.

The range of immediate needs is extremely diverse and context dependent, hence virtually impossible to map comprehensively."

Priority financial services in contexts of climate shocks: a conceptual framework

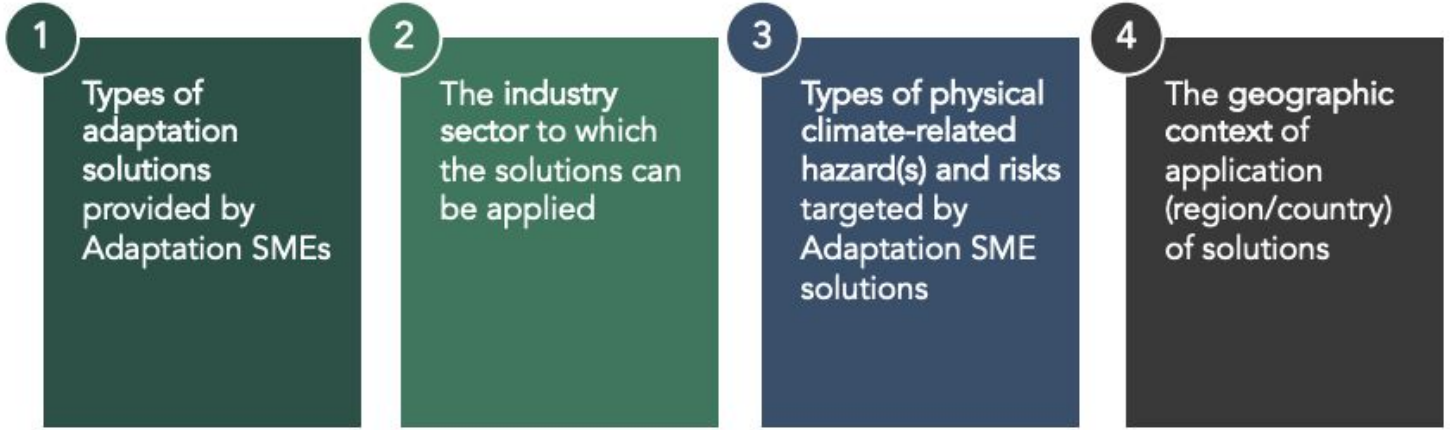
Source: CFI, Exploring the Intersection of Climate Shocks and Financial Inclusion (February 2023)

Lightsmith Adaptation Solutions Taxonomy (ASAP Taxonomy)

1. From 2020, funded by the Global Environmental Facility (GEF), Conservation International and InterAmerican Development Bank (IDB).
2. It builds on the EU Tax and 7 other taxonomies (among those CTCN taxonomy **which starts defining the risks).**
3. A panel of experts peer reviewers including Climate Policy Initiative (CPI), International Finance Corporation (IFC), Climate Bonds Initiative, DTU, EBRD, EIB, IDB and LSE.
4. It aims to enhance the availability and uptake of climate adaptation solutions by identifying, engaging and empowering SMEs providing such solutions in developing countries.
5. ASAP targets SMEs providing climate adaptation intelligence, products and services
6. Focuses on regions where climate adaptation is a priority
7. Focus on most needed adaptation solutions: (evidence from 21 countries' climate technology priorities)
8. Seeks to enhance the supply and uptake of climate adaptation solutions most needed in developing countries

Source: ASAP

Lightsmith Adaptation Solutions Taxonomy (ASAP Taxonomy)



Source: ASAP

Resilience+ Innovation Facility

Alternative indexed financial tools can overcome some limitations of index insurance

Agricultural index insurance has been shown to provide needed support in the event of a shock as well as to unlock investments for greater productivity and income. However, sustained adoption has been a challenge. **The University of California Davis has partnered with the Bill & Melinda Gates Foundation and BFA Global** to deploy alternative financial instruments that can leverage the same index to fill some of the gaps left by insurance.

The blend of these three indexed financial instruments makes it possible for small-scale farmers to dynamically manage their risk over time.

Source: UC Davis MRR Innovation Lab

Resilience+ Innovation Facility

Agricultural Index Insurance (II)	For the cost of an insurance premium paid in advance, II releases payouts if the underlying index predicts crop losses. • Includes leverage: a small pre-paid amount unlocks a large future amount. • Requires trust in the index and cash for premiums.
Contingent Savings Account (CSA)	A farmer can use a CSA to save money more safely with the promise of receiving interest if the underlying index predicts crop losses. • No leverage: only gives access to the amount saved plus interest in an emergency • Requires cash.
Contingent Line of Credit (CLOC)	Farmers who are pre-approved for a CLOC receive a loan in the event that the underlying index predicts crop losses. • Includes leverage: zero up-front cost to unlock a large amount in an emergency. • Requires creditworthiness.

Source: UC Davis MRR Innovation Lab

BRAC emergency credit: A new type of indexed loan to address smallholder risk

1

Financial service providers (FSPs) often withhold credit from borrowers who have suffered an income shock because they are concerned about default risk. Without safety nets clients are forced into costly coping strategies – reducing consumption, pulling children out of school, selling assets, etc. The traditional lending strategy by FSPs to link credit access to income is a missed opportunity to build resilience.

Source: Feed the Future

BRAC emergency credit: A new type of indexed loan to address smallholder risk

2

In Bangladesh, **BRAC provided pre-approved households a line of credit in the event of a flood disaster.** This new type of loan, or "Emergency Loan" initiated liquidity for rice farmers when a flood index was triggered **The Emergency Loan provided up to 50%** principal amount of a client's last regularly approved loan. A randomized controlled trial showed that **the Emergency Loan generated similar benefits of agricultural index insurance with the potential to quickly scale** through existing MFI operations.

Resilience: For smallholders experiencing a flood, the Emergency Loan provided needed to maintain consumption and continue farming practices.

Productivity Boost: With the knowledge that they had access to this risk management solution, treatment group farmers invested more in their farms. Pre-approval for the loan generated increased investments in food production by 15% and an 9% increase in consumption.

Business Case for the FSP: The Emergency Loan had overall repayment rates that were nearly identical to conventional microfinance loans, net revenues were 4% higher for BRAC branches that made the Emergency Loan available.

Source: Feed the Future

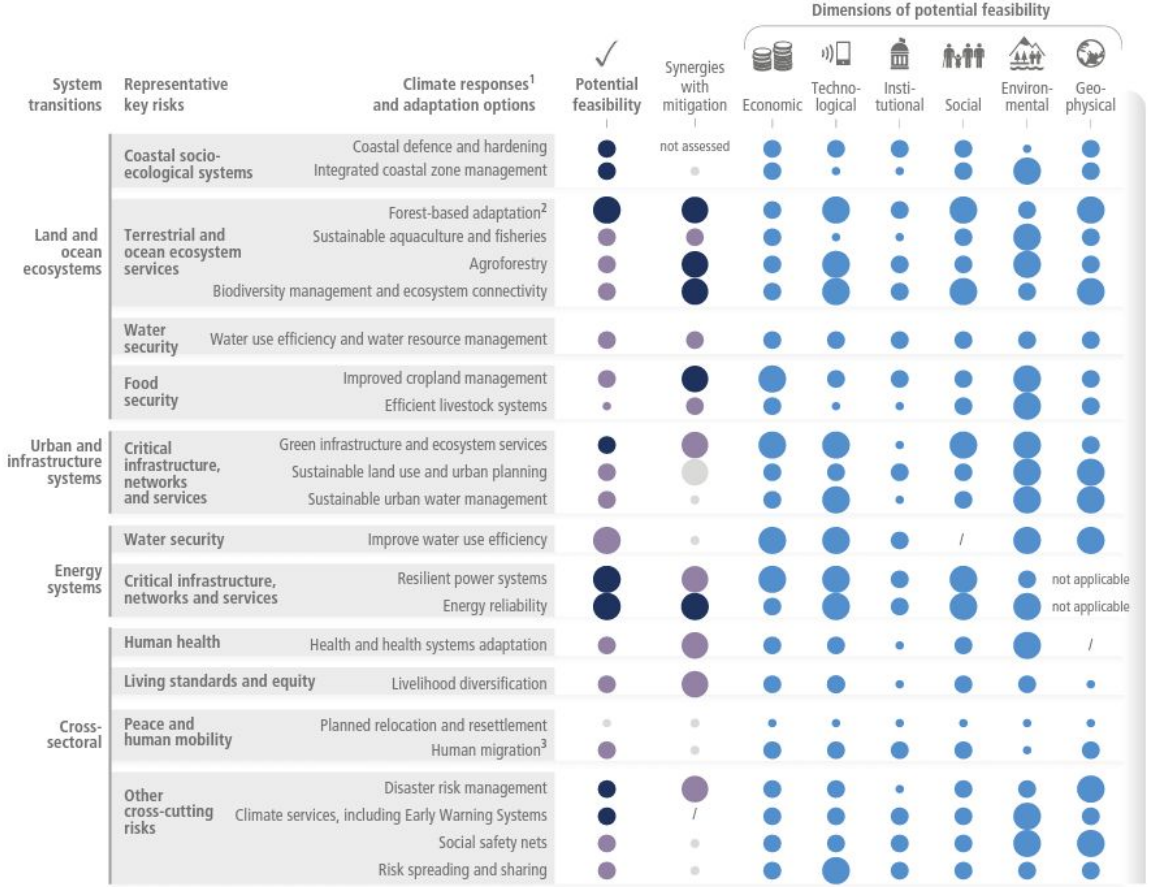
Analysis based on the Intergovernmental Panel on Climate Change Report,

Climate Change 2022:

Impacts, Adaptation and Vulnerability.

(a) Diverse feasible climate responses and adaptation options exist to respond to Representative Key Risks of climate change, with varying synergies with mitigation

Multidimensional feasibility and synergies with mitigation of climate responses and adaptation options relevant in the near-term, at global scale and up to 1.5°C of global warming



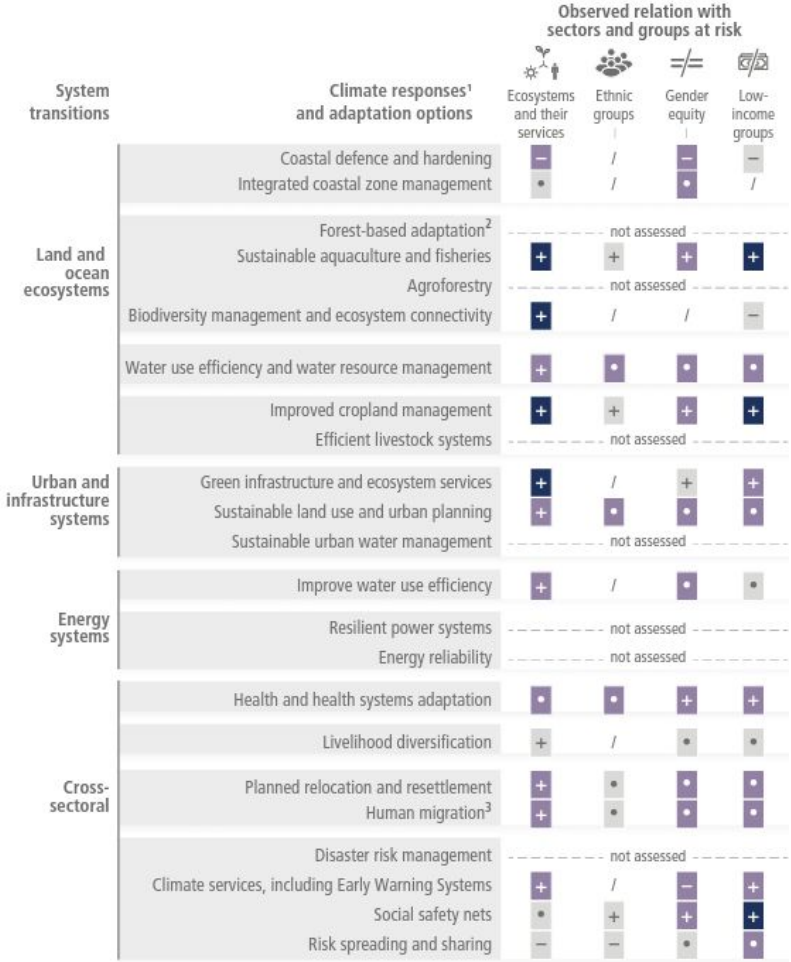
Intergovernmental Panel on Climate Change Report,

Climate Change 2022:

Impacts, Adaptation and Vulnerability.

(b) Climate responses and adaptation options have benefits for ecosystems, ethnic groups, gender equity, low-income groups and the Sustainable Development Goals

Relations of sectors and groups at risk (as observed) and the SDGs (relevant in the near-term, at global scale and up to 1.5°C of global warming) with climate responses and adaptation options



Role of Financial Services	Example of Intervention
Financing for water-efficient methods	Water-saving tech, desalination
Insurance against soil degradation	Area yield index insurance, drought-resistant seeds
Invest in low-carbon technology	Solar Loans
Financing for green tech SMEs	Recover loans, green skill development programs
Technical training for resilient practices	Insurance, funding of risk responsiveness
Hyper-local climate risk assessment	Relief loans, hyper-local early warning apps
Carbon credits and trading	PayGO cook stoves

Catalyst Fund's Investment Thesis

The Catalyst Fund is a VC fund and accelerator backing early-stage tech entrepreneurs who are scaling solutions for a climate-resilient future in Africa. It focuses on backing game-changing entrepreneurs building tech and tech-enabled ventures offering affordable, accessible and appropriate solutions for climate-vulnerable communities across key economic sectors, and we grow them to become commercial and scalable companies. Sharing the investment thesis, as it comes from an analysis and understanding of the sectors.

Catalyst Fund's investment theses

Our theses point to a specific set of solutions, each carefully selected for their role in building resilience among vulnerable people

THESES	SOLUTIONS	RESILIENCE OUTCOMES
FINANCIAL RESILIENCE	Insurance Carbon finance Emergency payments Data for pricing risk	Households and users have access to range of financial services that build their financial health and resilience.
SUSTAINABLE LIVELIHOODS	Climate-smart agtech Green economy Fishery management Agro-forestry management	Vulnerable people access and develop livelihoods that are adapted to climate change and its related effects.
Climate-smart ESSENTIAL SERVICES	Water management Cooling & Ventilation / Cold storage Sustainable energy access Waste management	Vulnerable people access essential services that are adapted to climate change and equip them to manage its impacts.

Source: Catalyst Fund

Catalyst Fund's African regional investment insights

Four billion people worldwide are vulnerable to the impacts of climate change and urgently need solutions to prepare, adapt and build resilience. Without solutions, 130 million people may fall back into poverty due to climate change impacts, erasing decades of hard-earning development gains. **Resilience solutions are quickly becoming a basic demand for populations who are most exposed.**

Although it has contributed less than 4% of global emissions, **Africa is the most vulnerable continent to climate change**, with 48% of the continent's GDP vulnerable to extreme climate patterns. Global stakeholders are recognizing this imbalance and building resilience and adaptation is increasing becoming a priority for many actors and over $100 billion will have been allocated to climate finance by this year with over $30 billion going to Africa.

Catalyst Fund's African regional investment insights

Experts suggest that climate adaptation in Africa will require financing of over $50 billion a year until 2030. Globally, estimated annual adaptation needs are $160-340 billion by 2030 and $315-565 billion by 2050.

Catalyst Fund's goal is to **start filling this gap, catalyze more investment**, and **enable the emergence of many more solutions to build a more resilient future**. Catalyst Fund companies provide climate resilience solutions with embedded fintech innovations (i.e. Bekia, Cold Hubs, and Aquarech).

Additional resources

Other "Taxonomies" about household and limited financial options in face of emergencies/calamities.

- The Role of Financial Services in Humanitarian Crises, Mayada El-Zoghbi, Nadine Chehade, Peter McConaghy, and Matthew Soursourian, Access to Finance Forum, April 2017

- Financial instruments for disaster risk management and climate change adaptation, Linnerooth-Bayer, J., Hochrainer-Stigler, S. International Panel on Climate Change (IPCC), 2015.

BFA's Menu of Climate Action

MENU OF CLIMATE ACTION

Mapping of (Sectors + Activities) x (Climate Action Dimensions + Vulnerable Groups + Financial Products and Services)		Dimension				Vulnerable groups			Financial Products and Services									
									Loans			Payments		Insurance			Savings	
Sectors	Activity	Resilience	Adaptation	Mitigation	Transition	Women	Urban Workers	Small producers	Green	Emergency	Recovery	Conditional	Unconditional	Standalone	Bundled	Index	Goal-based	
AGRICULTURE	Regenerative agriculture	✓				✓		✓								✓	✓	
	Financing of water-efficient practices	✓							✓									
	Mitigation against erratic weather		✓						✓		✓		✓	✓		✓		
	Financing for pest-resilient crops		✓						✓			✓				✓	✓	
	Financing for stress-tolerant seeds and agricultural methods		✓						✓	✓					✓	✓	✓	
AGROFORESTRY	Agroforestry		✓	✓				✓	✓			✓			✓	✓		
	Community-based forest management			✓					✓			✓						
GREEN ENERGY	Reduce GHG emissions			✓		✓			✓									
	Investment in low-carbon energy sources			✓		✓			✓									
DISASTER RISK MANAGEMENT	Hyper-local climate risk monitoring	✓						✓			✓		✓					
	Anticipatory fund disbursement	✓	✓			✓	✓	✓		✓		✓	✓		✓			
	Financing for storm-resilient infrastructure		✓						✓									
	Investment in flood mitigation technologies		✓						✓					✓				
LIVELIHOODS	Financing of green tech SMEs	✓				✓		✓	✓		✓							
	Smoothed out income streams in climate-vulnerable industries	✓	✓			✓	✓	✓		✓	✓	✓	✓				✓	
	Finance green tech SMEs			✓	✓	✓		✓	✓		✓							
	Finance green skill development				✓	✓	✓	✓	✓			✓						
WHOLESALE	Green bonds and first-loss provisions for last-mile institutions	✓				✓		✓	✓									

Key lessons and insights

The development and variance of taxonomies: **Classification systems that categorize economic activities based on environmental sustainability are still in development, with no single universally accepted taxonomy, other taxonomies have also been developed in a humanitarian crisis context.**

The European Union and CGAP have developed relevant taxonomies. **The EU's system focuses on helping investors identify genuinely sustainable activities, while CGAP's centers on the creation and delivery of climate-responsive financial products, classifying them based on their objectives and the services they offer.**

Other interesting frameworks when analyzing climate responsive financial products are:

The Alliance for Financial Inclusion (AFI) which emphasizes the importance of inclusive and responsible financial policies. While not a traditional taxonomy, their research offers perspectives on how digital finance tools can be classified to support green initiatives and financial inclusivity.

CFI's green inclusive finance framework outlines how financial services can support low-income and vulnerable individuals in addressing climate change challenges.

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Key lessons and insights

Agricultural index insurance has been shown to provide needed support in the event of a shock as well as to unlock investments for greater productivity and income. However, sustained adoption has been a challenge. **The University of California Davis has partnered with Bill & Melinda Gates Foundation and BFA Global** to deploy alternative financial instruments that can leverage the same index to fill some of the gaps left by insurance. The blend of these three indexed financial instruments makes it possible for small-scale farmers to dynamically manage their risk over time.

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Thank you!

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