KNOWLEDGE for RESILIENCE

MICROFINANCE FOR CLIMATE ADAPTATION: FROM READINESS TO RESILIENCE

RESEARCH *brief*

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CIF CLIMATE INVESTMENT FUNDS

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CONTENTS

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AfDB	African Development Bank
AFI	Approved Financial Institution
ANE	National Roads Administration
AP&FM	Adaptation Programme and Financing Mechanism
CCALoC	Climate Change Adaptation Line of Credit
CIF	Climate Investment Funds
CLIMADAPT	Tajikistan Climate Resilience Financing Facility
COP	Community of Practice (of the PPCR)
DBJ	Development Bank of Jamaica
DFI	Development finance institution
DfID	Department for International Development
EBRD	European Bank for Reconstruction and Development
EECCA	Eastern Europe, Caucasus and Central Asia
FI	Financial Institutions
FMFB	First MicroFinance Bank (Tajikistan)
FNDS	National Sustainable Development Fund (Mozambique)
GCF	Green Climate Fund
GEF	Global Environment Facility
IADB	Inter-American Development Bank
IFC	International Finance Corporation
INGC	National Institute of Disaster Management (Mozambique)
JNSBL	Jamaica National Small Business Loans Limited
M&E	Monitoring and evaluation
MDB	Multi-lateral development bank
MFI	Microfinance institution
MITADER	Ministry of Land, Environment and Rural Development (Mozambique)
MOU	Memorandum of Understanding
MSME	Micro, small, and medium enterprise
NGO	Non-governmental organisation
NIA	National Implementation Agency
PEU	Project Executing Unit
PIJ	Planning Institute of Jamaica
PPCR	Pilot Program for Climate Resilience
SIDS	Small island developing state
SPCR	Strategic Program for Climate Resilience
TPPCR	Tajikistan Pilot Program for Climate Resilience
UK	United Kingdom of Great Britain
UN	United Nations
WB	World Bank

INTRODUCTION

Microfinance is an essential enabler of climate resilience, in a world where the concept of financing adaptation, and the mechanisms for doing so, remain a mystery to most people. Developing countries still grapple with fundamental issues related to finance readiness. For example, there are few mechanisms to provide financial services to people who cannot access finance through traditional institutions and products, or to people who are unaware that climate adaptation can yield greater financial returns from their livelihoods. Microfinance can address these challenges – particularly if concessional – allowing loans to be offered at below market rates. Focused financial interventions are necessary to remove the barriers to inclusive finance.

This research brief shows that using **intermediated, concessionary finance to enable inclusive, micro-finance solutions** allows communities vulnerable to climate change to adapt and build resilience by financing income-producing activities, building up their assets, stabilising consumption and taking measures to protect themselves against climate risks.

Alignment with the PPCR ethos: Microfinance for adaptation is strongly aligned with the ethos of the Pilot Program for Climate Resilience (PPCR), twith particular regard to two key aspects:

a) community-level approaches to resilience-building, and
b) financially empowering poorer communities, who are often the most vulnerable to climate change.

Powerful stories unfold within this Research Brief, demonstrating how PPCR enables and supports 'financed' climate adaptation, and how intermediaries scale this up.

What the case studies tell us

In line with this role of the PPCR, this research brief uses a case study approach to document best practice and innovation on intermediated, concessional, microfinance mechanisms that have arisen from a variety of PPCR-funded, climate-directed interventions.

The case studies highlight three different stages in terms of finance readiness:

- Some countries, such as Mozambique, are located early in the continuum towards finance readiness. In these countries, financial institutions are not yet

Context of PPCR Learning

The PPCR Knowledge for Resilience series aims to share the observations of and lessons learnt by countries implementing projects under the PPCR. Such lessons facilitate evidence-based learning to advance climate resilience goals, both in the PPCR and globally. The knowledge products in this Series are co-created by designated implementing entities in each PPCR country and the appointed Learning Partner for the PPCR, drawing on interviews with a range of stakeholders. The Series is part of the work undertaken by the Learning Partner to create and facilitate a dynamic, actively-engaged knowledge and learning network amongst the PPCR Community of Practice (COP).

The Climate Investment Funds (CIF) community recognises that the onset of climate change requires urgent responses, that often does not allow the time for academic, traditional, or compliance-driven evaluation and learning. Instead the emphasis needs to be on generating practical and timely insights, through learning by doing, that guide decision-making among investors and practitioners. The Knowledge for Resilience series seeks to address these aims, and includes a range of products, from case studies and photo stories, to policy and research briefs.

ready to extend adaptation finance **that requires repayment with interest**, nor are vulnerable communities ready to receive finance of this nature.

- Tajikistan, on the other hand, has matured well beyond readiness, and rural communities and agencies are accessing finance through microfinance institutions (MFIs), in addition to banks. Tajikistan and some of its neighbours are at the point where PPCR approaches can be scaled up.
- Jamaica provides an example of a country that has, through **concessional microfinance**, gained traction in financing activities in agriculture and tourism.

The approaches that Tajikistan and Jamaica have used, along with **innovative finance mechanisms used alongside or outside of the PPCR**, demonstrate important lessons for countries wanting to start the readiness process, or leapfrog to advanced levels of maturity, for inclusive microfinance.

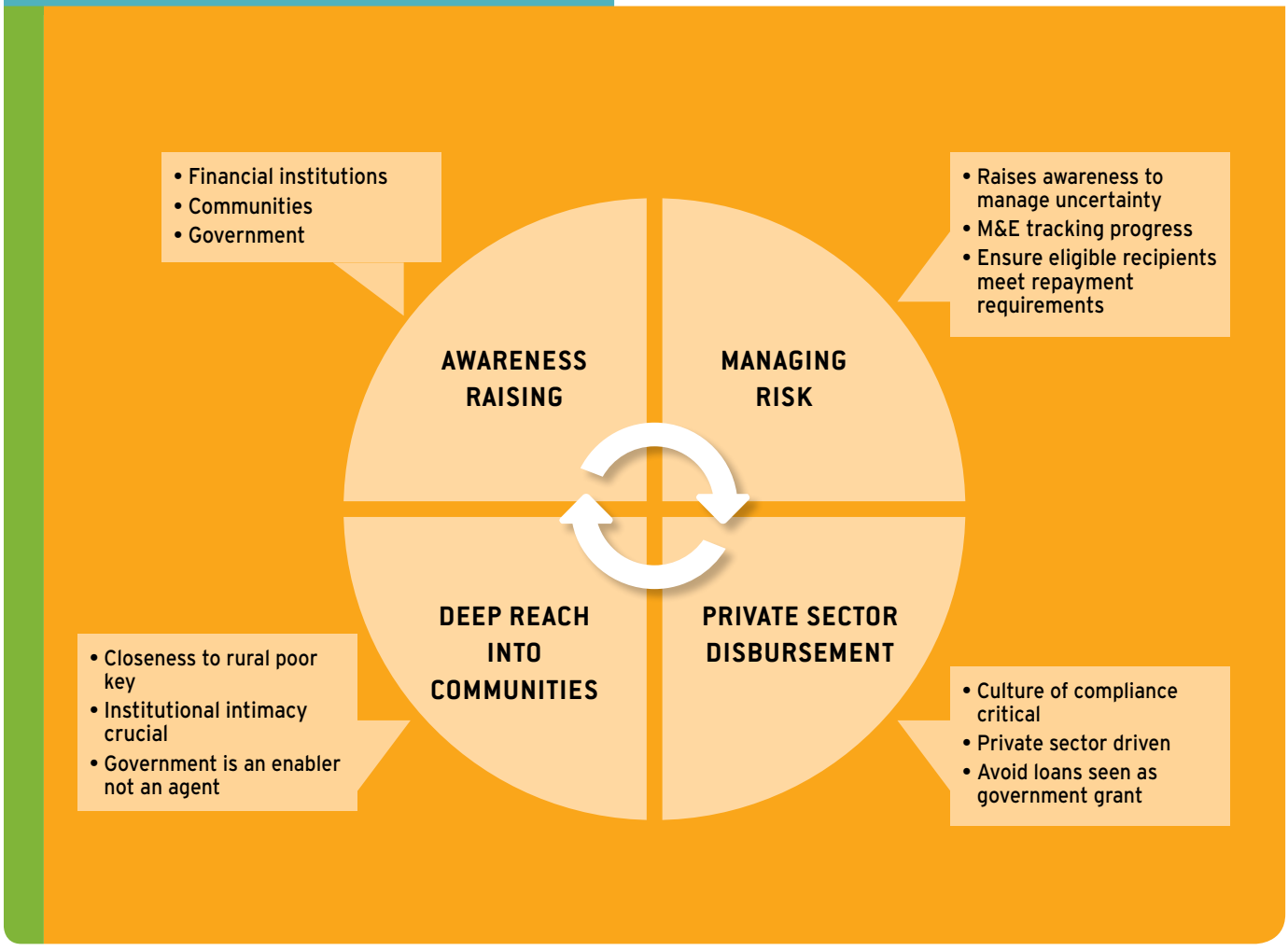
The research brief establishes the case for enabling microfinance through intermediated concessionary climate finance and provides existing examples of local bank and microfinance mechanisms and solutions currently in place. The research brief thus provides:

a) an outline of the processes undertaken to design the mechanisms, and

b) an examination of the efficacy of the structure and form of the mechanisms themselves.

A finance enabling framework: In addition to the findings discussed above, the case studies reveal that four key pillars form a framework that enable effective climate finance implementation. These are awareness raising, managing risk, deep reach into communities, and private sector disbursement. Without these factors in place, a climate finance programme is unlikely to produce much success. These factors are discussed in more detail in the final section of this report.

FIGURE 1. Finance enabling Framework



UNDERSTANDING FINANCE FOR CLIMATE RESILIENCE

Financing climate adaptation requires new thinking about traditional institutions and mechanisms, as well as about beneficiaries. Effective financing is about effective risk management. However, traditional financial institutions are rarely equipped to understand and mitigate the risks associated with financing climate adaptation. Unfortunately, this is particularly true in the most vulnerable communities, for several reasons.

Rethinking financing adaptation

To start, let's contrast the simple example of two farmers: one is an established commercial farmer, and the other is a smallholder rural farmer. Both are faced with ongoing periods of reduced rainfall, resulting in threatened crop yields and reduced income or livelihood.

In response, the commercial farmer is likely to approach his or her bank for a loan to install or expand an irrigation system, or to build a water storage facility. This farmer will typically have a track record with that bank, which will therefore understand the farmer's asset base and risk profile. Thus the institution will be able to determine whether or not to lend money to this farmer. Unless the farmer has a poor record of repayments, or does not have the projected income and/or asset base to back the loan, the bank will probably extend the money to invest in climate resilience.

In sharp contrast, a smallholder rural farmer stands a tiny chance, if any, to receive such a loan, even at a smaller scale. This farmer is unlikely to have a banking track record, or an asset base, and the income levels that banks generally consider necessary to support such a loan. Such a farmer may not even be aware of the technological and behavioural solutions available to mitigate the climate changes experienced. This farmer is also unlikely to realise that loans are possible, because

Farmer Randy Finnikin (Jamaica) used a Climate Change Line of Credit to access funds for an irrigation system for his onion farm.

Small-scale fishing in Mozambique

of limited exposure to formal financial services and because financial institutions do not often advertise this facility, even if they provide it.

Finance institution challenges to providing micro-finance

Looking at this from the perspective of a financial institution, banks typically do not lend to smallholders or subsistence farmers. There are several reasons for this:

a) With small loans, the financial thresholds are too low; the transaction costs associated with lending are high, and sizeable loans can therefore be more attractive.

b) Income streams from small-scale farming are too erratic. Security of repayment from the borrower is a central factor for the lender. Erratic income streams for farmers are already largely a function of climate variability, and the impacts associated with climate change exacerbate these risks.

c) Finance institutions often do not understand the investment possibilities that come with climate adaptation. For example, if a finance institution has no track record of investing in community-based, cooperatively-managed facilities for water storage and distribution, there is no precedent to draw from. The finance institution will be concerned about various aspects, such as:
   - the ability of the community to manage and maintain such a system, which, if built on a loan, is in effect the bank's asset until the loan has been repaid.
   - the ability of the community cooperative to collect sufficient monthly income from the beneficiaries to maintain regular loan repayments.

d) The bank may also be concerned about external factors that could put the loan at risk, for example an extreme climatic event could damage the asset severely enough to require additional finance to repair or replace it.

Challenges for communities, small farmers and micro-enterprises

Potential beneficiaries such as communities, micro-enterprises, and individuals with low income, are often unaware of the adaptation possibilities that go along with building climate resilience. There are several reasons for this:

a) Having had little exposure to formal financing mechanisms, they often have little knowledge of how loans work, how these differ from social grants, and how to manage or increase their incomes to enable repayment.

b) People who generate livelihoods from natural resources typically live from hand to mouth, often simply producing food. These people have little opportunity for building assets, managing consumption or diversifying crops or other forms of livelihood.

The opportunity provided by intermediated, concessional finance

The business of banking thrives on the process of taking in funds from a depositor and then lending them out to a borrower – the process of financial intermediation. This ability of financial institutions allows financiers to lend out money at relatively high rates of interest, while receiving money on deposit at relatively low rates of interest. However, this model requires a new way of thinking in order to ensure climate-vulnerable borrowers benefit from this system of financial flows.

Lending institutions want to know their risks are covered before they will lend the money they manage. They are also more likely to lend at greater risk, on the promise of new and increased markets.

People with climate-vulnerable livelihoods, such as smallholder farmers, or climate-affected rural tourism enterprises, present new and expanded market opportunities for financial institutions. Realising these opportunities relies on proactive and coordinated efforts:

- to raise awareness
- to build new and different capacities
- to establish financing mechanisms that are risk-manageable for lenders and borrowers alike.

The following sections demonstrate how intermediated, concessional finance can address these challenges, while also reaching a point where scale is possible. With scale, the need for support from financial intermediaries such as the MDBs, can be reduced and the penetration of MFIs can increase.

INTERMEDIATED MICROFINANCE PROMOTES RESILIENCE

Experiences from the case studies captured in this brief demonstrate that **intermediated finance** from, for example, a development bank, can mitigate the risks discussed above, and/or stimulate new markets and MFIs. In this model, the development bank intermediates by making loans to local banks (and other intermediaries), who in turn on-lend to 'end' beneficiaries, ideally to include MFIs. The intermediating institutions do this through three key functions:

a) **Extending a line of credit to qualified institutions** that meet pre-identified criteria, such as access to vulnerable, rural populations or demonstrated ability to manage, disseminate and collect finance that is demand driven
b) **De-risking investments**, for example through structuring financial products that are feasible in terms of the capabilities of the end beneficiary or offering loans at reduced interest rates and/or over longer repayment periods
c) **Providing a large financial deposit to the on-lender** to distribute in small loans to many borrowers. This diversifies the on-lender's portfolio and risk, while supplementing lower rates of return through timely, incremental releases from the large deposit.

Intermediated loans of this nature can be used to incentivise the on-lender to make concessions. For instance, an on-lender could be incentivised to offer lower rates of interest, either because competition is being stimulated between lenders, or because new markets are being opened up for the on-lending institution. This is known as **concessional finance** – or loans that are extended on more generous terms than typical market loans, such as loans at below-market rates or with longer repayment periods.

Concessional finance is an important financing tool in cases where returns are either long-term or uncertain, or both. Concessional finance can be critical to reducing the real and perceived risks facing adaptation investments,

in cases where the uncertainties are significant. It can also be used to align incentives geared to push projects over the finish line, that would otherwise not be feasible.[1]

Intermediated loans, as described here, can have the following characteristics or criteria, based on public or development policy goals:

- Increasing employment
- Developing small to medium enterprises
- Increasing social inclusion and improving social and economic equity
- Stimulating action and investments for climate resilience
- Stimulating action and investments for low-carbon development.

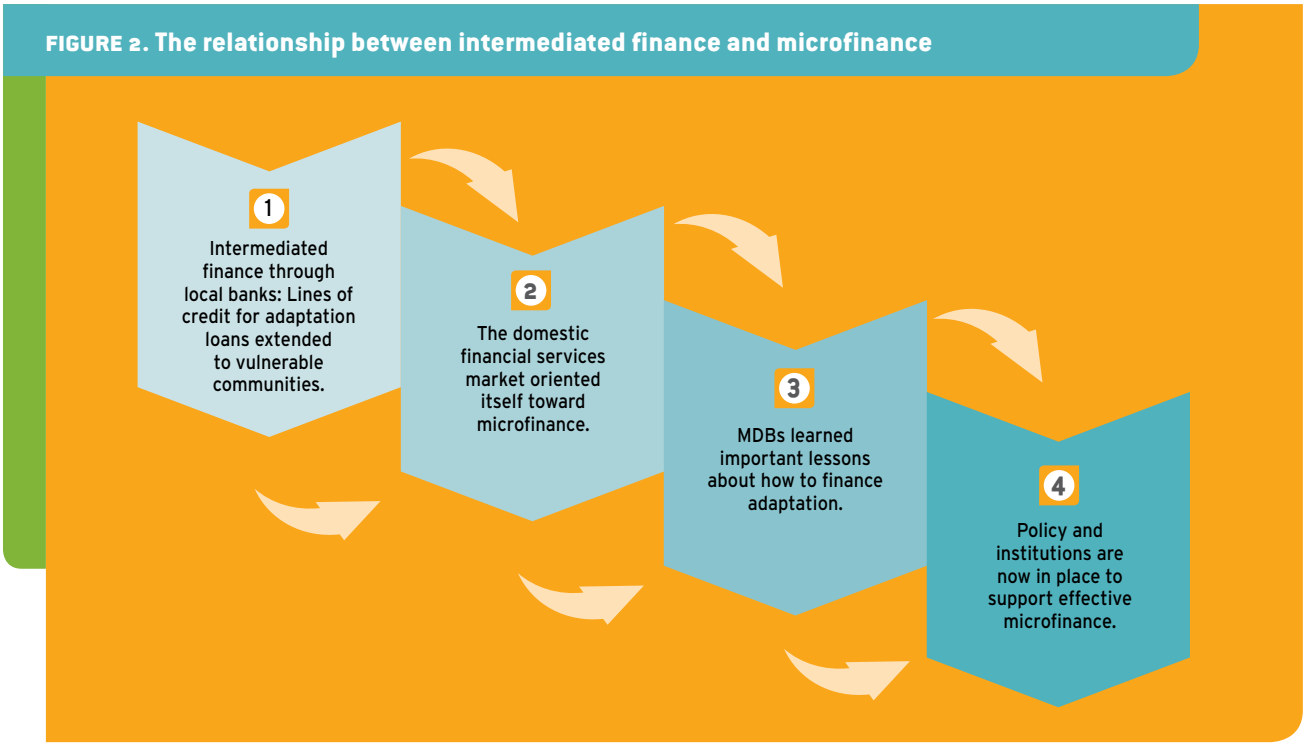
As indicated, intermediated loans are usually conditional, and encourage concessional finance. Intermediaries such as development finance institutions (DFIs) create the loan conditions, such as size and repayment terms, based on the goal they wish to achieve and the risks they have assessed in their market. Intermediaries of this nature typically do not have a contractual relationship with the end beneficiary, this being the responsibility of the on-lender. The intermediary does however take on the financial risks of on-lending. Thus most decisions related to the loan (structure, size, repayment terms, etc.) remain with the intermediary.

Intermediated loans can also be made through MFIs or they can be made available for microfinance products. Microfinance is often viewed as a solution for financing climate adaptation, and can be seen as a critical outcome or objective of intermediated, concessional finance.

Intermediated finance and the link to microfinance

Microfinance for climate adaptation is a by-product of intermediated finance. The Tajikistan case study will demonstrate this. Intermediated finance first passed through the local banks before the MDB learned important lessons about how to finance adaptation. Critically, the process of extending lines of credit through local banks for adaptation loans to vulnerable communities, helped orientate the domestic financial services market toward microfinance. The domestic market in this country now has the policy and institutions necessary for effective microfinance.

FIGURE 2. The relationship between intermediated finance and microfinance



1 As discussed in Ward, J. and Caldwell, E. (2016) in a report produced for the Climate Investment Funds, found here.

Microfinance has many different forms and faces. As we know it today, microfinance has its origins in the 1970s, when organisations such as the Bangladeshi Grameen Bank began to establish microfinancing as an industry. The main purpose was providing micro-loans to help low-income individuals set up micro-enterprises to sustain their families.

MFIs range from community-based organisations to more formal entities such as non-governmental organisations (NGOs) and banks. Microfinance products typically include micro-credit, micro-deposit, and micro-insurance schemes. These products may also be integrated with non-financial services such as health and education.

Microfinance offers a mechanism to overcome hurdles of non-access, through MFIs' use of innovative risk-management strategies, such as:

- group lending, peer monitoring and joint liability
- very small loan amounts, with frequent repayments
- the establishment of compulsory savings accounts by loan recipients.

Microfinance has the following key characteristics:

- It involves the delivery of small loans and other financial services to low-income and otherwise disadvantaged groups or individuals, with compulsory, frequent repayments.
- In doing so it helps low-income households develop alternative livelihood opportunities, build up their assets, establish or develop a business, and protect against risks.
- Its aim is to alleviate poverty by stimulating economic growth through entrepreneurial initiative, hence it promises to overcome hurdles through innovations.
- As a development mechanism, the delivery of microfinance is perceived as an attractive vehicle for facilitating adaptation. This goes beyond simply ensuring adequate finance and requires a developmental, country-wide, political economy approach. This is because it requires adequate systems for policy, planning and budgeting, to ensure country readiness in order to access, govern and deliver appropriate funding.
- Country readiness is shaped by each country's political economy – the ways in which various actors work with ideas, power and resources to develop and implement relevant policy.

From the 1970s, women in particular have been utilising microfinance as a means of supporting their families, diversifying livelihoods and managing communal enterprises (Petrie,B., et al, 2012), as discussed in Box 1.

BOX 1

Women and microfinance

Women are among the most vulnerable and poorest members of low-income societies. However, women in poor, rural regions are also known to be more reliable borrowers of credit than men. Microfinance therefore helps to significantly empower them, resulting in 68% of global **microfinance customers being women.** (Petrie,B., et al, 2012). They also tend to invest in sectors that improve their families' welfare, such as education and healthcare.

Some microfinance institutions have developed savings and insurance products specifically for women to help save for health expenses and facilitate their role as caregivers. Others have established mobile banking services designed to reach women who face access constraints. Hence microfinance has given women additional income-earning opportunities, increased their independence, and improved their status, both within their families and their broader communities.

Basket making in Mozambique

INTERMEDIATED MICROFINANCE FOR CLIMATE RESILIENCE IN THE PPCR

The rise of climate finance initiatives is reshaping the political landscape in developing countries. New incentives and governance structures have reshuffled priorities and power[2]. Within countries, various actors negotiate for climate finance and influence its delivery. The incentives they derive from their mandates, organisational structures, procedures and policies, and from their resources and knowledge base, can strengthen these decision-making coalitions (Kroll and Shogren, 2008).

Applying the approach of intermediated, concessionary finance to financing climate resilience requires adapting these key characteristics to the specific terrain of climate resilience and adaptation in a particular country's political economy. Decision makers need to understand this political economy in order to assess climate finance country readiness, and deliver plans that have wide stakeholder support. Clarity about the political economy of climate investments can help leaders build opportunities for consensus, avoid obstacles and pick more equitable and representative investments.[3]

The $1.2 billion PPCR is a funding window of the CIF for climate change adaptation and resilience building. It was established in 2008 and provides programmatic finance to support country efforts to integrate climate resilience into development planning and implementation. This is done through a country-led plan process, which results in an investment plan (i.e. the Strategic Program for Climate Resilience or SPCR). It also provides additional funding to put the plan into action and pilot innovative public and private sector solutions to pressing climate-related risks. Each PPCR pilot country, in collaboration with the MDBs, has been implementing the revised results framework since 2014.

The PPCR is designed to empower countries to approach climate resilience in a programmatic manner. Moving beyond project-by-project activities that have limited potential to effect national or sector wide transformations, the PPCR programmatic approach entails a long-term, strategic arrangement of linked investment projects and activities to achieve large scale, systematic impacts and take advantage of synergies and co-financing opportunities.

The PPCR Monitoring and Reporting system is based on four principles:

- country ownership
- stakeholder engagement
- use of mixed methods (qualitative and quantitative)
- learning-by-doing.

The revised results framework contains eleven indicators, five of which are core indicators and six of which are optional indicators. Among the five core indicators, two track progress on climate resilience mainstreaming at the national level, whereas the remaining three track progress at the project level and are aggregated at the investment plan (programmatic) level. Country results on these five core indicators are aggregated and synthesised annually.

The PPCR funding mechanism

PPCR funding is provided in two stages (see Figure 3).

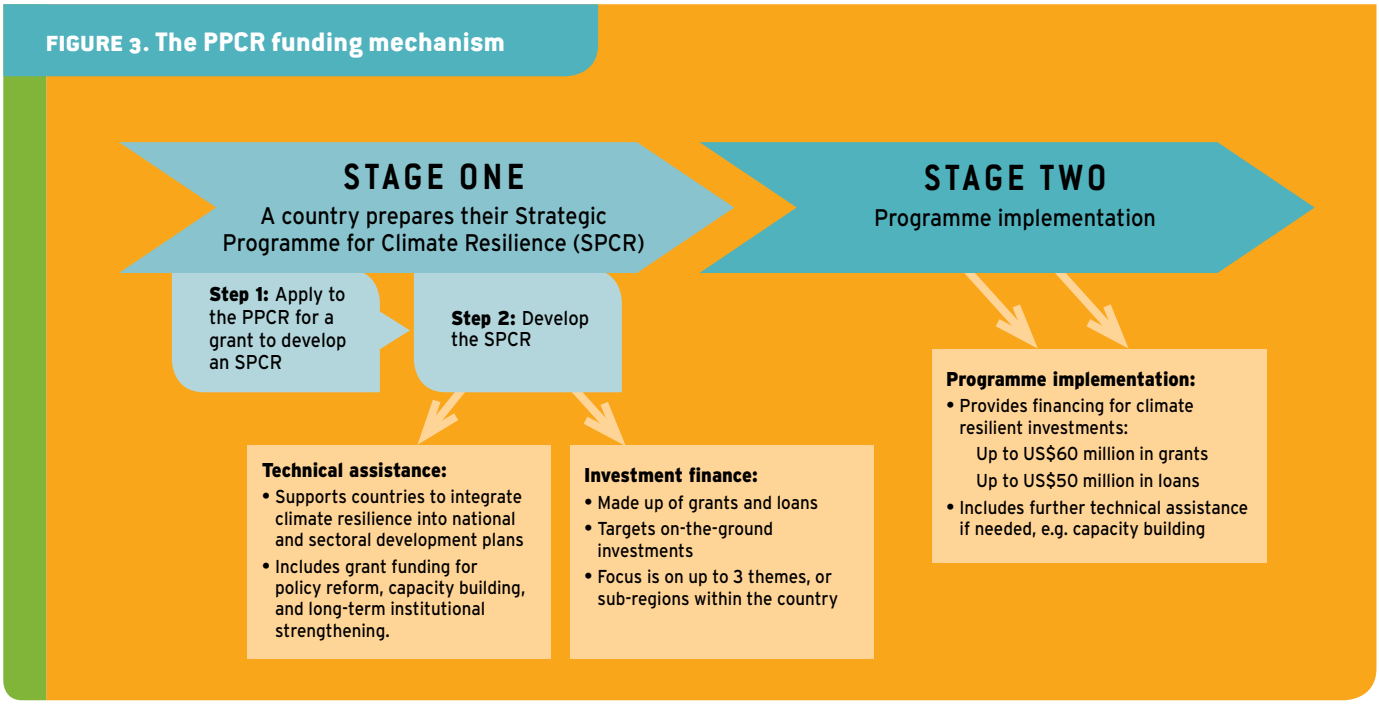
Stage 1: Prepare a Strategic Programme for Climate Resilience

- Plan and develop an SPCR and prepare grant-supporting proposal
- The SPCR includes funds for two types of investment: technical assistance and investment finance.
- Technical assistance is provided to countries to integrate climate resilience into national and sectoral development plan, including grant funding for policy

2 Tanner and Allouche, 2011.

3 Rai et al. (2015) discuss these political economy issues in greater depth in Political economy of international climate finance: Navigating decisions in PPCR and SREP, IIED Working Paper April 2015, http://pubs.iied.org/pdfs/10111IIED.pdf.

FIGURE 3. The PPCR funding mechanism



reform, capacity building, and long-term institutional strengthening.

- Investment finance is for on the ground investments that focus on up to three themes or sub-regions within the country. It is a combination of grants and loans.

Stage 2: Implement programmes

- Provides financing of up to US$60 million in grants and up to US$50 million in loans for actual investments.
- Includes further technical assistance such as capacity building, if needed.

PPCR and transformational change

A fundamental objective of the CIF is transformational change. In this context, transformation is understood as a long-term process that requires 'institutional and policy changes, technological shifts, and re-orienting investment priorities ... to demonstrate effects, remove barriers and develop mechanisms for replication' (ICF, 2013).

The overarching idea of the PPCR is to promote transformational change in countries' climate resilience building through adaptation planning and investment at scale. The intention is to create an integrated, scaled-up approach to climate change adaptation in low-income countries.

The aim is for transformational change to move from a 'business as usual', project-led paradigm to a coherent, long-term, programmatic strategy (CIF, 2011) – or in the words of a Zambian PPCR COP member, to 'un-business as usual'.

Box 2 provides an analysis of transformational change in the context of financing climate adaptation. The analysis looks at the role of MDBs in intermediating climate finance, with reference to Tajikistan's experience.

Intermediated microfinance for adaptation

Planning for, and responding to, climate change is often hampered by an 'adaptation deficit'. This is caused by a lack of institutional, financial or technological capacity to adapt effectively. In addition, there is a lack of effective delivery mechanisms to channel climate finance resources at the sub-national level, particularly to target the poor who are also often the most vulnerable to the impacts of climate change. This is where intermediated, concessionary finance, particularly microfinance products for climate resilience, can play an important role as it is an attractive vehicle for **facilitating adaptation**.

BOX 2

Transformational change and financing climate adaptation

The meaning of 'transformational' change can be understood as in opposition to 'incremental' change. The latter is common to development interventions: it seeks to *avoid* disruptions to systems, whereas transformational changes are designed explicitly to achieve system disruption. While there are various attempts to define transformation in a practical sense, some common suggestions refer to activities that are adopted at a much larger scale or intensity; that are truly new to an area or system; that transform places and shift locations; and have lasting (sustainable) outcomes (BRACED programme 2016; Kates et al., 2012).

Climate change necessitates transformational change in many sectors and institutions. Incremental change is insufficient as a response to climate change, given how it overwhelms existing system coping capacity and/or reveals large vulnerabilities in regions, populations or resource systems (Kates et al., 2012). The financial services sector is no exception, particularly in the case of financing adaptation, where there is little certainty as to the extent or timelines of climate impacts on critical development sectors. The financial services sector, is, traditionally, under-prepared to finance the investments needed, not least because it has limited reach into climate-vulnerable communities. But, for countries that aspire to climate-resilient development, financing climate adaptation is a new necessity. Adaptation is linked closely to development and existing approaches and institutions for financing development need fundamental changes if they are to adapt to this new reality.

MDBs have recognised the need for innovation that draws on established structures. Tajikistan, stimulated by the PPCR, benefits from this approach through an MDB-piloted adaptation finance facility: local finance institutions use MDB-provided lines of credit, to on-lend adaptation finance to vulnerable communities. At the outset, this finance was channelled through local banks. As the financial services sector matured, the on-lenders included MFIs – increasing the reach of financial products for adaptation. In Jamaica, cooperative lending of the regional MDB to a Jamaican cooperative bank led to on-lending through microfinance products.

Using microfinance is an important means of achieving transformational change in building climate resilience. The case studies show that intermediated microfinance (as applied by the MDBs in Tajikistan for example) can transform the products and services as well as the market penetration of financial services, to enable realisation of opportunities for enterprise development, and building resilience through adaptation, across sectors.

In the context of climate change, adaptation refers to 'the process of adjustment to actual or expected climate and its effects' (IPCC 2014). Adaptation is a process of 'managing the hazards, risks, and opportunities posed by climate change' (Fenton et al., 2015). Adaptations are incremental or transformational. In terms of incremental adaptations, the structure or essence of a system or process remain the same, while transformational adaptations change the very structure and elemental attributes of a system.

Adaptation can be characterised as either autonomous or planned. Autonomous adaptation is considered to be a continuous process, occurring as a response to multiple stimuli, and is generally affiliated with private adaptations by households. Planned adaptations, on the other hand, 'anticipate potential climate change through deliberate top-down integrated policy decisions' (Fenton et al., 2015). Adaptation will mostly be autonomous and form the basis upon which the need for planned adaptation efforts will be determined. Moreover, planned adaptation plays a fundamental role in encouraging

autonomous adaptation.

The **extent of adaptation** required depends on the 'exposure, sensitivity and vulnerability of households to weather extremes and slow onset events.'

The uptake of solutions and opportunities that build adaptation and resilience tends, for example, to be high in communities and countries that are highly exposed to extreme weather events such as floods, hurricanes and cyclones. Mozambique demonstrated much greater preparedness as the 2015 floods impacted the country, as compared to the 2000 event, when preparedness was much lower.

MODELS FOR ADAPTATION AND MICROFINANCE IN THE PPCR COP

It is critical to understand how intermediated finance interacts with adaptation in practice. The best way to do this is through a comparative case study approach. This approach explores alternative models adopted and implemented using PPCR COP in a variety of different countries – Tajikistan, Jamaica and Mozambique. Their experience is captured in the following case studies.

The three case studies presented below demonstrate some of the challenges that PPCR countries have faced – and resolved – in providing access to adaptation finance where it is needed most. Not all the countries discussed have resolved all their challenges, and some, like Mozambique, are still at early stages of readiness.

Nonetheless, the experiences of all three countries yield important lessons for other countries, in capturing the development of financing adaptation. These lessons are:

Tajikistan The domestic financial market matures for microfinance readiness through intermediated finance.

Jamaica Concessional microfinance minimises first-mover costs of adaptation.

Mozambique The experiences of other countries are leapfrogged to identify opportunities for accelerating microfinance readiness.

In addition to the three case studies from established PPCR countries detailed below, Box 3 provides insight into microfinance experiences in Rwanda, a country new to the PPCR.

BOX 3

In 2010, Rwanda established the National Climate and Environment Fund (FONERWA). As the vehicle for financing Rwanda's Green Growth and Climate Resilience Strategy. The Fund is capitalised to the tune of US$132 million, aimed at funding projects that have an impact at the community level, and at the same time attract private sector participation.

The original mechanism for channeling finance to communities was designed as a line of credit to be administered by commercial banks. Only one bank responded to the call for expressions of interest, demonstrating a general lack of understanding on the part of financial institutions of climate change adaptation and the associated opportunities and risks that come with providing such financing. Awareness raising and capacitation of finance institutions was subsequently prioritised.

The finance instrument originally designed under the fund set a minimum borrowing threshold of US$50,000. However, it soon became apparent that this type of instrument was not appropriate for addressing climate change resilience at the community level in Rwanda, where the majority of the population relies on agriculture as a livelihood and needs access to small loans of between US$1,000 and US$10,000.

Subsequently, the Climate Smart Lending Platform was established to specifically target small loans for climate smart agriculture. for climate smart agriculture. The Fund provides capital to microfinance institutions who act as intermediaries and administer the loans. The instrument is designed as a revolving loan facility with a very low interest rate of only 2%, much lower the 18% average in Rwanda. This low interest rate provides farmers with the incentive to take out small loans, and once they experience a return on investment and have demonstrated the ability to repay the loan, they have access to greater levels of funding.

Rwanda is new to the PPCR with a SPCR approved in 2017, they have not yet received funding towards their SPCR objectives, but intend to focus on spawning Small Medium Enterprises (SMEs) in the climate change and environmental space.

FONERWA works with communities to build resilience in the Agriculture sector through the use of climate smart agriculture practices

FROM READINESS TO RESILIENCE

As discussed in the introduction, the three stories in this brief reflect different levels of maturity on the readiness continuum. Importantly, all three provide critical lessons for maturing domestic financial markets for adaptation finance. The case studies also demonstrate diverse experiences and methods to use the PPCR in order to leverage intermediated finance for climate resilience and adaptation.

Key takeaways on how to accelerate beyond finance readiness to financed climate resilience emerge from the important case studies that follow:

- **The private sector matters – both as an on-lender and as a beneficiary.** Loans that flow from government institutions are perceived as social grants that do not require repayment. At the same time, targeting enterprises as beneficiaries of adaptation finance is essential for establishing a critical mass for building climate resilience, while also addressing social issues of inclusiveness, poverty and employment.
- **Intermediated finance enables private sector participation** through unlocking risks, providing access to knowledge, building capacities and extending lines of credit, targeted at small business.
- Intermediate finance allows the **most climate-vulnerable people and communities to access finance.** Extending sustainable sources of adaptation finance to these communities is one of the biggest challenges to building climate resilience.
- **Building on the capacities of incumbent financial services is a critical success factor.** Established banks and MFIs, funds and MDBs all have relevant structures and institutional capacities to draw from, in implementing an adaptation finance programme. Institutional capacities are available in all countries to some extent.
- **Concessional finance is key to unlocking first movers in climate adaptation.** Piloting innovative projects is challenging for lenders and borrowers alike. First-mover costs are often high and can usually only be reduced through reaching economies of scale through high levels of adoption, and through understanding what works and what does not.
- **Microfinance is an important by-product of intermediated finance**. Intermediated finance can be used to on-lend to microfinance institutions, in addition to local banks, while achieving even greater market penetration for adaptation finance by including MFIs.
- **Access to new markets is important for intermediating institutions and on-lender institutions alike.** MDBs that typically focus on infrastructure development as their core business, can achieve greater market penetration through upscaling adaptation finance, while on-lenders, such as local banks and MFIs, can access new markets through adaptation finance products that are concessional.

Critically, intermediated finance can result in scaled-up climate adaptation and resilience across the developing world. MDBs, which often function at a regional level, can use key experiences to multiply lending through banks across their region. This is exactly the type of transformational approach needed to build sustainable resilience to climate change. The PPCR experiences demonstrate that we are on our way there.

Finally, as discussed earlier, the critical factors of awareness, community reach, risk management, and private sector disbursement are critical support factors in implementation (discussed in more detail in the final section of this brief).

CASE STUDY 1

TAJIKISTAN

The domestic financial market matures for microfinance readiness

CONTEXT: Tajikistan is landlocked, and economically dependent on Russia. It struggles with poverty, corruption, uneven economic reforms, economic mismanagement and instability. Nearly 47% of its GDP comes from migrant remittances. The economy is highly vulnerable to external shocks. Tajikistan is extremely vulnerable to climate change as it is very dependent on glaciers for clean drinking water and hydropower. But these glaciers are disappearing.

NEED FOR ADAPTATION: As identified in Tajikistan's NDC, the priority actions or sectors for adaptation are energy, agriculture and forestry, ecosystem protection, water resource management, transport and housing, as well as disaster risk management. Reforestation is identified in the NDC as a priority for the unconditional mitigation contribution, producing co-benefits for biodiversity and ecosystem protection.

PPCR MODEL: Dual model of strengthening and building absorptive capacity at government and community level through direct and indirect action, and leveraging further climate resilience funding on the back of demonstrated success was used. Capacity building involved: 1) Projects directly aimed at strengthening government decision making and absorptive capacity. 2) Using an NGO to operate at the lowest level of communities, with sub-grants being directly disbursed to local populations (individuals, households and communities), and indirectly through disbursing funds through water user associations at the district or community level, to prepare proposals and provide support.

REASON FOR CHOICE OF THE MODEL: MDBs had to actively lead the process due to limited capacities of the national institutions; a reshuffle of government jobs left the role of Government Climate Change Lead vacant for several months, at a crucial time in the process. NGO support was deemed critical to awareness raising and capacity building. In addition, the Office of the Presidency, through the climate change secretariat, desired leverage and scale as outcomes of PPCR investment.

PPCR FINANCE AND IMPLEMENTING MECHANISM: Tajikistan is the first country in the Eastern Europe, Caucasus and Central Asia (EECCA) region to participate in the PPCR, initiated in 2009. At the outset, multi-stakeholder workshops were held (with banks, donors, civil society, academia, vulnerable sectors, etc.), led by the Office of the Presidency and driven as a national priority. The Deputy Prime Minister was a driving force and all ministries were pushed for action.

PPCR financing in Tajikistan is administered through the MDBs: World Bank (WB), Asian Development Bank (ADB) and European Bank for Reconstruction and Development (EBRD).

The lead coordinators for the Tajik PPCR process are based at the headquarters of the relevant MDBs in Washington, Manila and Tajikistan. In the Tajikistan Government the PPCR focal point is the Deputy Head, Department for Environment Protection and Emergency. The Tajikistan PPCR (TPPCR) office provides information and bridging services and acts as a hub for TPPCR projects.

The key financing facility to distribute PPCR funding for climate resilience is a partnership institution called CLIMADAPT, the Tajikistan Climate Resilience Financing Facility, with a focus on climate change adaptation. The EBRD, in partnership with the PPCR and the support of the United Kingdom's Department

for International Development (DfID) held the formal launch of CLIMADAPT in February 2016. CLIMADAPT helps Tajik households, micro, small and medium-sized enterprises (MSMEs) and farmers cope with the effects of climate change, and supports the country's transition towards a green economy. Through CLIMADAPT, microfinance for climate resilience has become a specific focus of Tajikistan's PPCR initiatives to promote the private sector's resilience to the effects of climate change. CLIMADAPT is an intermediated finance facility that started by on-lending to local banks through the creation of concessional finance facilities and conditions for loans to end beneficiaries. A key condition was that loans be made available for climate adaptation in Tajik priority sectors and to identified vulnerable groups. Specifically, this condition stipulates that the local banks provide financing to small businesses for sustainable technologies and practices for climate adaptation, thus enabling private sector investment in building climate resilience. CLIMADAPT has a total funding of US$10 million to provide financing to small businesses, farmers and households through local partner financial institutions. The funding is provided by the EBRD and the PPCR in partnership with private financial institutions. To overcome the affordability constraints of local businesses and households, the CIF are providing US$5 million of concessional finance, which is blended with EBRD's US$5 million of commercial finance.

OPERATING STRUCTURE: The CLIMADAPT credit line operates through Tajik banks and microfinance institutions for on-lending to final or end-beneficiaries: households, MSMEs, farmers, and communities. The local financial institutions are: Bank Eskhata; Humo, the third-largest non-bank microfinance institution in the country; IMON International, the country's largest microfinance institution, and Tajikistan's First MicroFinance Bank (FMFB). A loan of US$1 million to FMFB was made in equal shares by EBRD and CIF PPCR, to finance investments in climate resilience technologies in the commercial and residential sectors. FMFB provides a full range of banking services through its nationwide network of 7 branches and 29 banking service centres. The network covers all regions of Tajikistan, including remote parts of the country, where the presence of other financial intermediaries is limited.

Government coordinates and liaises with stakeholders through the PPCR Secretariat. The coordination mechanism of PPCR has a steering group with civil society representation.

PROJECTS: While the majority of finance has been committed to mitigation projects (61%), a significant volume of commitments has been made to multi-focal projects (both mitigation and adaptation). Adaptation finance has been targeted at attaining resource efficiencies (notably energy and water) and at enhancing the sustainability of land management.

The CLIMADAPT credit line has supported over 3000 sub-projects to date, with approximately 58% of sub-loans being utilised for energy efficiency investments, 39% for water efficiency investments, and 3% for sustainable land management technologies.

Savings from these investments are in the region of 49,934MWh/annum of primary energy and 13 million cubic meters of water per annum, as well as the prevention of soil erosion estimated to be in the region of 695 tons/annum.

By July 2018, CLIMADAPT had disbursed approximately US$9 million to more than 3,099 households, farmers and MSMEs, helping Tajik households and businesses to cope with the effects of climate change and supporting the country's transition towards a green economy.

The PPCR initiated a capacity building and readiness to receive finance programme to support the roll out of the CLIMADAPT facility. Community land rehabilitation programs were piloted in six communities. Each was formed by unofficial household groups (numbering from 5 to 25 households) who prepare a sub-project proposal, using their own initiative to propose any project they like. Funds are received into

their own local bank accounts. The National Implementation Agency (NIA) monitors and reports to the PPCR Secretariat.

Water user groups were established following a similar process, and focused on capacity training for dealing with changing water flows in hydropower rivers. Funding was split between community activities (78%) and big projects (22%). Some are grants and some are concessionary loans.

Technical advice is also provided to support the adoption of technologies and practices that reduce soil erosion and pressure on water and energy resources, all of which are top priorities for building climate resilience in Tajikistan. Funding for these technical cooperation activities is contributed by the UK. The ADB supported the implementation of a technical assistance project where 10 to 12 sectoral specialists were identified and trained, thus improving capacity.

For more information on CLIMADAPT projects, see this **video**.

RISK MANAGEMENT: A thorough needs assessment of each sector, and their capacities to absorb climate finance was conducted, to ensure that projects targeted for microfinance were matched to needs. The primary stress on building capacities of microfinance recipients proved to be a critical risk mitigation measure. An NGO was hired to help communities identify and prepare finance applications and systems for monitoring project implementation progress was put in place.

FIGURE 4. CLIMADAPT investment achievements as of 1 July 2018 (CLIMADAPT 2018)

OVERALL CREDIT LINE

9,0 US$ MILLION
Value of sub-projects supported

3 099
Number of projects supported

10,0 US$ MILLION
Size of credit line

PORTFOLIO SPLIT (NUMBER OF SUB-LOANS)

58%
Share of energy-efficient technologies supported

39%
Share of water-efficient technologies supported

3%
Share of sustainable land management technologies supported

SAVINGS ACHIEVED

49 934 MWH/ANNUM
Primary energy savings from the sub-projects supported

13 MILLION M^3/ANNUM
Water savings generated from the sub-projects supported

695 TONS/ANNUM
Soil erosion reduced from the sub-projects supported

CLIMADAPT manages and spreads risk in two ways; firstly, by funding a variety of recipients: directly to communities, and indirectly to associations, big projects, water catchment agencies, etc. Secondly, funding is divided between grants and concessionary loans. For climate resilience investments below US$300,000, CLIMADAPT has a list of eligible equipment and material. This provides clear guidelines as to what classifies as a climate resilience project. Equally, it makes small and medium-sized transactions very efficient. For investments above US$300,000, CLIMADAPT offers clients a dedicated climate resilience assessment that identifies climate risks and offers technical solutions, including consultations with engineers.

CHALLENGES: Inadequate capacity in government, as well as of the Secretariat at the outset of the CLIMADAPT programme was was a challenge. Many ministries required support to engage more deeply in supporting the program's targeted climate change interventions and to evaluate its impact on Tajikistan. This required building internal capacity across relevant line ministries and gaining experience to address the issues of climate change adaptation more effectively. The fact that the projects were sectorally based, exacerbated the capacity problems as there was a lack of sufficient sectoral expertise. This also hindered monitoring and evaluation (M&E) reporting to CLIMADAPT and the PPCR.

Managing expectations of stakeholders who have high, and possibly unrealistic, expectations of CLIMADAPT was a serious challenge, particularly in the early days of the programme. Civil society organizations argued that the reach of CLIMADAPT into climate-vulnerable communities is limited and, noting insufficient cooperation between the implementing MDB and civil society organizations.

An ongoing challenge is finding ways of including marginalized groups, particularly women food producers as a key vulnerable group, in the roll out of CLIMADAPT. A range of commentators from UN, civil society and donor organizations felt that the underpinning assessments lacked sufficient gender analysis and that the initial targeted projects did not consider the different needs of women and men in relation to climate change.

CLIMADAPT found awareness raising to be a key challenge. On the demand side, people have very little understanding of the risks of climate change and how they can deal with these risks. Simultaneously the supply side is under-developed. There is limited availability of domestic technology providers, such as solar PV and financial services providers do not understand how to play a role in financing resilience.

CLIMADAPT continues to experience a need to further develop the capacity of partner finance institutions to understand how to build green finance into their business-as-usual operations.

TRANSFORMATIONAL CHANGE: The PPCR-CLIMADAPT 'partnership' is a critical success factor in driving the transformational change already evident in the results realized in the extension of microfinance to vulnerable communities. PPCR hired an NGO as a facilitating agent as well as to drive the major effort to raise community awareness of climate change. Through this technical assistance (TA) participatory rural appraisals (PRAs) were conducted to identify 'dire needs' or primary needs, to which CLIMADAPT responded in their design of project support. The NGO process increased the capacity of communities to generate project ideas and finance applications at the community level. It was critical that applications demonstrated additionality and the NGO interventions educated and facilitated this, for example in projects which demonstrated increased drought resilience in areas where wheat and horticulture prevail, which crops rely heavily on precipitation. The NGO process also in-

CLIMADAPT credit for small scale water resource development in Tajikistan's rural farming communities

cluded support for seed propagation, greenhouses, and assistance in developing climate resilient crops. Similarly, CLIMADAPT ensured that local finance institutions are similarly capacitated, demonstrating that if local finance institutions are properly capacitated, they can act as agents of change. Through the combination of well capacitated finance institutions and loan recipients, CLIMADAPT has been able to rapidly and sustainably increase the market penetration and accessibility of technologies for building climate resilience, through extending lines of credits to vulnerable communities.

SOLUTIONS: Building absorptive capacity improved microfinance disbursement and increased the capacity of communities to generate project ideas and finance applications through ongoing support, whilst targeting the capacity building of local finance institutions has facilitated their entry into new markets. NGOs conducted capacity needs assessments with government implementing agencies. Capacity problems were tackled by implementation of a technical assistance project where 10 to 12 sectoral specialists were identified and trained, improving capacity. Cooperation between the implementing MDBs for CLIMADAPT, and the National Implementing Agency (NIA) has improved.

Thorough preparation for rolling out CLIMADAPT allowed them to leapfrog, such as by building capacity and using established methodologies, drawn from WOCAT, an internationally recognized repository of tried and tested methodologies and tools for Sustainable Land Management (SLM) in the context of global issues such as Climate Change Adaptation, Disaster Risk Reduction, Food Security, and Sustainable Development Goals:
see **https://www.wocat.net/**.

ADB technical assistance and NGO support to CLIMADAPT has allowed 70-80% of funding to go to communities.

KNOWLEDGE MANAGEMENT: Since dedicated climate resilience investments are new to the Tajik market, and particularly to potential microfinance recipients, there is significant scope for knowledge improvement, for example in the target investment areas of water and energy efficiency and sustainable land management. With WB support, a knowledge platform was established in the Secretariat, responsible for generating knowledge products focusing on climate adaptation and mitigation. The

knowledge products generated on adaptation solutions proved to be a significant success factor for implementing CLIMADAPT, which also benefitted from the part-time knowledge management specialist employed in the Secretariat to work with the media and raise community awareness of climate change in relation to their primary needs, as well as available response measures. This contributed greatly to increasing the absorptive capacity of communities and sectors of CLIMADAPT generated financial mechanisms. Similarly, CLIMADAPT has developed extensive knowledge and training materials to support the capacity building of local finance institutions.

LEVERAGE AND SCALE: PPCR funds have accelerated financing for adaptation solutions through intermediated finance through CLIMADAPT that extended beyond local banks to include microfinance institutions. Experience demonstrated that microfinance can be an important by-product of intermediated finance. Moreover, it shows that microfinance for adaptation is a product of mature domestic institutions and policy. Maturity here stems from an enhanced and institutionalised understanding of adaptation investmentsfor resilience, and a financial services market that recognizes the value of MFIs.

In addition, PPCR funds allowed Tajikistan to leverage considerable co-funding, for example from the EBRD and DfID which in turn enabled the design and roll out of CLIMADAPT. This funding is enabling scaling up CLIMADAPT, both within Tajikistan and beyond its borders to neighboring countries. For example, according to officials from the EBRD, which plans to invest in similar facilities in the Kyrgyz Republic, adaptation finance is already becoming available there, through local finance institutions who have learned from their neighboring Tajik communities of the opportunities and benefits of microfinance for climate resilience. While these implementations are small and autonomous at this stage, EBRD intends to scale up the Tajik CLIMADAPT model in Kyrgyzstan and other countries in the vicinity, through intermediated loans to 30 banks, within the 2018 financial year.

Tajikistan has a need for improved infrastructure in areas vulnerable to climate change.

CASE STUDY 2

JAMAICA

Concessional microfinance minimises first-mover costs of adaptation

CONTEXT: As a small island developing state (SIDS) in the tropical hurricane belt region of the Atlantic Ocean, Jamaica is particularly vulnerable to the effects of climate change. Climate change impacts are felt in increasingly unpredictable weather patterns – rising sea and air temperatures, more frequent and severe hurricanes resulting in storm damage, droughts, flooding, landslides, biodiversity loss, agricultural impacts, and reduced freshwater availability.

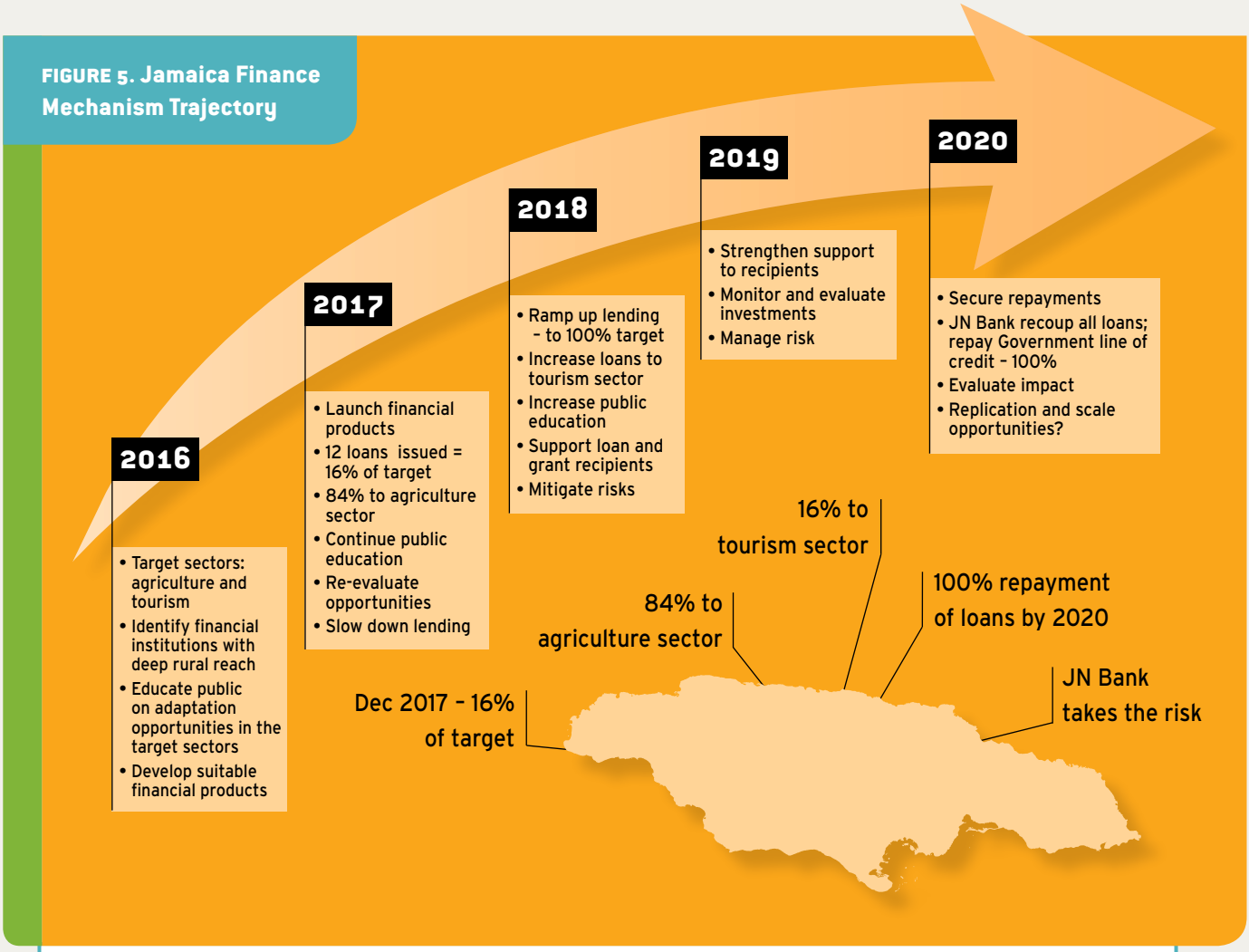
NEED FOR ADAPTATION: Drought and shifting patterns of rainfall are adding strain to local water resources, resulting in daily water supply interruptions. Many customers are having to buy very expensive trucked water from private vendors.

PPCR MODEL: A private sector cooperative Mutual Bank is used as the intermediary institution for adaptation finance intermediated by the regional MDB, the Inter-American Development Bank (IADB) through concessional finance funds.

PPCR FINANCE AND IMPLEMENTING MECHANISM: The Planning Institute of Jamaica (PIOJ) is the PPCR Focal Point facilitating access to finance for adaptation aligned with the climate resilience objectives of Jamaica's Vision 2030. The Ministry of Economic Growth and Job Creation is the implementing agency, reporting to the PIOJ. The Ministry works with implementing partners, mostly government agencies and private sector institutions. The Ministry applies the model of the Government of Jamaica in providing loan financing to the private sector (Approved Financial Institutions – AFI) through the Development Bank of Jamaica (DBJ). The AFI then on-lends to enterprises under the conditions established by the Government. The DBJ monitors the AFI to ensure compliance.

Col. Oral Khan, of the Ministry of Economic Growth and Job Creation, talks about adaptation at Jamaica's premier agricultural event.

FIGURE 5. Jamaica Finance Mechanism Trajectory



In March 2017 the Inter-American Development Bank (IADB) allocated US$17.5 million (J$2 billion) to the Adaptation Programme and Financing Mechanism (AP&FM) project, one of five falling under PPCR in Jamaica.

REASON FOR CHOICE OF THE MODEL: In order to achieve targeted reach, it was important to find a financial institution with access to rural areas, commitment to providing support after loans were granted, and willing to provide green loans, or financing for environmentally sustainable enterprises, and grant finance. The government therefore engaged in a pre-selection scoping exercise of all financial institutions to find appropriate partners. A mutual bank, JN Bank, was chosen because it had a deep reach into communities across Jamaica, including those in rural areas. In addition, being a mutually owned cooperative, it accepted lower profits and was able to offer lower lending rates than competitors.

OPERATING STRUCTURE: Through a ministerial open tender process, private sector banks were requested to partner to disburse finance directly to affected communities and small businesses for climate change adaptation. JN Small Business Loans Limited (JNSBL) was appointed to provide competitive loans through the extension of a line of credit in the form of loans to micro, small and medium sized enterprises (MSMEs) in the agriculture and tourism sectors – Jamaica's most vulnerable sectors to climate change. All loans and grants are under J$5 million (US$477 million), and are underwritten by funds from the PPCR.

PROJECTS: The projects focused on adaptation support in agriculture and tourism. A major thrust has been communication and sensitisation of opportunities to potential clients in these sectors. The aim is to have 75 to 100 loans (US$2.5 million), issued and repaid, by 2020. Thus far 12 loans have been

A rainwater harvesting pond built by a recipient of the Climate Change Line of Credit in the Blue Mountains, Jamaica, for an ecotourism business.

granted totalling US$300,000. Ten of these loans have been in agriculture and two were granted to small hotels in the tourism sector to finance irrigation, water harvesting, and storage systems. The upcoming year is critical in terms of ramping up loans and grant issuances based on earlier learnings.

For further information see this **video** *produced by PPCR Jamaica.*

FINANCIAL RISK MANAGEMENT: The IADB is not involved in implementation, but plays a close monitoring role. The Ministry, through the AP&FM-PPCR sets the framework, provides guidance to, and monitors the work of the JNSBL. The PEU also liaises with the DBJ which is being paid by the project to carry out its usual financial judiciary role on behalf of the Government of Jamaica. The administrative fee paid by the AP&FM-PPCR to the DBJ is in lieu of an up-front fee and interest which the DBJ usually charges the AFI for this service. The DBJ lends the money to the JNSBL at zero interest rate. The AP&FM-PPCR also pays an administrative fee to the JNSBL. These payments by the AP&FM are to ensure that the usual charges are not passed on by the DBJ and the AFI to the MSME, hence enabling a low interest rate of no more than 4% per annum to these borrowers.

The JNSBL is required to pay back funding to the government within the life of the AP&FM-PPCR, through recouping the loans made to public members, which incentivises it to be thorough and proactive, exercising due diligence. The Ministry of Finance then needs to pay the money back to the IADB.

It is important for the model to manage expectations and perceptions, and for recipients to perceive the loans as a commercial process rather than as coming from government, even though the funds ultimately come from the Ministry. This is because government funding is seen as 'free money' and thus recipients are not keen to pay the money back.

The JNSBL uses a rigorous screening process. Once a decision is made, accepted applicants are given a concessionary six months to start repaying the loan. The facility, now in its second year, is still in its infancy, is learning as it goes along, and is intentionally operating slowly in terms of loan decisions in this early phase.

Two technical coordinators in the PEU work with NSBL to provide additional on-going support to clients, follow up on progress, and monitor the investments to mitigate potential risks. Working closely with clients acts as a safeguard, providing an early warning system and alerting the JNSBL ahead of potential loan default situations. This is working to its advantage to promote loan repayment.

However, given that the programme has to be completed (with all loans repaid) by 2020, the intention is to now radically ramp up project allocations (especially in the lagging tourism sector) in order to meet the targets set. The PEU also has a monitoring initiative, using a variety of indicators, including gender based ones, to track progress.

CHALLENGES: A main challenge is ensuring that small businesses and vulnerable farmers understand that it makes financial sense to invest in adaptation mechanisms, and that they are aware of, and have access to, the funding made available through the PPCR. This included ensuring that loan interest rates were reasonable and acceptable.

The existing capacity of NGOs, community groups and MSMEs required setting a viable loan ceiling that could be effectively handled and met by customers.

The willingness of financial institutions to invest in climate change adaptation enterprises was a significant challenge. There was little understanding on their part about business opportunities that could be made available and they were unwilling to extend loans without collateral.

Climate finance access is usually at the project level and then filters down to the community level. The big challenge is closing the gap to ensure easily accessible finance.

OBSTACLES AND BARRIERS: Several obstacles to promoting microfinance in Jamaica were identified by stakeholders, including:

- Risk averseness amongst MSMEs towards borrowing money, especially in the agricultural sector
- Limited knowledge about the impacts of climate change
- Lack of knowledge about the potential benefits of climate change adaptation measures
- Slow uptake of loans due to low awareness levels across both target sectors, with greater public understanding of the adaptation opportunities in the agricultural sector.

SOLUTIONS: Ensuring access by poor rural communities to the appropriate institutional mechanisms required high levels of education and sensitisation of recipients about the funding institution and the opportunities available. In order to make loans affordable, further negotiations were necessary with the Jamaican Central Bank, which required them to set aside certain fees and to absorb various costs to reach the target 4% interest rate.

Through the partnership collaboration, a solution was developed to address the capacity issues of NGOs, community groups and MSMEs that maximises both access to finance through the JNSBL network across Jamaica as well as affordability. The J$5 million loan ceiling was based on an estimation of the costs involved in implementing projects at the scale and level related to the capacity of NGO, community groups and MSMEs.

The delivery of customised education, to and through, financial institutions was required to promote investment in MSMEs.

LEVERAGE AND SCALE: Concessional finance has been critical to enabling climate adaptation investments in the agriculture, and to a lesser extent, tourism sector. Concessional finance proved necessary to moving climate adaptation investment projects forward in a financial services market where dedicated lending for climate resilient technologies was non-existent. Collaborative investment between the IADB, the JNSBL and the Government of Jamaica helped greatly to mitigate project risk in an uncertain market. The line of credit extended to finance adaptation through the JNSBL is yielding important lessons that will be critical to upscaling such investments beyond 2020, the year by which the current line of credit is to be repaid.

KNOWLEDGE MANAGEMENT: Education and training of and through financial institutions (FI) has played a major role in the program. The Ministry of Economics signed a MOU whereby the ministry is responsible for educating FIs. In this way FIs have been assisted in designing suitable products for poorer communities and MSMEs, new types of technologies or investments that are more appropriate, and extension facilities to farmers. As a result of being educated, FIs have been able to embark on rigorous campaigns to educate their clients. FIs also been running their own climate change team building initiatives and competitions. The project is also implementing climate change awareness initiatives through its Communications Strategy. This deals with knowledge management, including the recent establishment of the Jamaican PPCR website (www.ppcrja.org.jm). Videos of lessons learned are being made.

PPCR Jamaica has established a communication working group with communication officers of other PPCR Jamaica projects, to coordinate the messages that are being delivered. The PEU is deeply involved in training both MSMEs and financing institutions on the products, technologies and investments that can be used to build resilience. The CCALoC is promoted by both the JNSBL and the PEU through exhibitions and advertisements in the media (mainly radio and television).

ACHIEVEMENTS: By November 2017 approximately US$300,000 has been distributed using this microfinance mechanism, with twelve loans having been approved and disbursed. The funding has been used for projects such as establishing agri-business irrigation systems, constructing a rainwater harvesting pond for a tourism enterprise, cash crop farming, as well as the contouring and preparation of land for farming.

Sharing lessons learnt – Recipients of climate financing through the Adaptation and Financing Mechanism Project of the PPCR share their stories under the guidance of trainer, Miguel Williams.

CASE STUDY 3

MOZAMBIQUE

Opportunities to accelerate readiness: Leapfrogging other countries' experiences

CONTEXT: Mozambique is ranked as the third-most-vulnerable country in Africa to climate change impacts. Its hydrological, geographic, and climatologic profile makes it particularly vulnerable to the effects of climate change and the impacts of climate-related phenomena such as cyclic floods and droughts, extreme temperatures, and tropical cyclones. Climate change impacts are already felt in the form of rising temperatures, increases in the duration of dry spells, increase in the proportion of heavy rainfall, flooding, cyclones, and in the frequency of climate-related disasters.

NEED FOR ADAPTATION: The impact of harmful climatic events on the population and infrastructure are compounded by widespread poverty and the lack of resilience. Therefore, it is imperative to strengthen the preventive and adaptive capacity of the Mozambican population in order to improve their current and future resilience under conditions of climate change.

For further information on Mozambique's climate change strategy, watch this **video**.

PPCR MODEL: Highly centralised, state-controlled modality for disbursing funds to communities. PPCR guidance states that microfinance should include a socially inclusive process with intermediated finance this is on-lent through local banks and microfinance institutions and is, by definition, not a centrally controlled system. Rather, it requires the support of civil society organisations which are deeply rooted in communities, especially those in far-flung rural areas. Many civil society organisations in Mozambique regard the PPCR as another process controlled by government.

PPCR FINANCE AND IMPLEMENTING MECHANISM: Mozambique's PPCR strategic programme is designed under the leadership of the Mozambican government in coordination with the African Development Bank (AfDB), members of the World Bank Group, other development partners, and key Mozambican stakeholders. The CIF endorsed US$86 million in June 2011. The programme provides investments to support infrastructure upgrades for agriculture, communication and roads; better resources management for fisheries, agriculture and forestry; enhanced climate services monitoring/

The need for rural agriculture in Mozambique to increase resilience

evaluation and financing; and developing local and national capacities for climate resilient planning and action. To undertake private sector investments, the International Finance Corporation (IFC) commissioned two in-depth market studies of potential investments and opportunities to build climate resilience of rural communities. These, and other studies highlighted the need to support climate resilient rural agriculture development in Mozambique.

OPERATING STRUCTURE: The policy and institutional reforms, supported by the World Bank, are jointly led by the Ministry of Land, Environment and Rural Development (MITADER), and the Ministry of Economy and Finance. These work in close conjunction with the Climate Change Unit, which includes representation of other climate relevant ministries, such as health, gender, child and social affairs, water, and roads. Under these institutional arrangements, a decision was taken to use the MITADER platform to distribute small, PPCR-funding enabled loans for climate resilient agricultural development in rural areas. These loans were set up with repayment terms, with farmers expected to repay the loans through MITADER, to the PPCR, Mozambique. The partnership with the International Finance Corporation (IFC) was designed to provide advisory and technical support to private sector beneficiaries of loan facilities.

PROJECTS: The small loans facility was extended as microcredits to rural farmers in provinces most vulnerable to climate change, for example the arid, drought prone Limpopo region of the country, and to entrepreneurs managing informal water systems in peri urban areas. The objective was to enhance climate resilience in the agricultural and peri-urban water sectors of the country. Targeted interventions for local farmers included increasing small scale irrigation infrastructure such as drip irrigation and rainwater harvesting, as well as provisioning of water to domestic and agricultural users from ground water resources. The latter were targeted at agricultural areas as well as the informal water supply networks in peri-urban environments, established and maintained by private sector entrepreneurs.

RISK MANAGEMENT: The project was underpinned by technical assessments of the sustainability of proposed water use interventions. Advisory services were identified as an important risk management measure, and a local bank was to be the conduit for the loans and these advisory/technical support services. However, the Government extended the loans directly to end beneficiaries, through the state-controlled modality discussed above. The implementation of this project (and other PPCR and climate change adaptation projects) highlighted the need for systematic monitoring and evaluation of climate change responses, and a National Climate Change Monitoring and Evaluation System (NCCMES) was established. This project particularly highlighted the need to pre-evaluate risk across financial, environmental, social and economic spectrums, to ensure that all risks are considered, with mitigation measures put in place. This approach could for example have facilitated early identification of the risk of non-compliance in repaying loans to government institutions, allowing for early mitigation measures.

CHALLENGES: While the loans facility was targeted at the most vulnerable sectors and communities to climate change, appropriately focusing on drought and informal water systems resilience, deeply rooted social conditions proved to be the primary challenge to implementing this project and achieving the desired positive impacts for vulnerable livelihoods and peri urban residents. To date, the PPCCR projects in Mozambique have not been successful in making microfinance available at the community level.

PPCR projects funded thus far have been primarily focused on infrastructure development and capacity building, and have not focused on making microfinance successfully available at the community level.

Stakeholders felt strongly that projects which have attempted to make micro-finance available in the past in Mozambique have failed due to the high rate of unemployment in the country, and the consequent inability on the part of unemployed individuals to repay loans. Subsequent interviews support this view, adding that experience with communities and adaptation projects has led to popular Mozambican statements: "it is difficult to adapt when you don't have food" and "talking about adaptation without first addressing food is problematic". Hence money for climate change adaptation activities distributed at the local level tends to go straight to buying food, with no money to repay loans. Therefore, PPCR

projects in Mozambique have steered clear of micro-finance because previous efforts of the Mozambican government revealed that there is little to no ability within such communities to repay loans.

There is a "culture of non-compliance" in Mozambique. Failing to repay loans, particularly to government institutions, has few repercussions. A contributing factor is the soft debt repayment laws, where people are only held accountable for a maximum of 30% of the debt which they have incurred. Furthermore, one cannot be sentenced to prison for failing to repay loans.

It is difficult to bring about transformational change when basic needs such as food are not being met. It is thus important that communities first become food secure, with the potential of selling excess yield to generate a small income, before being in a position to repay loans. This is possibly the best risk mitigation strategy that can be put in place when dealing with adaptation finance at this level.

OBSTACLES AND BARRIERS: IFC's efforts to develop projects based on their market studies and originally proposed in Mozambique's SPCR have not been realised. The main barriers have been: (i) low technical capacities (for businesses, farmers, bankers); (ii) limited infrastructure; (iii) lack of reliable data and information; (iv) novelty of the topic – adaptation – for the private sector; and (v) limited potential private sector clients that could comply with IFC's social, environmental and financial standards and requirements.

SOLUTIONS: In recognition of these challenges, the Government has been pursuing a different approach. In 2017 the National Sustainable Development Fund (previously the National Environmental Fund) supported by the World Bank, piloted a new Inclusive Rural Development Project, known as Sustenta, for community level agriculture. The Project focusses on providing training, seeds, implements, and irrigation, to small, subsistence farmers, prior to making microfinance available, in order to bring about industrialisation and commercialisation of the farming sector.

It is too early to see results. Each initiative starts with capacity building, training communities around food production to give them fundamental farming knowledge, before providing them with the resources needed to implement the knowledge. Only once this is established, and farmers are producing enough food to sell, would they be in a position to access loans.

KNOWLEDGE MANAGEMENT: Specific products and templates for different knowledge outputs have been developed. Policy briefs were produced as knowledge management outputs, and updates to the PPCR projects were published. The Knowledge Centre for Climate Change website and the dissemination of the monthly e-newsletter are among the main achievements. Other aspects were to develop a greater online presence, and increase the visibility of the knowledge products. There has been a series of policy briefs and information sheets on the PPCR projects produced in English and Portuguese. These have been printed and disseminated to government staff in particular, as well as uploaded to the internet.

OPPORTUNITIES FOR ACCELERATING READINESS: Through the process of co-creating this research brief and shared learning from the case studies of Tajikistan and Jamaica, Mozambican PPCR COP members have identified two interesting possibilities:

i) MITADER is currently running a programme called One District, One Bank (*Um Distrito, Um Banco)*, supported by the FNDS, a government-run independent institution which is applying for accreditation to the GCF. Through this programme, FNDS is well-positioned to support and implement microfinance on the back of SUSTENTA, in districts where SUSTENTA is already under implementation. FNDS would act as the implementation unit for microfinance and could do this through intermediated and concessional finance that mitigates risk and uncertain returns.

ii) Utilise the PPCR partner MDB structures, in this case the AfDB, that exist through the financing they currently provide to NGOs such as World Vision, and to local organisations. In terms of these structures, a programme officer is established in the recipient organisation, and an agreement is signed with one of the local banks. The local organisation also has a structure to monitor performance against the national monitoring system and the finance recipient's beneficiary project proposal. Either of these identified structures (the FNDS and the MDB), or both, have structures and market access capabilities in place to receive and deliver intermediated adaptation finance.

THE FINANCE ENABLING FRAMEWORK

As discussed earlier, the three case studies reflect different levels of maturity on the path towards microfinance readiness. In addition, work on this brief showed that four critical factors enable finance implementation.

1. Awareness raising and sensitisation of those involved

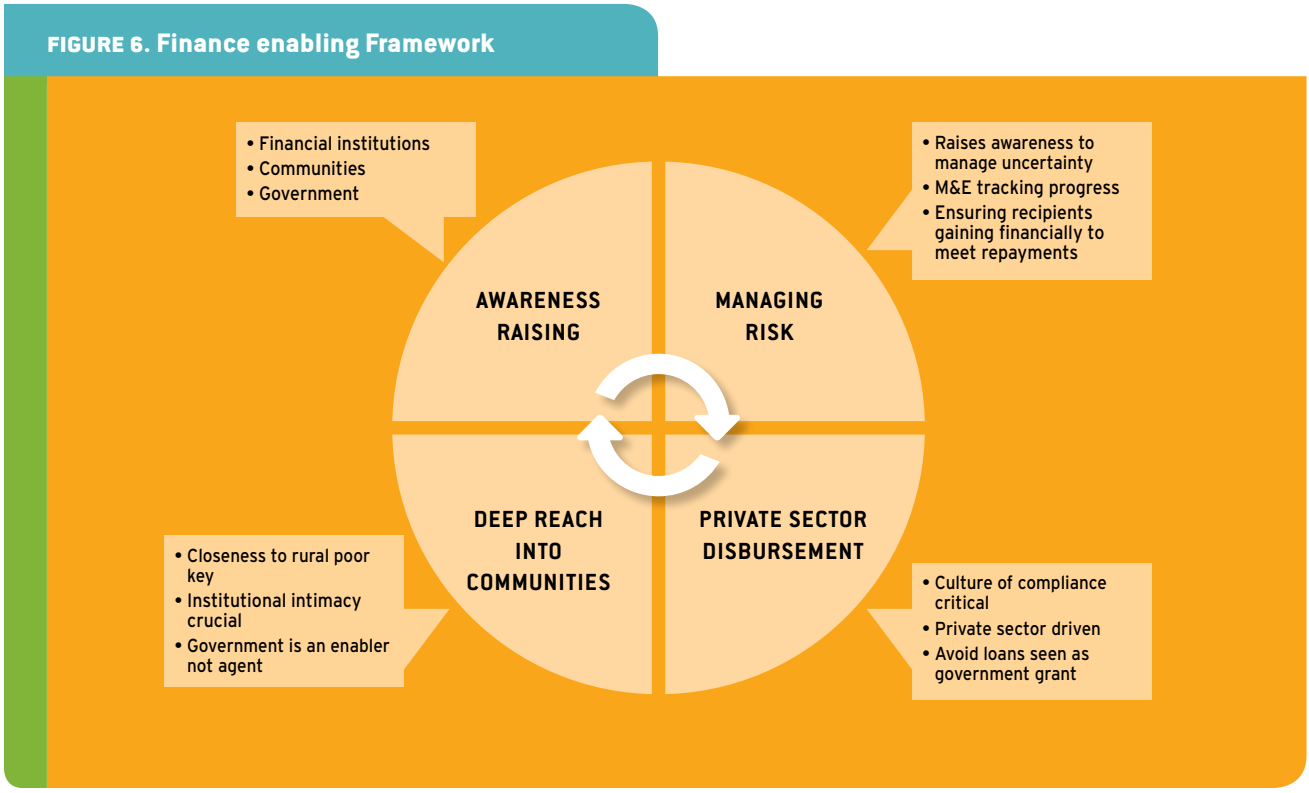
The importance of awareness raising is critical on three levels: financial institutions, communities, and government.

a. **Financial institutions** – The case studies demonstrate that a huge educational responsibility rests on knowledge management instruments to ensure that the financial institutions involved understand the market opportunities, unpack the complexity of various products that can be offered, and are sensitised to the specific contextual needs and capabilities of poor people to whom the adaptation finance is being directed.

Awareness raising is part of the inclusive approach to developing and promoting solutions such as new technologies. This is part of understanding how to target loans. It involves needs assessment and capacity building in order to gain an understanding of what is likely to succeed and what is not, prior to making financing for certain interventions available. This is an important part of mitigating risk which financial institutions should undertake.

b. **Communities** – Working with and educating potential beneficiaries of microfinance is a crucial component of any program. Unless substantial education and training, in a clear and simple manner, is directed to community recipients to raise their awareness of the multiple dimensions underpinning the programme,

FIGURE 6. Finance enabling Framework



the process will flounder at the first hurdle. Shifting thinking, for example from subsistence to small business farming can help communities to see climate change as an opportunity. Partnering with, and educating, the media is an important aspect to community awareness raising.

c. **Government** – Government officials have to understand their appropriate place and limitations in the programme's chain of supply and delivery. This requires clear directives and education tools so government officials understand their own limited role in the process. Sector departments should focus on raising awareness across value chains to ensure the establishment of markets.

2. Managing and mitigating risk

Risk minimisation is directly related to the issue of raising awareness in order to manage uncertainty. Although a number of institutional instruments can be put in place within financial institutions and government to manage risk, as is clear from the case studies, by far the best way to do so is to supplement these with a substantial awareness and monitoring programme aimed at the communities themselves.

This goes beyond a simple pre-education program. It also includes building into the initial stages of loan and grant finance a monitoring and support program. This will ensure that recipients are on track, understand the next implementation steps, are gaining financial advantage from the programme (for example through increased productivity and yield), and hence are able to take the next re-payment steps required.

3. Adopting a model that has deep reach into the community

Understanding the needs and critical success factors operating at community level is crucial if a finance for adaptation programme is to be successful. This cannot occur at a distance and unfortunately traditional or orthodox financial institutions and government organisations are simply not geared up to hear community voices and respond to them appropriately. They do not have their ears close enough to the ground. Doing so requires a level of institutional intimacy and closeness to the recipient community built into the very structure and life blood of the disbursing institution, for example, an NGO, or community-based association, or a cooperative bank. This is all the more important when such a microfinance programme is aimed at the rural poor. The institution of last resort lending has to have deep reach into the countryside if it is to have success.

Hence a critical lesson is that whilst government needs to set up the enabling environment, it cannot be the lender of last resort. Likewise, orthodox financial institutions that are urban based are also unlikely to have the structural institutional intimacy in place to meet the requirements of an intermediated finance program for climate resilience aimed at the rural poor.

Achieving sustainable reach into communities often involves assisting communities to establish community organisations such as farming cooperatives or water user associations, best positioned to receive and administer the funding on behalf of the community.

4. Private sector disbursement with penalties

Compliance is crucial if the programme is to work. What has clearly emerged from the case studies is that ordinary people regard government as the source of handouts without commercial obligations. Moreover repayment compliance when people do receive funding is a very low priority. This is not the case when communities perceive loans to be coming from private sector institutions.

Hence the program has to be seen by the community recipients to be private sector driven, even if the ultimate source of the loans is the MDBs and the government.

Second, there has to be a concerted process of building a culture of compliance surrounding the adaptation finance program.

Finally, government has to ensure that its legal regulatory credit framework bolstering the finance programme reinforces a culture of compliance.

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