



Art: Muhammad Mostafizur Rahman, "Honey Collectors" (Bangladesh), CGAP 2017 Photo Contest

CGAP Strengthening Climate Resilience & Adaptation through Financial Services Product Scan



Disclaimer

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This product scan aims to define, map and assess the supply of climate-related financial products for vulnerable people



Context

- CGAP's Strengthening Climate Resilience and Adaptation through Financial Services (i.e., Climate Resilience) project aims to increase the effectiveness of financial services that help the vulnerable, especially women, to adapt and grow more resilient to climate change
- As a foundational phase of this project, CGAP is seeking to deepen the understanding of the experiences of vulnerable individuals and households in reducing the impact of and adapting to climatic risks, how these experiences differ based on gender, and how inclusive and appropriate financial services can improve these experiences



Objectives & Approach

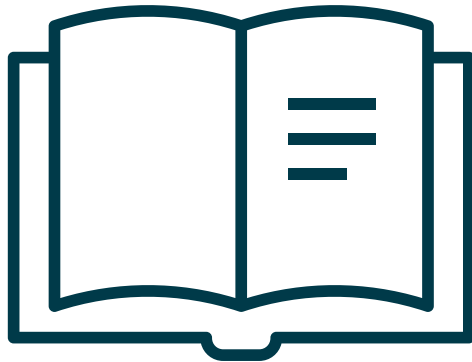
This product scan is intended to achieve five core objectives:

1. **Define and structure climate-responsive financial product typologies** used by vulnerable people to adapt and build climate resilience
2. **Map the current provision of climate-responsive financial products** against such typologies
3. **Identify gaps and opportunities** for climate-responsive financial products that support vulnerable people to adapt and build resilience
4. **Define and structure how vulnerable use climate-supportive financial products** to adapt and build climate resilience
5. **Derive learnings from how and why vulnerable people use climate-supportive products** to inform climate-responsive products design

N.B. This product scan is not intended to provide an exhaustive mapping of financial products used by vulnerable people to adapt and build resilience to climate change, but instead provide a high-level mapping to discern trends, gaps and opportunities

Dalberg conducted the product scan over a period of five weeks using only secondary research

Research overview



Over five weeks Dalberg used only secondary research to map the provision of any type of financial products that is used to address any type of climate risk affecting vulnerable people (e.g. droughts, pests/diseases, floods, storms)

Financial product typologies were defined, iterated and mapped using a range of sources (e.g. blogs, articles, FSP websites) and through Dalberg's global network and past financial inclusion experience

Given the background of the Dalberg research team, the product scan findings should be contextualized with potential research biases in mind, including greater focus on:

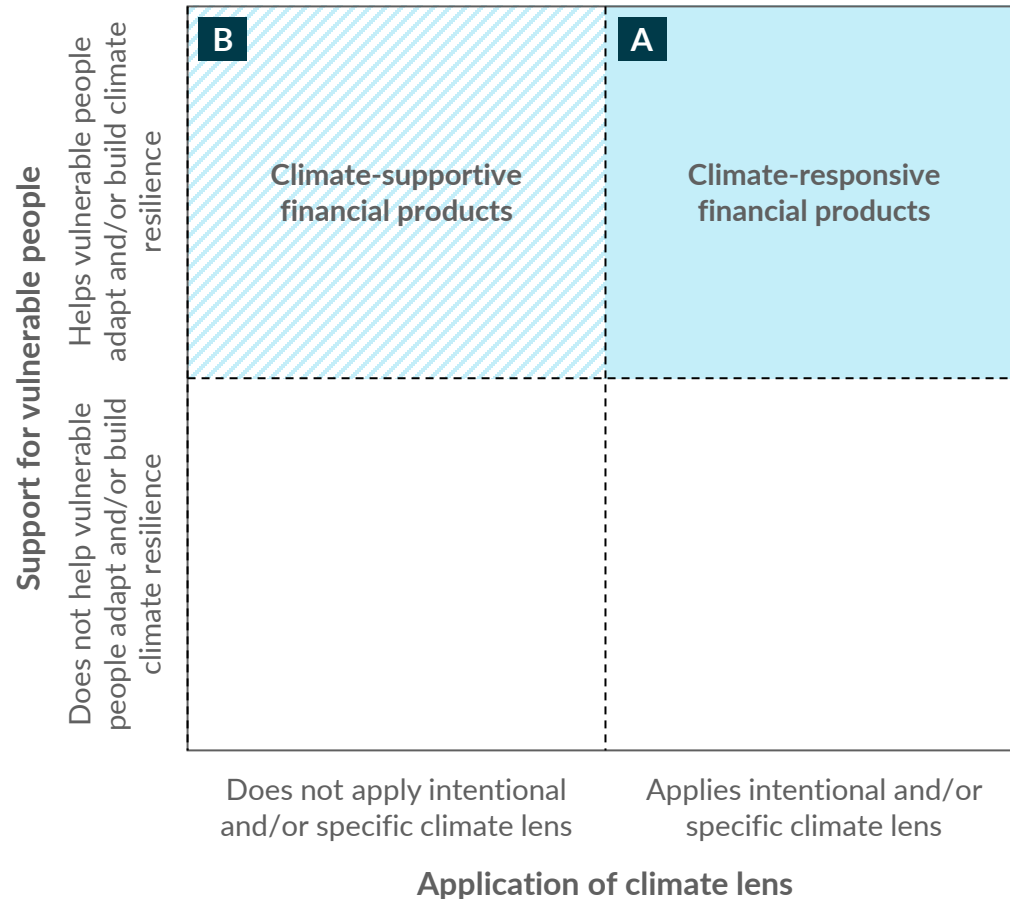
- **Anglophone countries** owing to the Anglophone composition of the research team
- The **countries of Nigeria and Bangladesh** which are prioritized within the Strengthening Climate Resilience and Adaptation through Financial Services project
- **Rural and agriculture products** due to the foundation of research leveraged from Dalberg's prior collaboration with CGAP's WIRAL (Women in Rural and Agricultural Livelihoods) team
- **Products support by donors** who invest in the publication of reports showcasing their products

Given the above, Dalberg recommends that this product scan be used as a foundation that is supplemented with additional non-Anglophone research and direct interviews with FSPs to further understand the supply of climate-specific financial products and FSPs' views on opportunities/constraints for providing such products to vulnerable people

1) Given the product scan was conducted by an English-speaking research team, Dalberg recommends conducting further research to ensure all products in non-English-speaking regions are captured; 2) Includes products offered across more than one region

This product scan includes both climate-responsive and -supportive financial products for vulnerable people

Illustrative



- A** **Climate-responsive financial products (Primary focus of product scan)**
- Definition: financial products designed specifically to support vulnerable people adapt to and/or build resilience to climate risks
 - Examples include:
 - Index insurance (rainfall, drought, livestock, etc.)
 - Catastrophic risk insurance (e.g. hurricanes, droughts)
 - Savings designated specifically for recovery from natural disasters
 - Credit with repayment terms tailored to climate risks
- B** **Climate-supportive financial products (Secondary focus of product scan)**
- Definition: financial products that support vulnerable people adapt to and/or build resilience to climate risks even if that is not their sole/intended purpose
 - Examples include:
 - General savings accounts that can provide emergency liquidity
 - General credit that can be used to invest in adaptive practices

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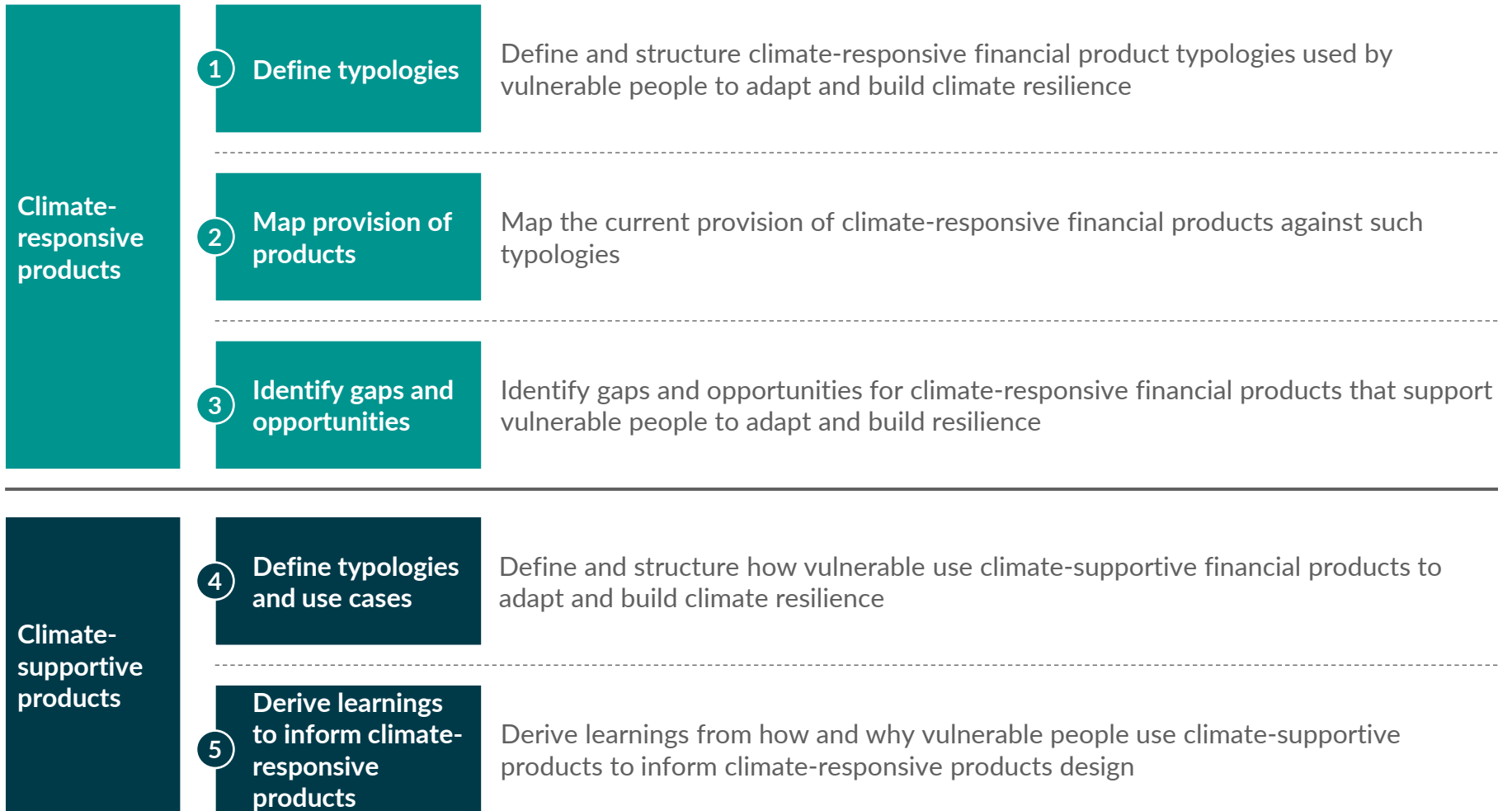
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III Climate-responsive financial products

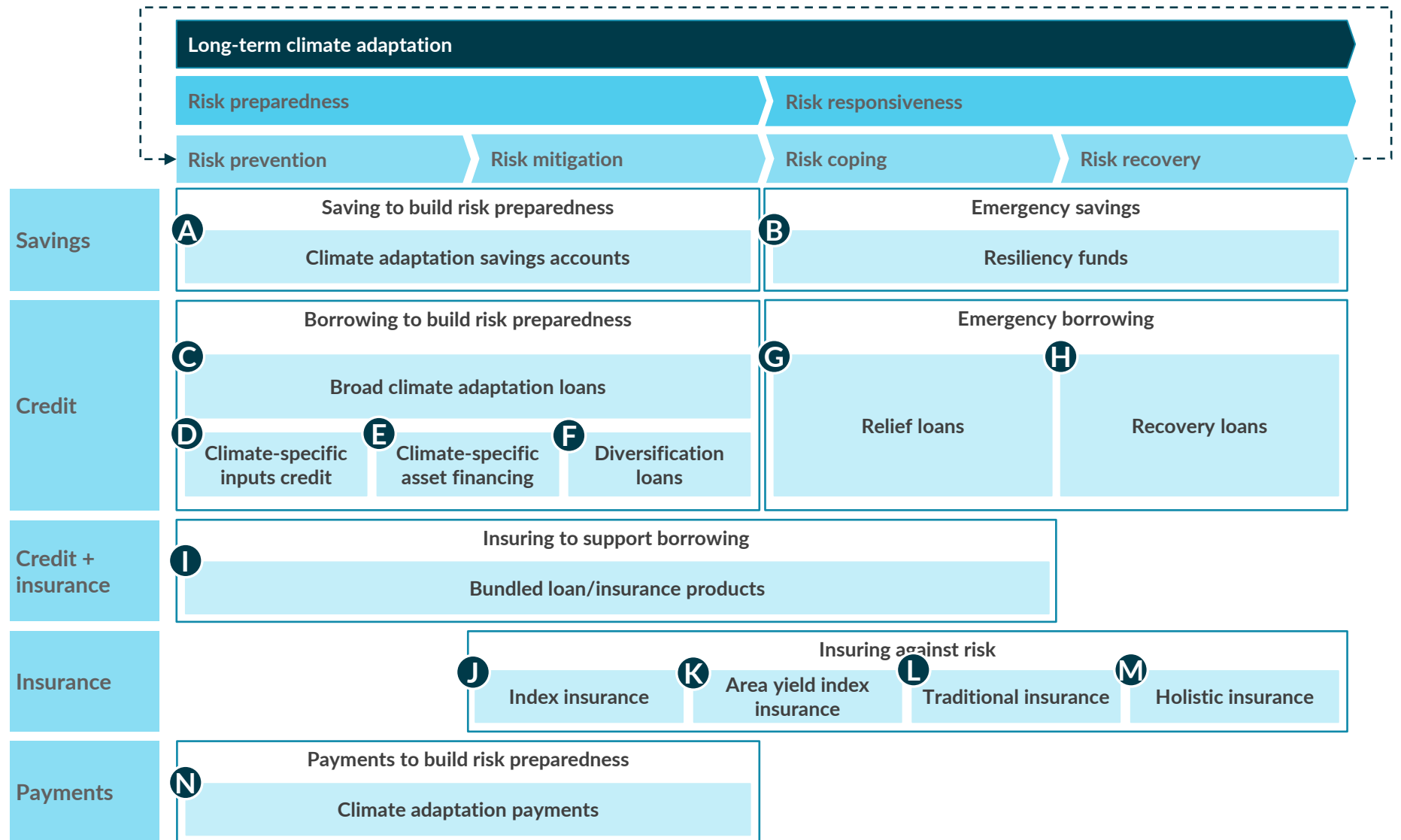
IV Climate-supportive financial products

This product scan addresses five objectives regarding climate-related financial products for vulnerable people



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Climate-responsive financial product typologies can be defined by products offered and stages of risk covered (1/2)



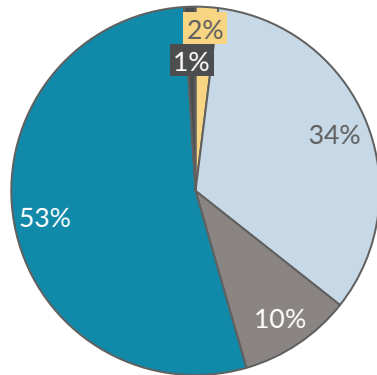
Climate-responsive financial product typologies can be defined by products offered and stages of risk covered (2/2)

Product group	Typology	Definition
Savings	A Climate adaptation savings account	Savings accounts designated specifically for the purchase of climate-resilient assets (e.g. inputs, equipment) and/or to enable adaptation
	B Resiliency funds	Savings funds with a dedicated purposes of holding savings to be released in the event of a climate risk occurring to provide liquidity
Credit	C Broad climate adaptation loans	Loans designed for the general purpose of enabling climate adaptation (e.g. income diversification, purchase of equipment) without stipulating the specific use of funds
	D Climate-specific inputs credit	Loans tailored specifically and exclusively for the purchase of climate-resilient inputs (e.g. seeds, energy)
	E Climate-specific asset financing	Loans tailored specifically and exclusively for the purchase of climate-resilient equipment to support livelihood and personal activities (e.g. solar irrigation, cookstoves)
	F Diversification loans	Loans tailored specifically and exclusively for diversification into specific livelihoods or value chains (e.g. forestry)
	G Relief loans	Loans designed specifically for providing short-term liquidity and relief from climate change impacts (e.g. to avoid negative coping mechanisms)
	H Recovery loans	Loans designed specifically for recovering from climate change impacts (e.g. rebuilding homes, restoring land)
Credit + insurance	I Bundled loan/insurance	Loans bundled with insurance to decrease the risk of defaulting on repayments in the event of climate change impacts that affect repayment capabilities
Insurance	J Index insurance	Insurance products that pays out benefits on the basis of a predetermined index for loss of assets resulting from climate events (e.g. low rainfall, livestock disease)
	K Area yield index insurance	Agricultural insurance that pays out benefits if the crop yield fall short below the historical average yield in a unit area of insurance
	L Traditional insurance	Insurance products using the traditional process of claims assessors to cover specific climate risks (e.g. crop damage, livestock disease)
	M Holistic insurance	Insurance products that cover specific climate risks (e.g. low rainfall, livestock disease) with broader insurance coverage (e.g. healthcare, life insurance)
Payments	N Climate adaptation payments	Payment programmes and systems designed to incentivize vulnerable people to adopt adaptive practices (e.g. climate smart agriculture practices)

Index insurance is the most prevalent climate-responsive typology followed by other insurance and credit products

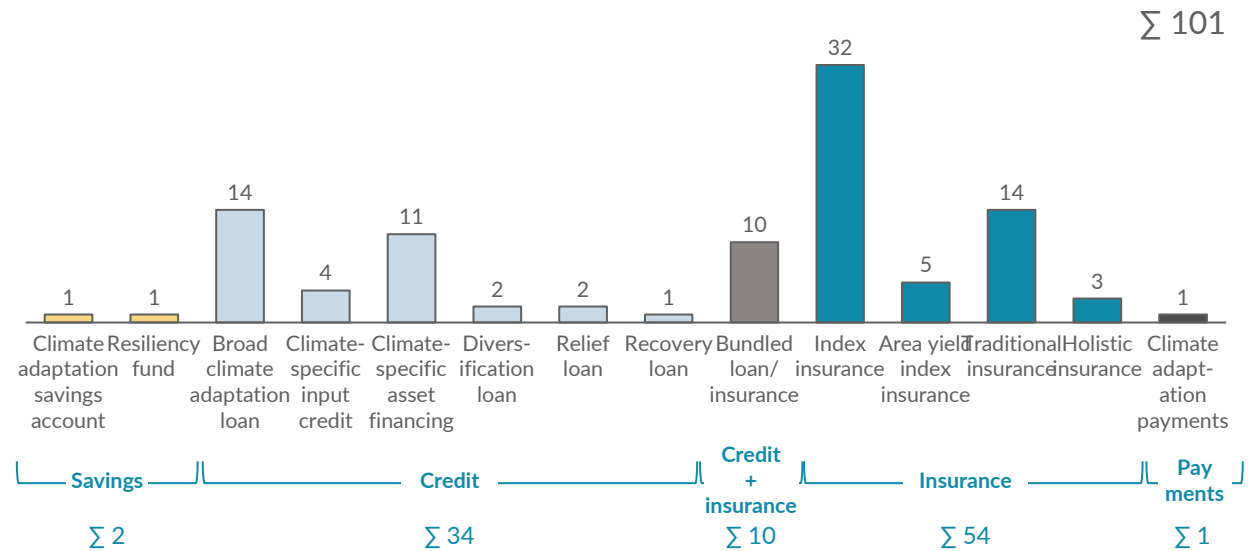
Climate-responsive financial products by product group [#]

- Insurance products are the most prevalent type of climate-responsive financial product identified in the product scan, followed by credit products
- Very few climate-responsive savings or payments products were identified



Climate-responsive financial products by typology [#]

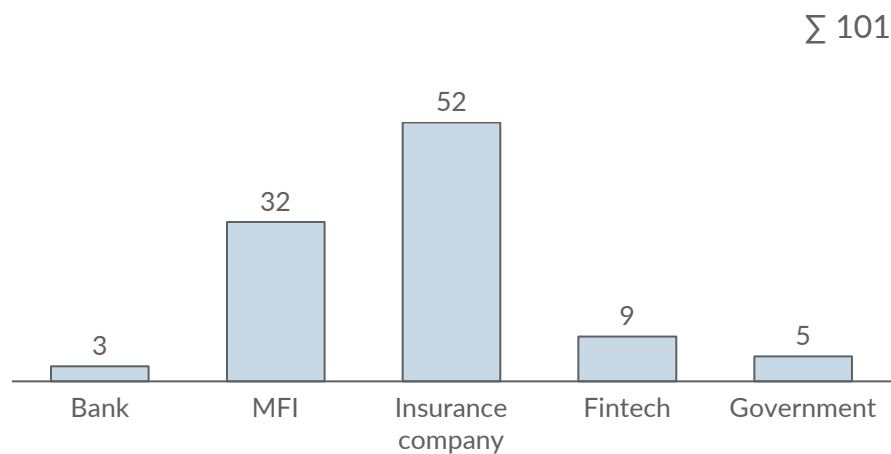
- Index insurance is by far the most prevalent typology identified (with the majority of these using weather indexes); there are also some climate-responsive traditional insurance products, which are typically focused on covering crops against multiple risks (e.g. droughts, floods)
- There are also a range of borrowing products designed to support vulnerable people build risk preparedness – both through broad (non-specified) adaptation loans and products tailored to specific activities (e.g. use of inputs, asset financing, diversification)
- Two climate-responsive savings accounts were identified which promote savings for the purchase of climate-resilient inputs and responding to disasters respectively
- The single climate adaptation payments system identified is Regen Network’s payment system that provides payments to incentivize rainforest conservation



Insurance companies and MFIs are the most prevalent providers of climate-responsive products

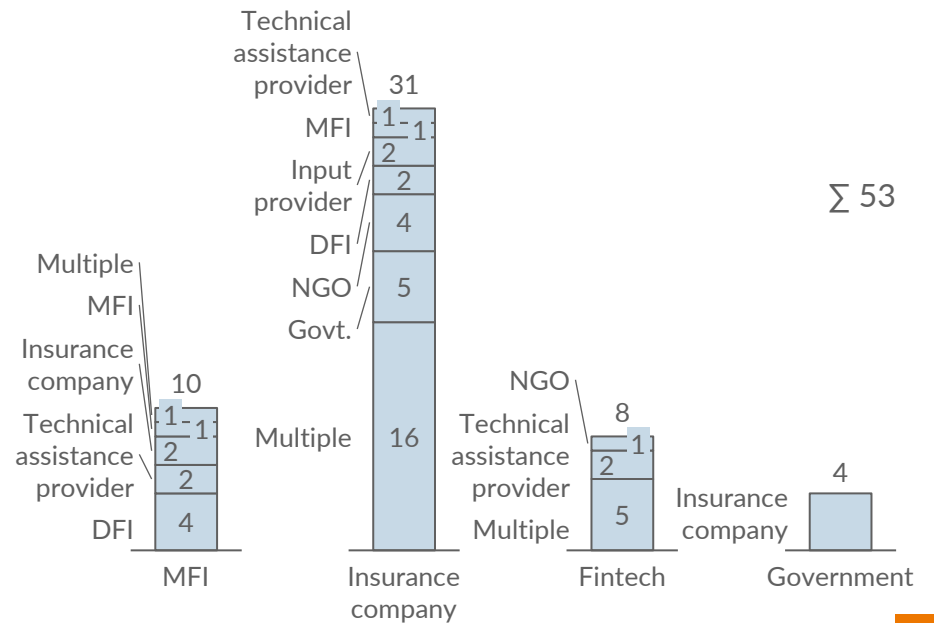
Climate-responsive financial products by FSP type^{1) [#]}

- **Insurance companies are the most prevalent FSP type primarily responsible for delivering climate-responsive products** (e.g. ACRE Africa’s weather index insurance), with some insur-tech companies also providing climate-responsive insurance products (e.g. OKO’s crop assurance product and Pula’s yield index insurance)
- **MFIs are the overwhelming providers of climate-responsive borrowing products for vulnerable people** (e.g. Fundecooperación’s PRO+CLIMATE Agriculture/Livestock products in Costa Rica), with very few products offered by traditional banks
- **Products provided by governments are all national insurance programs** that are designed to support smallholder farmers (e.g. in Nigeria, Brazil and India)



FSPs by offering of climate-responsive products with partners [#]

- **Different partners are supporting FSPs through co-financing capital**, product design, delivery and technical assistance such as trainings, weather forecast etc.
- **Insurance companies lead in partnerships** as they collaborate more with multiple partners e.g., governments, NGOs and MFIs, primarily to increase channel outreach and the accessibility of their products; This is different from MFIs, which partner more with DFIs and technical assistance providers in the design and piloting of products

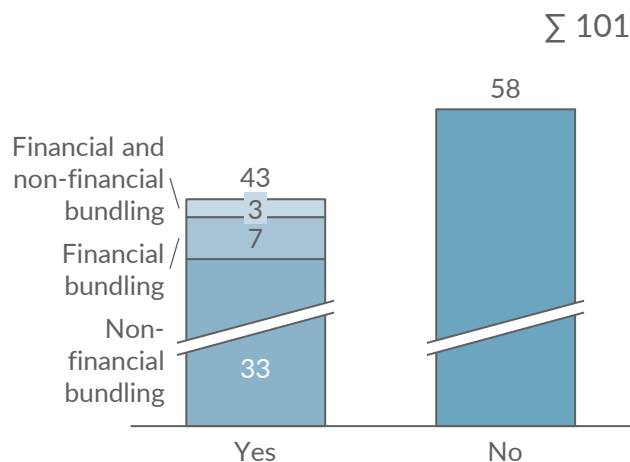


1) FSP type deemed primarily responsible for offering the product based on secondary research

Nearly half of climate-responsive products identified bundle multiple services and most address several climate risks

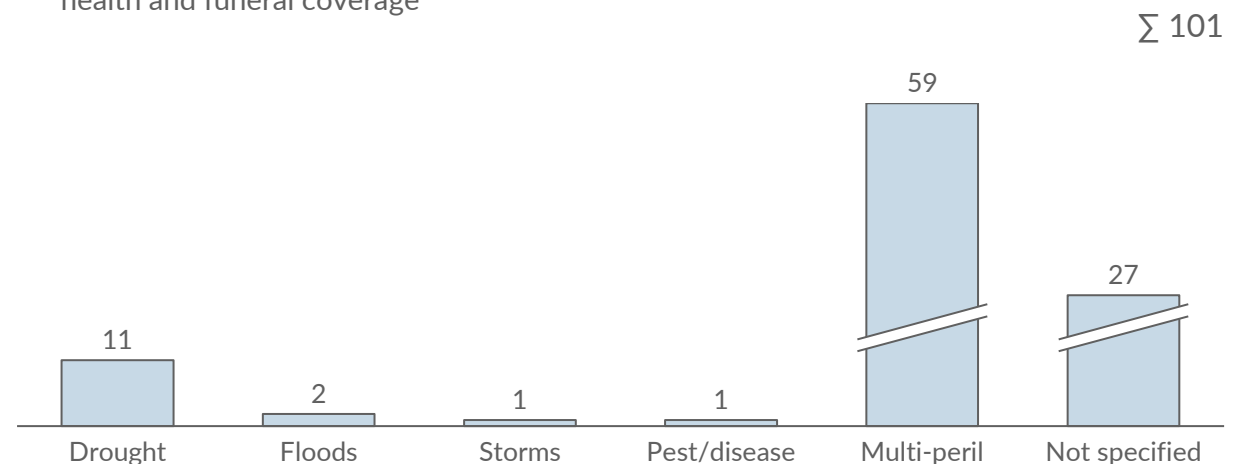
Climate-responsive financial products by bundling [#]

- Nearly half of products identified provide a form of bundling; the majority of these bundle financial and non-financial services (e.g. credit with agricultural or financial training, insurance with inputs)
- Products bundling financial services are typically bundling credit with insurance products (e.g. VisionFund's Agrifinance and crop and livestock insurance in Sub-Saharan Africa)



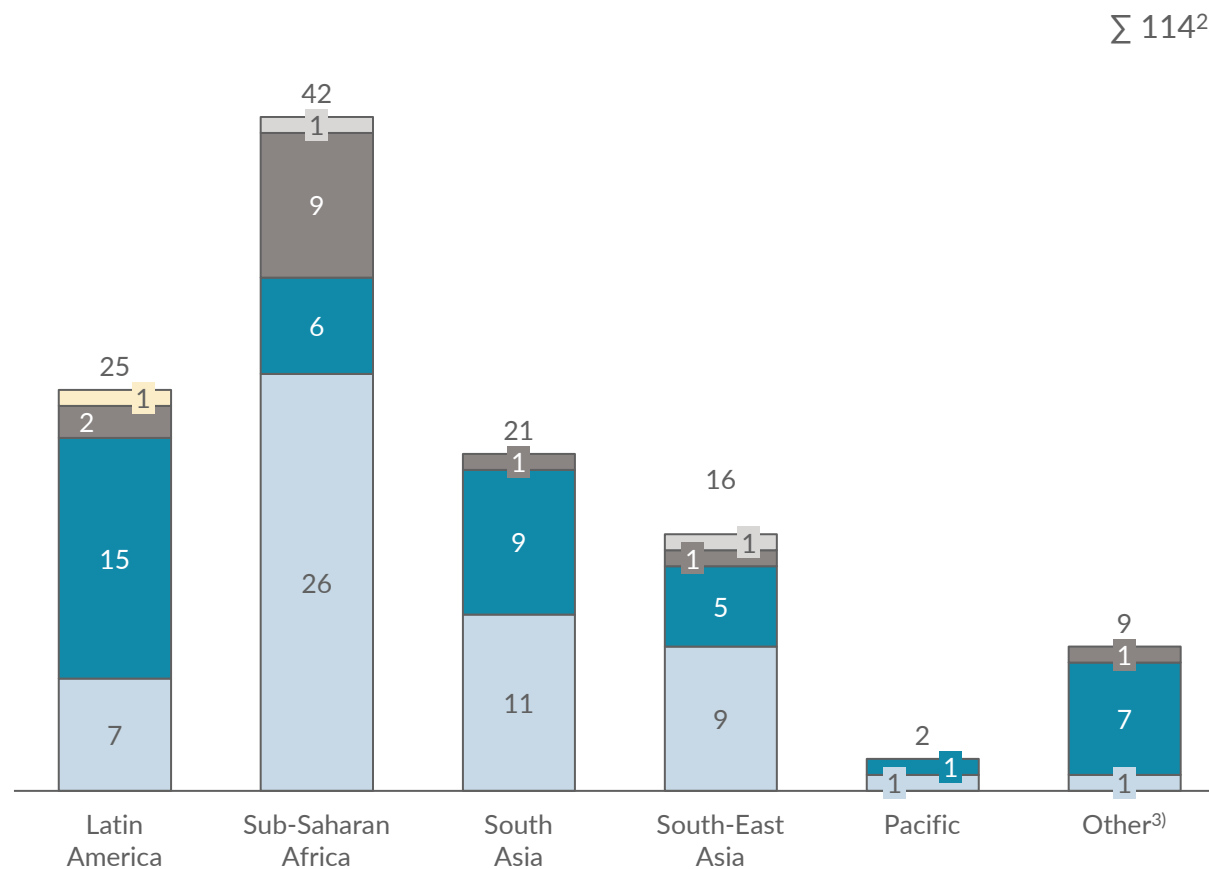
Climate-responsive financial products by climate risk addressed [#]

- Most of the identified products are designed to address multiple climate risks, rather than being tailored for a single climate risk
 - 49 of these 59 products identified offer insurance (whether individually or bundled with credit) that provides coverage against climate-induced negative outcomes that can be caused by different risks (e.g. insurance against low crop yields that could be driven by low rainfall, floods or pest/disease outbreaks)
 - Multi-peril products also include several credit products that support vulnerable people to prepare for, adapt to or respond to a range of climate risks (e.g. loans to build houses' resilience or support reconstruction after either floods or storms)
- Some products are designed specifically to support vulnerable people adapt to and build resilience to drought
- Some holistic insurance products cover second order climate effects, such as providing health and funeral coverage



The product scan identified the greatest number of climate-responsive products in Sub-Saharan Africa¹⁾

Climate-responsive financial products by region [#]



- The product scan suggests the majority of identified products in **Sub-Saharan Africa** are **insurance** products
- There are a **range** of products in **Latin America** of both loans and insurance with the **majority** of products being **broad climate adaptation loans**
- In **South and South East Asia**, there is a mix of both insurance and loan products with **insurance** as the **most prevalent** identified typology

Payments
 Savings
 Borrowing + insurance
 Borrowing
 Insurance

1) Given the product scan was conducted by an English-seeking research team, Dalberg recommends conducting further research to ensure all products in non-English-speaking regions are captured; 2) Includes products offered across more than one region; 3) Includes Middle East, Central Asia, Eastern Europe

Most climate-responsive products target rural users and SHF; few of these products apply an explicit gender lens

Climate-responsive financial products by rural vs urban focus [#]

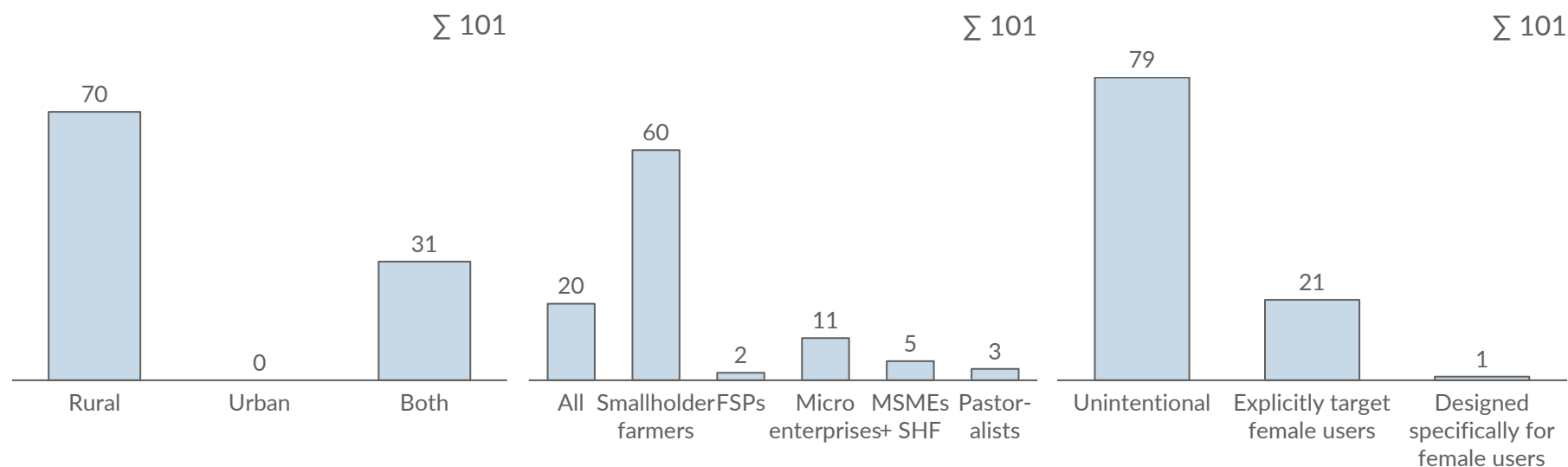
- The **majority** of products are designed to serve **rural communities** (and predominantly agricultural livelihoods) adapt to and build resilience to climate change
- Other products **serve both rural and urban communities**; however, no products have been identified that specifically target urban communities

Climate-responsive financial products by target user [#]

- The product scan found that the **majority of climate-responsive financial products are targeted towards smallholder farmers**
- The scan also found a **range of products targeted towards SMEs**
- Examples of insurance **products designed for financial services providers** (e.g. agri-lenders and paygo companies) that protect them against defaults by smallholder farmers were also identified

Climate-responsive financial products by gender lens [#]

- Only a **minority of climate-responsive products identified apply an intentional gender lens**
- One climate-responsive product that specifically and exclusively targets women has been identified** (e.g. Green Delta's Nibedita Insurance)



The product scan has identified potential opportunities for greater provision of climate-responsive financial products¹⁾

Offer climate-specific savings



The product scan found limited existing provision of climate-specific savings products – both to support vulnerable build risk preparedness or provide liquidity during and after climate events; this therefore **creates a potential gap that could be filled by FSPs**, which could also be **particularly relevant to women** who often demonstrate a greater preference for saving and risk aversion towards borrowing

Offer emergency borrowing



Very few climate-responsive borrowing products identified in the product scan are design to support vulnerable people respond during and after climate events by providing emergency liquidity; alongside the limited offering of climate-specific savings products that could alternatively provide emergency liquidity (i.e. resiliency funds), this suggest a **potential opportunity to provide more short-term borrowing products to support vulnerable respond to climate events and avoid negative coping mechanisms** (e.g. reduced consumption, asset sales)

Bundle financial products



Only a limited number of climate-responsive products that bundle financial services were found; this implies a potential **opportunity for FSPs to offer more combined financial products** (e.g. credit and insurance) that could **address multiple climate-specific financial needs** (e.g. before, during and after climate risks and long-term adaptation) and **make products more accessible** (e.g. appealing to women who suffer greater time poverty)

Target specific climate risks



Most climate-responsive products identified explicitly cover a range of climate risks but some in practice appear to be used for specific risks (e.g. products covering multiple risks being used to build resilience to storms or crop insurance that provides coverage against multiple climate risks such as droughts, floods and pest/disease outbreaks); **climate-responsive financial products could potentially be more effective and affordable if designed to meet only the specific climate risks (with a distinction between slow and sudden onset risks)**

Target urban users



The product scan found no climate-responsive products exclusively targeting urban users whilst the majority of products target smallholder farmers; this suggest a **potential opportunity to develop products tailored to urban dwellers' specific climate risk and needs** (e.g. to build resilience against flooding)

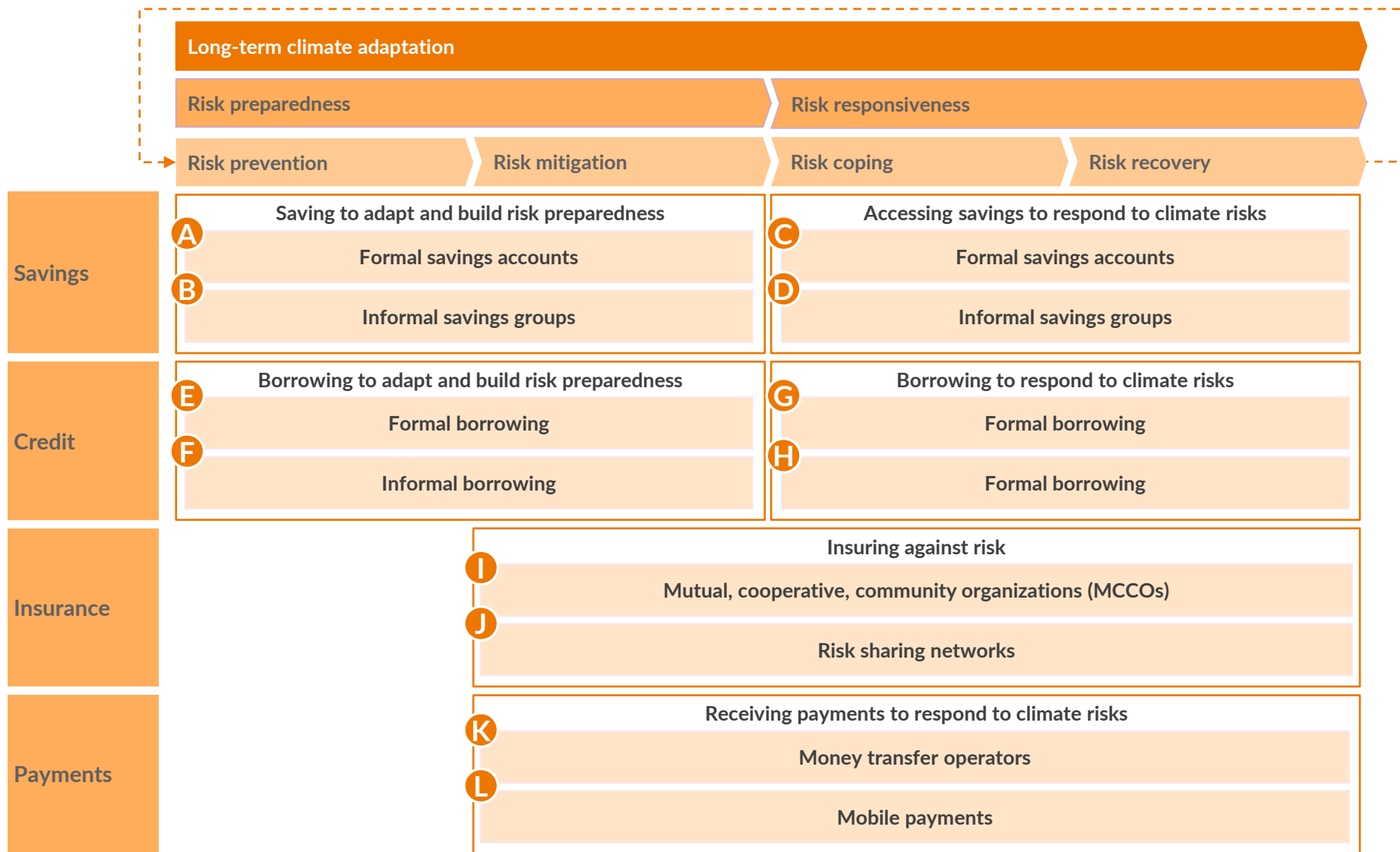
Develop female-specific products



Very few climate-responsive financial products specifically consider or target female users, who often have distinct livelihood or financial climate-specific needs; FSPs can **design products and delivery channels to meet women's specific needs** and thereby **promote climate resilience amongst a key segment of vulnerable people that faces disproportionate constraints in accessing/using financial services**

1) Potential opportunities identified from the product scan should be validated with more in-depth analysis of vulnerable people's climate-specific livelihood and financial needs to better understand the gap between these needs and existing service provision

Climate-supportive products are more general in design but still used to adapt and build climate resilience (1/2)



Climate-supportive products are more general in design but still used to adapt and build climate resilience (2/2)

Product group	Product typology	Definition
Savings	Saving to adapt and build risk preparedness	A Formal savings accounts Savings with formal FSP accounts or mobile money accounts (sometimes with a commitment feature (e.g. having a set date for funds withdrawal) that are used to build climate risk preparedness
		B Informal savings groups Accumulated savings from small community groups used before climatic events to prepare and to build resilience against climatic risks; savings can be used individually once share outs are made at the end of the cycle or collectively to build the resilience of the group
	Accessing savings to respond to climate risks	C Formal savings accounts Savings from formal FSP and mobile money accounts that are accessed during and after climatic emergencies to cope with the effects
		D Informal savings groups Accumulated savings from savings groups used individually or collectively to respond during and after climatic emergencies
Credit	Borrowing to adapt and build risk preparedness	E Formal borrowing Generic loans accessed either individually or as a group from financial service providers such as banks, MFIs and from digital platforms used before climatic events to prepare and build resilience
		F Informal borrowing Loans from group/community savings groups or friends and family used by vulnerable people to prepare against climatic risks
	Borrowing to respond to climate risks	G Formal borrowing Generic, short-term loans from FSPs or digital platforms used to cope with the effects of climate risks
		H Informal borrowing Loans from group/community savings groups used by vulnerable people to cope with the effects of climate risks
Insurance	Insuring against risk	I Mutual, cooperative, community organizations A diverse range of organizations including mutuals, mutual benefit organizations, cooperatives, friendly societies, burial societies, fraternal societies, community-based organizations, risk pooling organizations and self-insuring schemes that are member-owned and provide insurance for the members such as life insurance or property insurance that provides cover against effects of climate shocks and stresses
		J Risk sharing networks Risk sharing mechanisms that payout vulnerable people based on traditional risk sharing arrangements of families or groups, based on social relationships (friends and family) operating on reciprocity principle and based on pre/post determined rules of savings groups to provide emergency funds after a disaster
		K Money transfer operators Non-bank financial service providers platforms used to transfer remittances from migrants to recipients before, during and after a climatic event
Payments	Receiving payments to prepare and respond to climate risks	L Mobile payments Digital payment platforms that use mobile wallets to receive funds/remittances from friends and family before, during and after a climatic event and to receive G2P payments after climatic events

The review of climate-supportive financial products has surfaced several key takeaways

Takeaways on climate-supportive financial products

Adapting and building risk preparedness



Vulnerable people use a range of savings and borrowing products not designed specifically for climate purposes to build risk preparedness and support adaptation:

- **Despite such products not being ear-marked for climate purposes they are used to adapt and build risk preparedness and by investing in climate-resilient inputs, climate-resilient equipment, diversifying income and relocating to safer places**

Responding to climate risks



Vulnerable people also use savings and borrowing products to access liquidity in response to climate events:

- **Flexible savings accounts can be used for coping with and recovering from climate risks** but there is limited evidence of vulnerable people specifically locking in savings for responding to a risk that might not materialize
- Some vulnerable people **use loans to cope with shocks** by smoothing consumption and avoiding negative coping mechanism such as cutting food consumption
- Informal savings and loans are used by vulnerable people to respond to climate risks but can have **limitations in their effectiveness in dealing with covariate risks** that affect all members

Insuring against risk



Vulnerable people use alternatives to climate-specific insurance to provide cover against shocks and stresses arising from climate risks:

- **Mutual cooperatives, community organizations provide members with coverage against a range of adverse events** (e.g. death, household damages) including those brought on by climate change
- **Informal risk sharing networks also provide a means of insuring against broad risks** including those related to climate events although such mechanisms can have **lower resilience to large-scale climate shocks**

Receiving payments



Vulnerable people use a range of channels to access both P2P (incl. remittances, which many vulnerable households depend on during times of hardship caused by climate shocks and stresses) and G2P payments in responding to climate risks:

- Vulnerable people with **mobile money accounts have a greater chance of receiving remittances and government support** with lower cost and greater accessibility in the event of climate shocks
- **Money transfer operators also offer a channel for reaching vulnerable people, including those with lower digital literacy**

Usage of climate-supportive products highlights potential improvements for climate-responsive financial products¹⁾

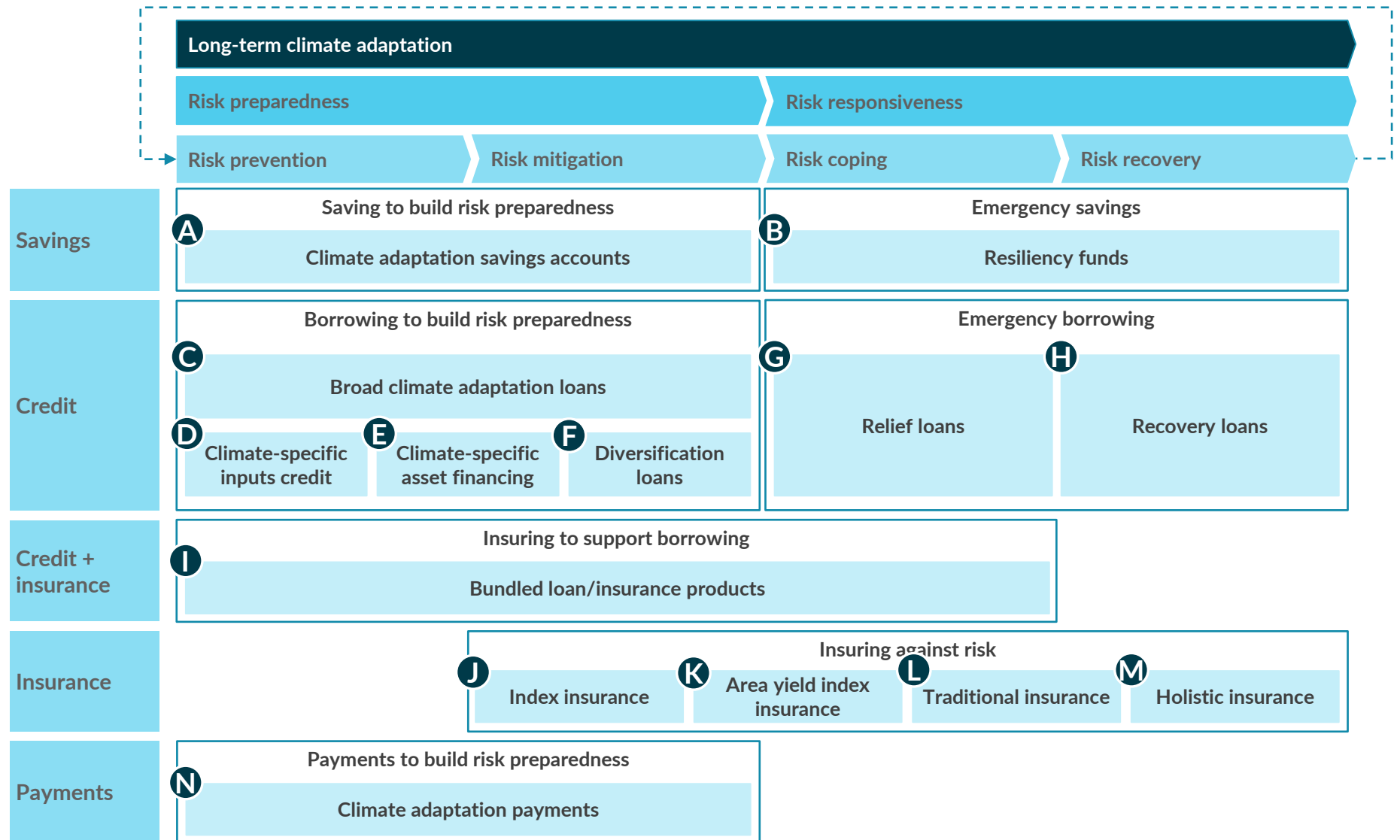
	Learnings from vulnerable people's usage of climate-supportive financial products	Implications for improving climate-responsive financial products for vulnerable people
Savings 	<p>Vulnerable people value the security of savings products (sometimes with specific commitments) that can be used to invest in risk preparedness and provide liquidity in the face of emergencies</p> <hr/> <p>Vulnerable value of the greater accessibility and social networks of informal savings group, which can be used for climate purposes</p> <hr/> <p>Despite their advantages, informal savings groups often have a lower resilience to large-scale shocks and mass withdrawals</p>	<p>There is a potential opportunity (reinforced by the shortage of climate-responsive savings products identified) to develop savings accounts linked to climate activities (e.g. investment in climate-resilient equipment, emergency withdrawals)</p> <hr/> <p>FSPs could leverage informal channels to increase the accessibility and penetration of climate-responsive financial products (e.g. offering climate-specific group savings accounts)</p> <hr/> <p>There is a potential opportunity for FSPs to support savings groups with climate-specific, group insurance products</p>
Credit 	<p>Vulnerable people sometimes turn to general borrowing to provide emergency liquidity in response to climate events</p> <hr/> <p>Despite informal lenders' advantages, they can struggle to offer sufficient ticket sizes to support vulnerable people's climate needs</p>	<p>There is a potential opportunity (reinforced by the shortage of climate-responsive emergency borrowing products) to develop emergency borrowing products linked to climate events</p> <hr/> <p>FSPs could offer larger, climate-specific loans to savings groups to support collective or individual members' climate-specific investments</p>
Insurance 	<p>Despite their advantages, MCCOs can lack re-insurance programs leaving members exposed to catastrophic loss</p> <hr/> <p>Despite the perception of if informal risk sharing networks as viable channels for insuring against risk they can have lower resilience to large-scale shocks</p>	<p>Insurance companies could offer insurance products to MCCOs to provide greater coverage against covariate risks</p> <hr/> <p>Insurance companies could offer insurance products to informal groups to provide greater coverage against covariate risks</p>
Payments 	<p>Money transfer operators can offer a more accessible payment channel in the absence of digital or mobile payment networks</p> <hr/> <p>Mobile payments offer an easy, quick and traceable channel for receiving payments to respond to climate events (e.g. government, remittances and insurance payouts)</p>	<p>Providers of climate-specific payments system can consider multi-channel payments so as not to exclude vulnerable people with lower digital literacy (e.g. female users, IDPs)</p> <hr/> <p>FSPs could leverage data on mobile transfers during climate emergencies to assess the creditworthiness of the vulnerable people in the face of climate events²⁾</p>

1) Potential opportunities identified should be validated with more in-depth analysis of vulnerable people's climate-specific livelihood and financial needs to better understand the gap between these needs and existing service provision; 2) Such an approach would need to accommodate potential concerns around consumer protection and government regulations of data sharing

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Trends can be observed across existing provision of climate-responsive financial products in five broad areas

1 Products offered



- Insurance products are the most prevalent climate-responsive financial product, with index (typically weather-based) and area yield insurances the most common specific typology, owing to their advantages over traditional insurances
- Credit products are also relatively prevalent amongst climate-responsive products, with most of these products designed to increase risk preparedness (e.g. by promoting adaptation), rather than providing liquidity during and after climate events
- Climate-responsive savings and payments products are very limited
- The majority of products that offered bundled services combine financial and non-financial services (e.g. provision of credit with agricultural or financial training); products bundling financial services typically offer a combination of insurance and credit

2 Service providers



- Given the prevalence of insurance products, insurance companies are the most common FSP identified; Insurtechs are also leveraging mobile money platforms to provide climate-specific insurance services
- MFIs are the leading providers of credit products, whilst very few commercial banks offer climate-responsive financial products
- Several insurance companies use partners (e.g. MFIs, NGOs and governments) primarily to support channel outreach, whilst some MFIs use partners (e.g. DFIs) in product design and piloting

3 Climate risks addressed



- The majority of products are designed to address multiple climate risks and are not targeted towards a single climate risk (e.g. droughts, floods, storms)
- Of products targeting a single climate risk, products designed to address droughts are more common

4 Geographic focus¹⁾



- Climate-responsive financial products have the greatest geographical concentration in Sub-Saharan Africa, with many of these products offering insurance targeted towards smallholder farmers
- There is also significant product coverage across Latin America, South Asia and South-East Asia, although limited products have been identified in the Pacific and Central Asia

5 End user focus



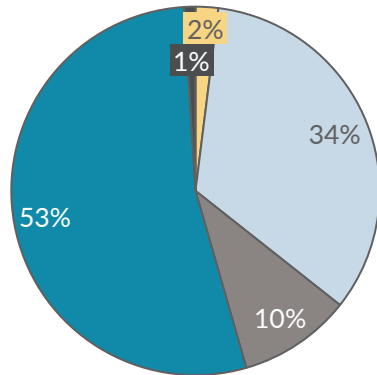
- The vast majority of products are focused on rural users and target smallholder farmers, with no products specifically targeting urban users identified
- Only a minority of products apply an intentional gender lens, whilst only one climate-responsive products has been identified that specifically targets female users

1) Given the product scan was conducted by an English-speaking research team, Dalberg recommends conducting further research to ensure all products in non-English-speaking regions are captured

Index insurance is the most prevalent single typology followed by a range of other insurance and credit products

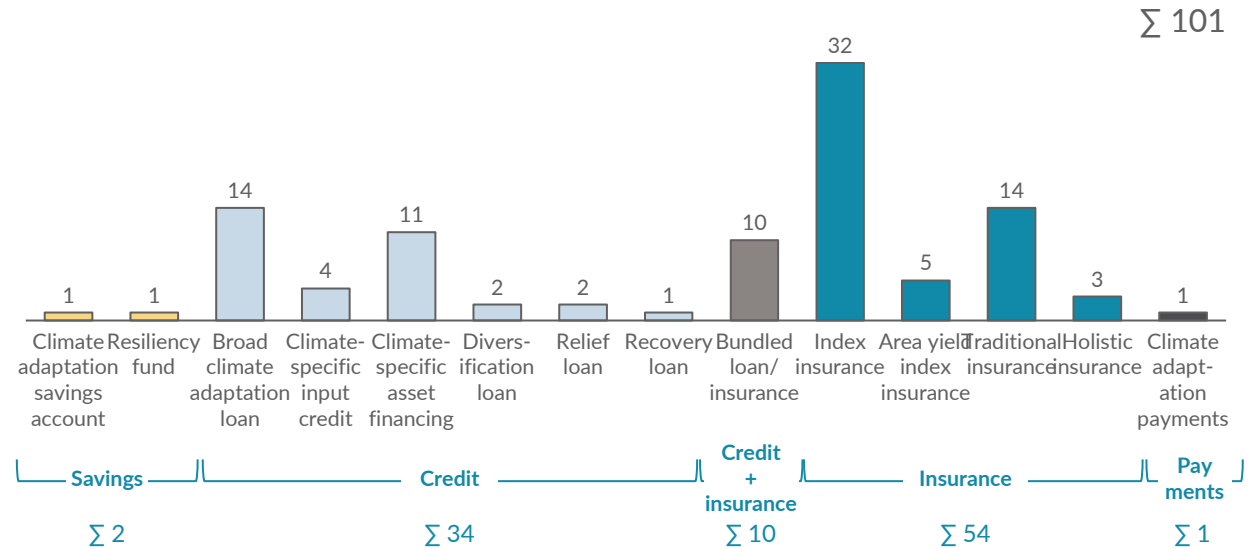
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- Very few climate-responsive savings or payments products were identified



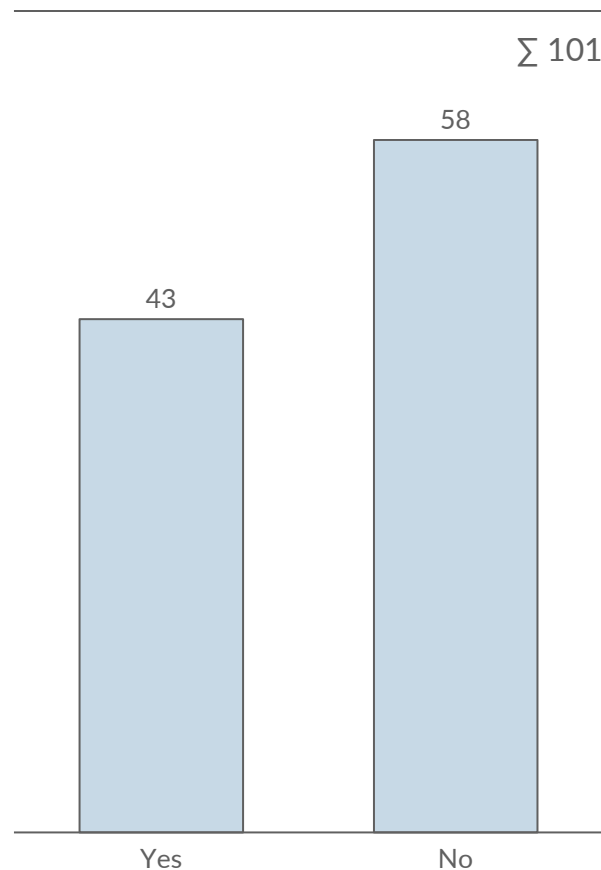
Climate-responsive financial products by typology [#]

- Index insurance is by far the most prevalent typology identified (with the majority of these using weather indexes); there are also some climate-responsive traditional insurance products, which are typically focused on covering crops against multiple risks (e.g. droughts, floods)
- There are also a range of borrowing products designed to support vulnerable people build risk preparedness – both through broad (non-specified) adaptation loans and products tailored to specific activities (e.g. use of inputs, asset financing, diversification)
- Two climate-responsive savings accounts were identified which promote savings for the purchase of climate-resilient inputs and responding to disasters respectively
- The single climate adaptation payments system identified is Regen Network’s payment system that provides payments to incentivize rainforest conservation

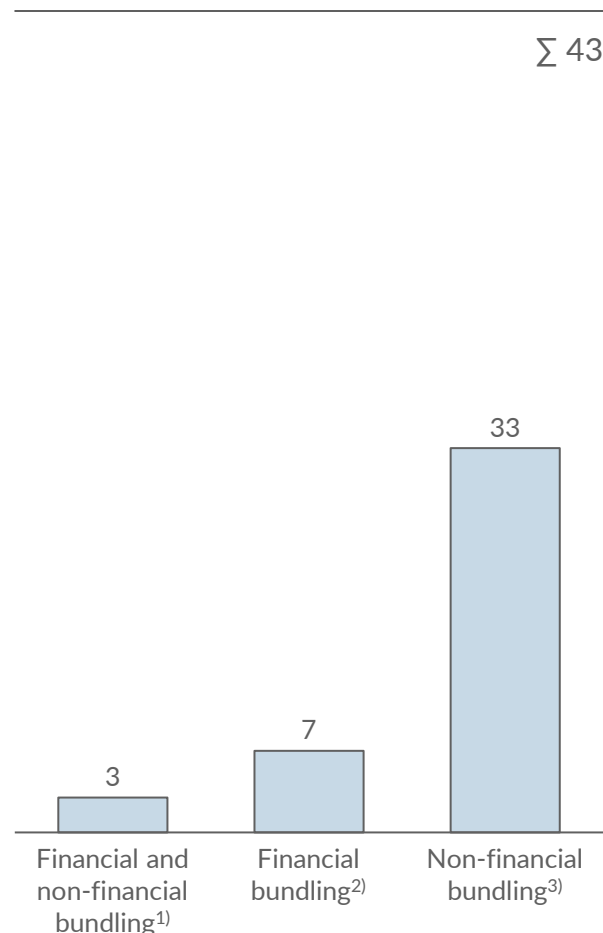


43 bundled products have been identified, the majority of which bundle financial and non-financial services

Climate-responsive financial products by bundling [#]



Climate-responsive financial products by type of bundling[#]



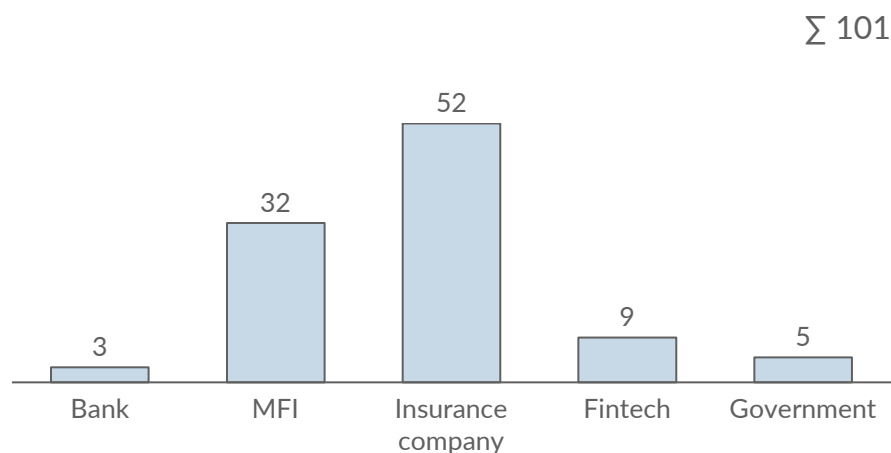
- Most bundled products **combine borrowing facilities with training and advice for adaptation and building climate resilience** (e.g. climate smart agriculture practices); some products additionally provide financial training (e.g. to ensure compliant loan management)
- There are also examples of **insurance products bundled directly with the climate-resilient inputs** such as seeds (e.g. ACRE's replanting guarantee)
- The products bundling financial services are bundling credit with insurance products (e.g. VisionFund Agrifinance/Crop and Livestock Insurance, Pula PayGo Yield Insurance Index) to cover a range of different risks (e.g. inability to repay loans, damages from drought/diseases/etc.)

1) Bundles multiple financial products and non-financial services; 2) Bundles multiple financial products; 3) Bundles a single financial product with non-financial services

Insurance companies and MFIs are the most prevalent FSPs; some Fintechs also provide insurance products

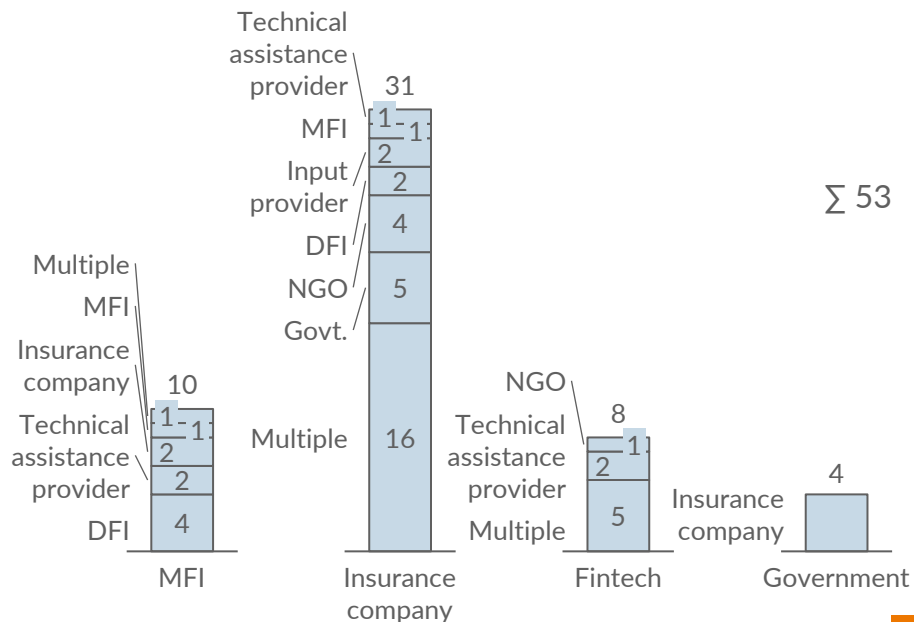
Climate-responsive financial products by FSP type¹⁾ [#]

- **Insurance companies are the most prevalent FSP type primarily responsible for delivering climate-responsive products** (e.g. ACRE Africa’s weather index insurance), with some insur-tech companies also providing climate-responsive insurance products (e.g. OKO’s crop assurance product and Pula’s yield index insurance)
- **MFIs are the overwhelming providers of climate-responsive borrowing products for vulnerable people** (e.g. Fundecooperación’s PRO+CLIMATE Agriculture/Livestock products in Costa Rica), with very few products offered by traditional banks
- **Products provided by governments are all national insurance programs** that are designed to support smallholder farmers (e.g. in Nigeria, Brazil and India)



FSPs by offering of climate-responsive products with partners [#]

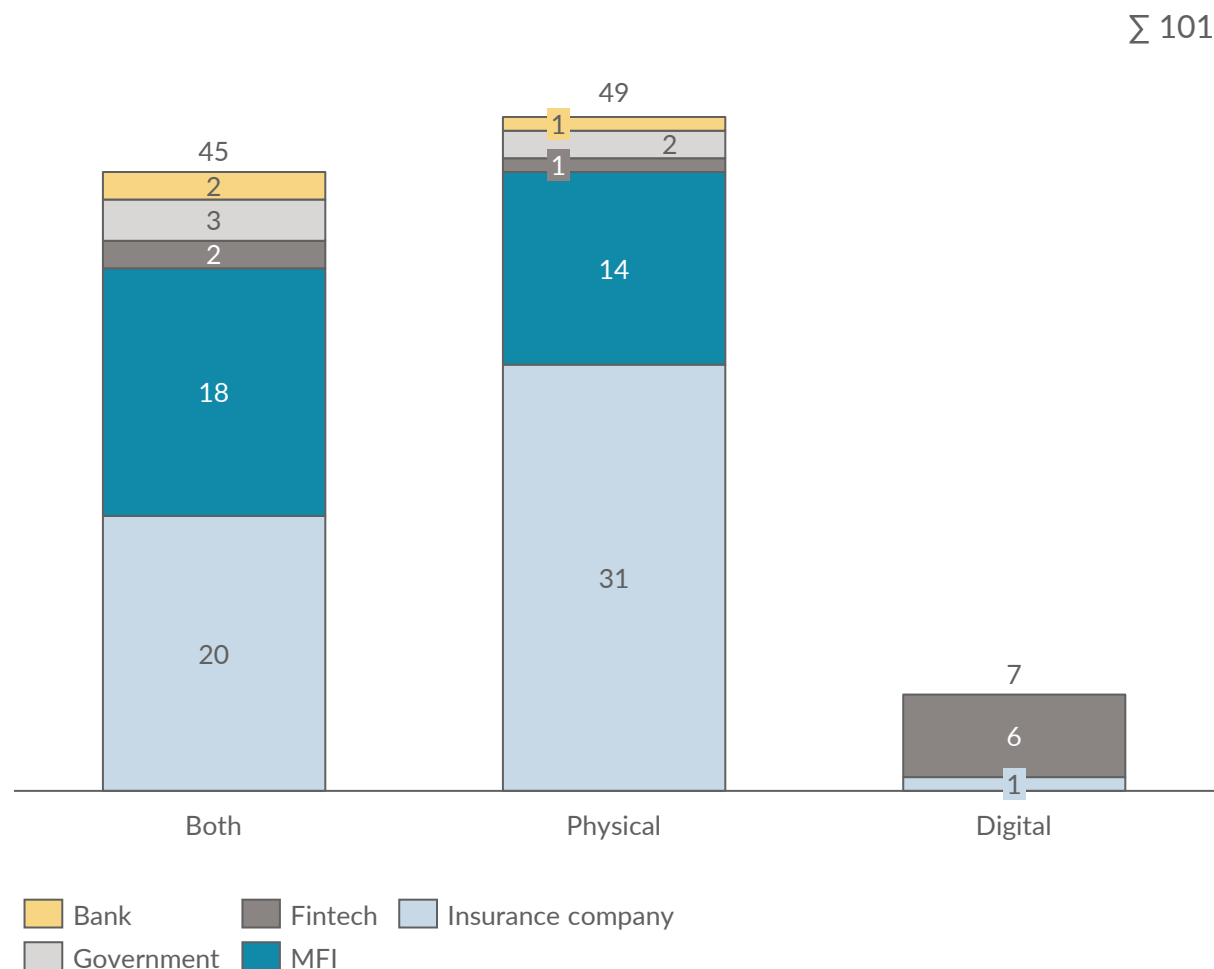
- **Different partners are supporting FSPs through co-financing capital**, product design, delivery and technical assistance such as trainings, weather forecast etc.
- **Insurance companies lead in partnerships** as they collaborate more with multiple partners e.g., governments, NGOs and MFIs, primarily to increase channel outreach and the accessibility of their products; This is different from MFIs, which partner more with DFIs and technical assistance providers in the design and piloting of products



1) FSP type deemed primarily responsible for offering the product based on secondary research

A plurality of products identified are delivered through physical channels only

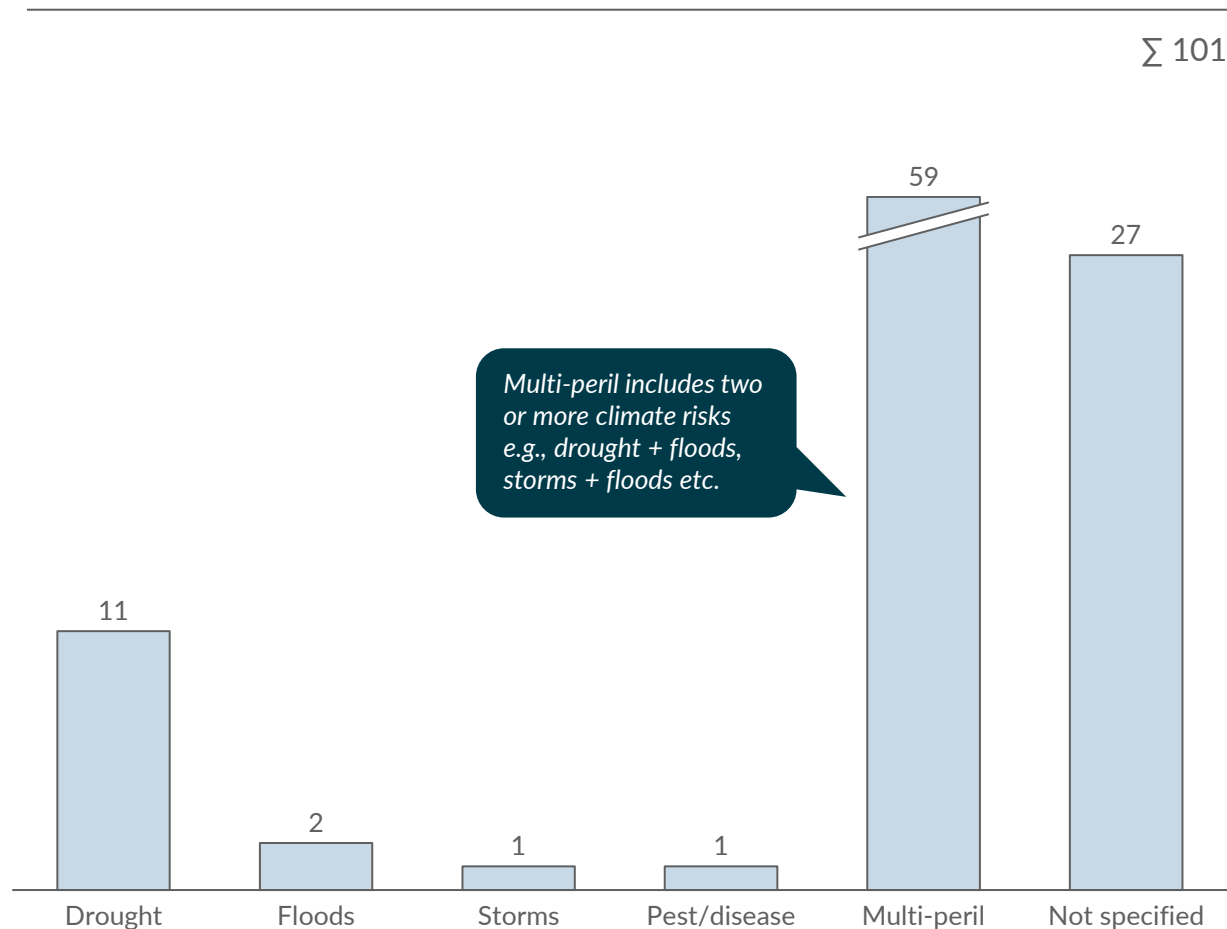
Climate-responsive financial products by delivery channels [#]



- A plurality of climate-responsive products identified are delivered through physical channels (branches and payment points), whilst many products are also delivered through a combination of both physical and digital channels
- While the FSPs run branches and payment points, customers have an option to register, be verified and receive services digitally e.g., cash/claims payouts; mobile money services also play a big role in service delivery
- **Physical channels are more prevalent to insurance companies** as their delivery channels usually depend on partner organizations (e.g., government and technical service providers)
- **Fin-techs dominate products provided only through digital channels** and typically use MNO assets for service delivery (e.g. OKO uses USSD for customer registration)

58% of climate-responsive products identified are designed to address multiple climate risks

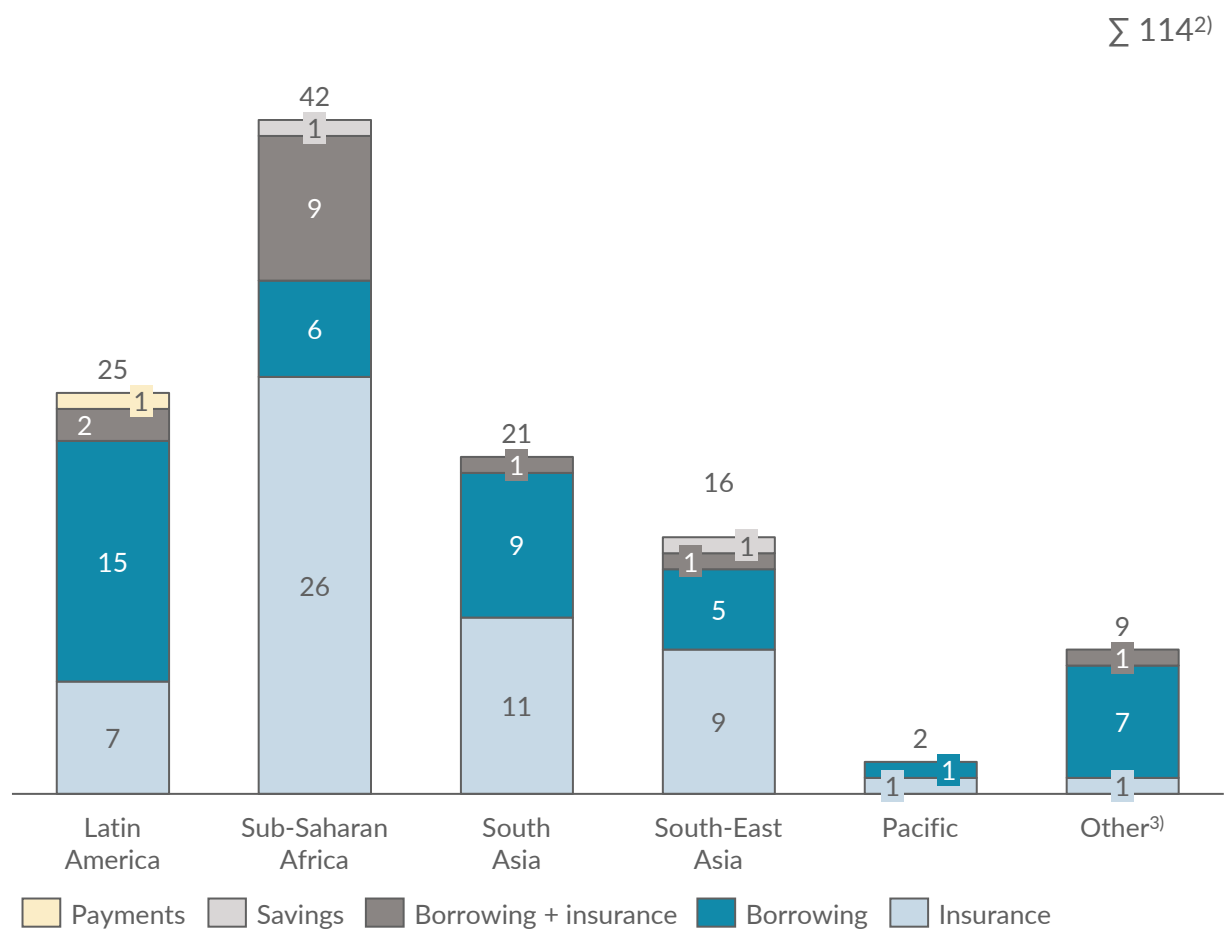
Climate-responsive financial products by climate risk addressed [#]



- Most of the identified products are designed to address multiple climate risks, rather than being tailored for a single climate risk
 - 49 of these 59 products identified offer insurance (whether individually or bundled with credit) that provides coverage against climate-induced negative outcomes that can be caused by different risks (e.g. insurance against low crop yields that could be driven by low rainfall, floods or pest/disease outbreaks)
 - Multi-peril products also include several credit products that support vulnerable people to prepare for, adapt to or respond to a range of climate risks (e.g. loans to build houses' resilience or support reconstruction after either floods or storms)
- There are, however, some products designed specifically to support vulnerable people adapt to and build resilience to drought
- Products specifically tailored to floods, storms, pests and diseases are available but limited in number

The product scan identified the greatest number of climate-responsive products in Sub-Saharan Africa (1/2)¹⁾

Climate-responsive financial products by region [#]



- The product scan suggests the majority of identified products in **Sub-Saharan Africa** are **insurance** products
- There are a **range** of products in **Latin America** of both loans and insurance with the **majority** of products being **broad climate adaptation loans**
- In **South and South East Asia**, there is a mix of both insurance and loan products with **insurance** as the **most prevalent** identified typology

1) Given the product scan was conducted by an English-seeking research team, Dalberg recommends conducting further research to ensure all products in non-English-speaking regions are captured; 2) Includes products offered across more than one region; 3) Includes Middle East, Central Asia, Eastern Europe

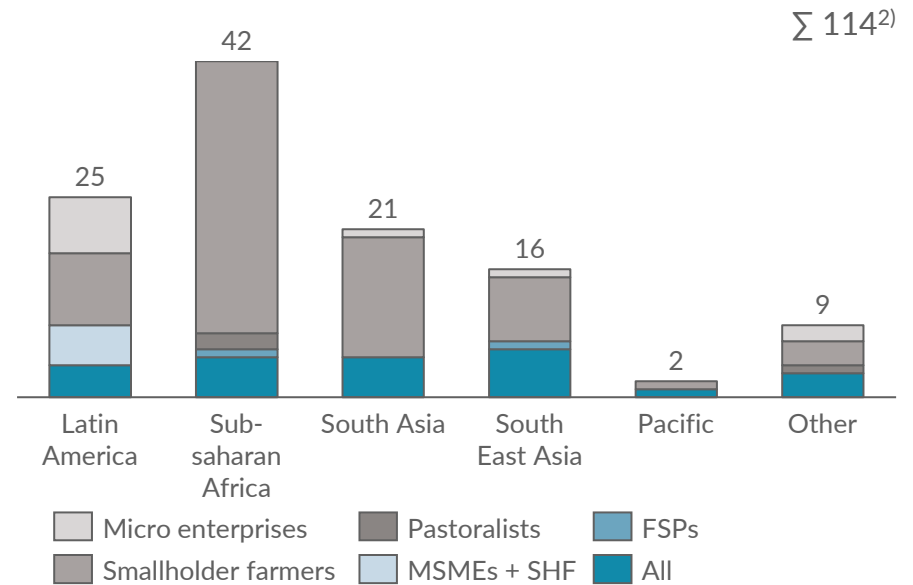
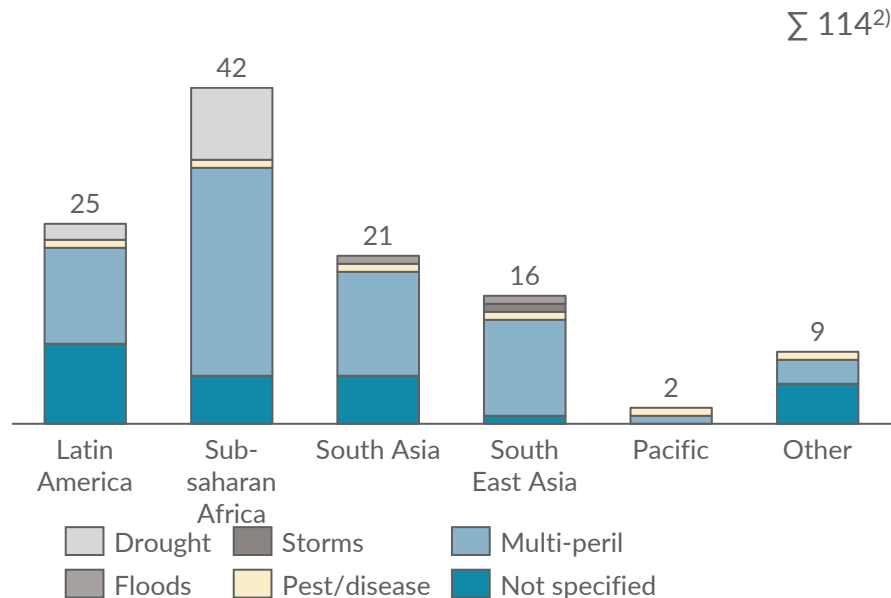
The product scan identified the greatest number of climate-responsive products in Sub-Saharan Africa (2/2)¹⁾

Climate-responsive financial products by climate risk addressed per region [#]

- Most of the products across the regions are designed to address **multiple climate risks**
- Of those designed to cover specific risks, those that cover **drought are predominant in sub-Sahara Africa** with a few in **Latin America**. A few **flood-specific** products have been identified in **South and South East Asia**

Climate-responsive financial products by target user per region [#]

- A majority of the products in **Sub-Saharan Africa** target **smallholder farmers**
- In **Latin America**, products target **both smallholder farmers and microenterprises** with some products simultaneously targeting both groups
- In **South East Asia**, majority of the products are designed to meet the needs of **all vulnerable people**



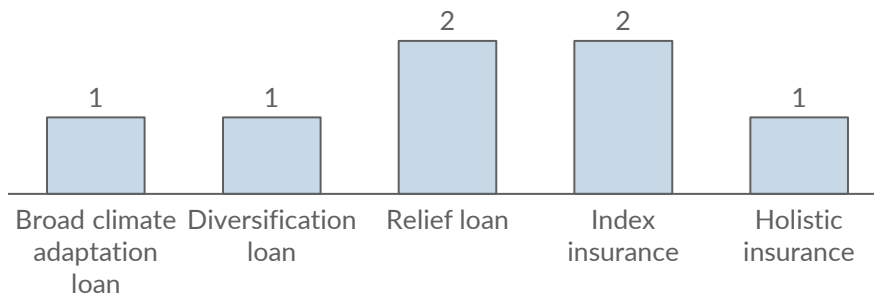
1) Given the product scan was conducted by an English-speaking research team, Dalberg recommends conducting further research to ensure all products in non-English-speaking regions are captured; 2) Includes products offered across more than one region

Seven products across different typologies have been identified in Bangladesh and nine in Nigeria

Climate-responsive financial products by typology, Bangladesh [#]

- There are seven identified products in Bangladesh with four loan products and three insurance products
- **The majority** of the products are **multi-peril products**. Although there is an identified **flood specific index insurance** offered by the Sadharan Bima Corporation, a state-owned insurance company
- **Four** of the products target **smallholder farmers** while the other three target multiple groups of users

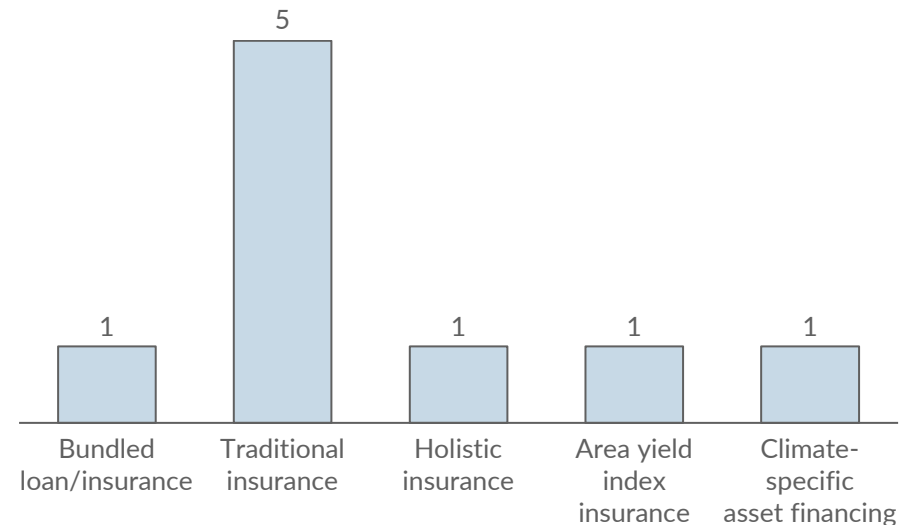
Σ 7



Climate-responsive financial products by typology, Nigeria [#]

- **Most** of the identified products in Nigeria are **agri-insurance** products that target **smallholder farmers** and address **multiple risks**
- **Three** of the **insurance products** including a **bundled insurance** product and a **holistic insurance** that combines area yield index insurance and funeral insurance are **offered by NISRAL**, a non-bank financial institution wholly owned by Central Bank of Nigeria

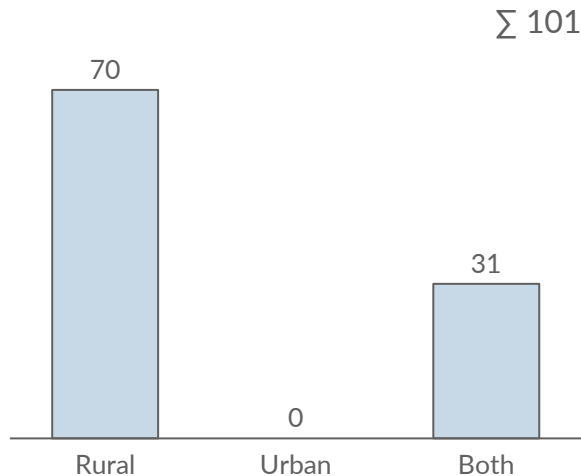
Σ 9



69% of products identified target rural users whilst no products designed specifically for urban users were found

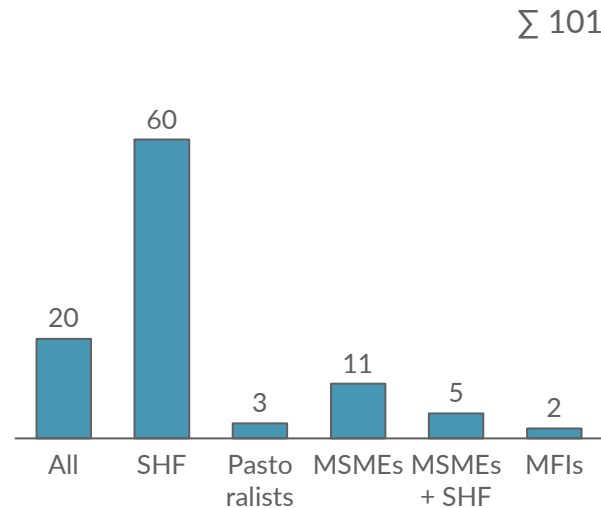
Climate-responsive financial products by rural vs urban focus [#]

- The majority of products are designed to serve **rural communities** (and predominantly agricultural livelihoods) adapt to and build resilience to climate change
- Other products **serve both rural and urban communities**; however, no products have been identified that specifically target urban communities



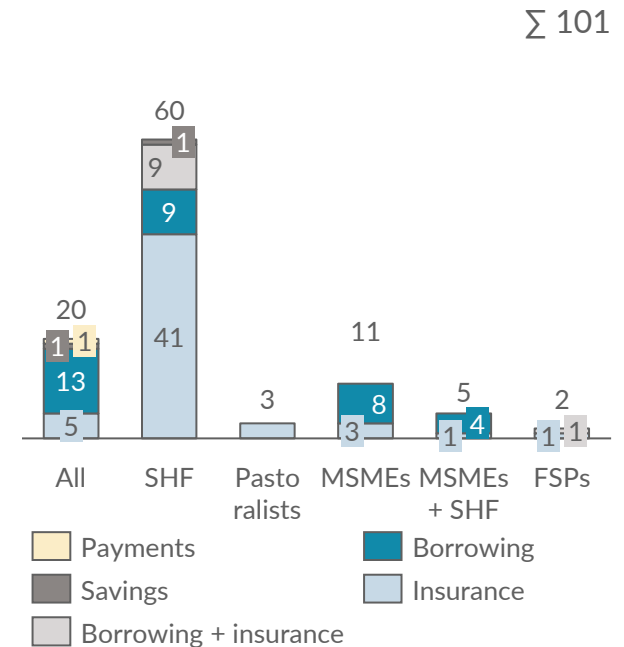
Climate-responsive financial products by end user focus [#]

- The majority of products target individuals or institutions at the micro level but with several products also being offered at the meso level
- There are **also examples** of products designed for **financial services providers** eg agri-lenders and paygo companies that protects them against defaults by smallholder farmers due to perils farmers may have faced.



Climate-responsive financial products by end user focus by product group [#]

- The vast majority of products targeting **smallholder farmers** are **insurance products**
- Products targeting MSMEs** are more **focused on borrowing** for climate-related activities

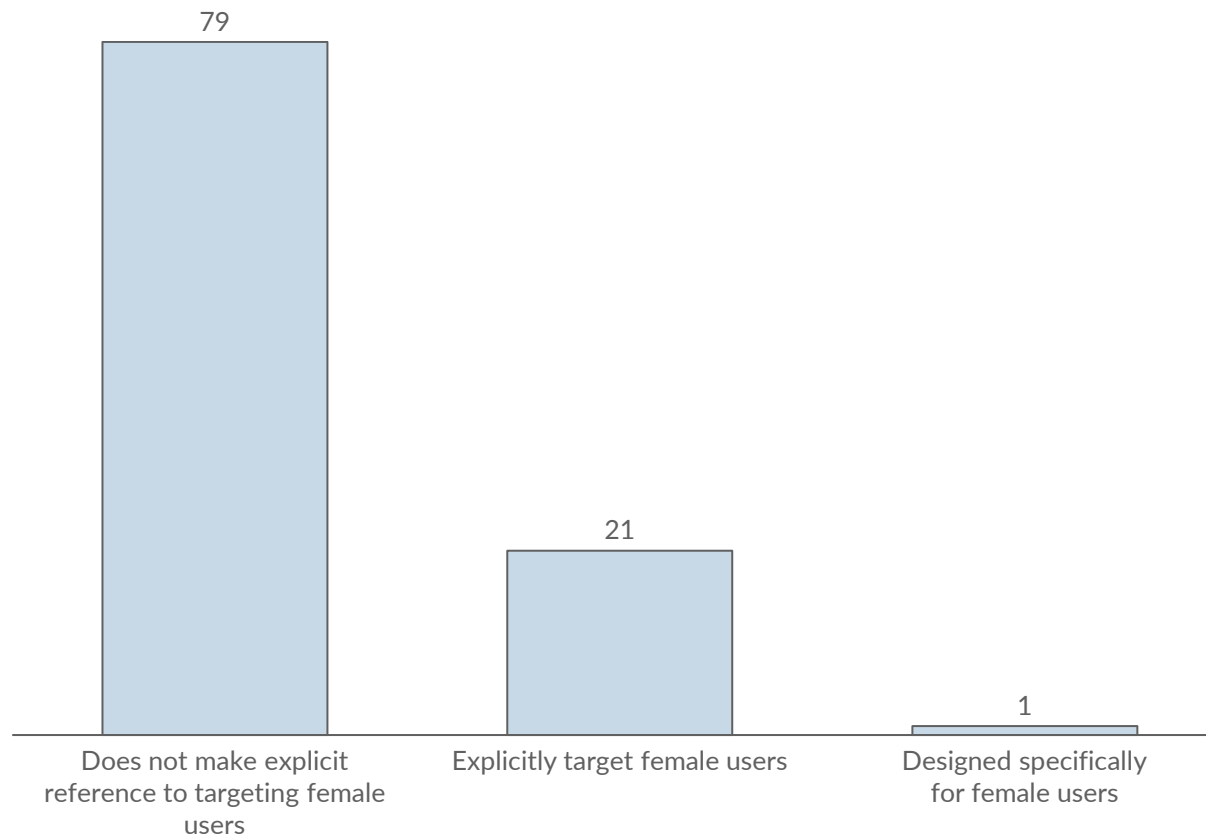


78% of products identified do not apply an explicit gender focus; only one female-specific product was identified

Climate-responsive financial products by gender lens [#]

Σ 101

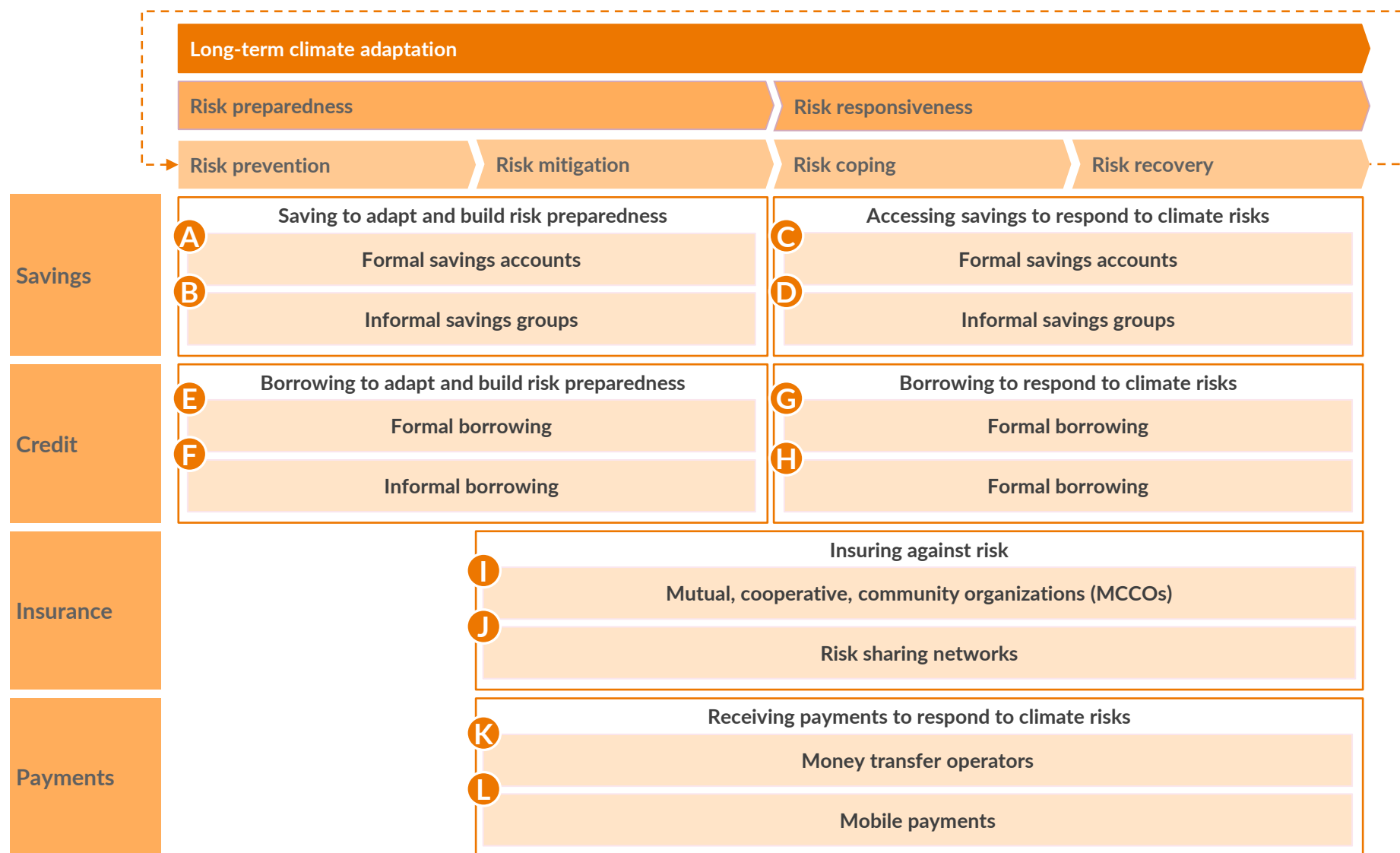
- Only a **minority of climate-responsive products identified apply an intentional gender lens** (on the basis of secondary research findings)
- The products that reference an intentional targeting of women cover a range of typologies, including index insurance, climate adaptation loans and climate adaptation savings accounts
- **One climate-responsive product that specifically and exclusively targets women has been identified: Green Delta's Nibedita Insurance** (see more [here](#))



Contents

- I Introduction
- II Executive summary
- III Climate-responsive financial products
- IV **Climate-supportive financial products**

Climate-supportive products are more general in design but still used to adapt and build climate resilience (1/2)



Climate-supportive products are more general in design but still used to adapt and build climate resilience (2/2)

Product group	Product typology	Definition
Savings	Saving to adapt and build risk preparedness	A Formal savings accounts Savings with formal FSP accounts or mobile money accounts (sometimes with a commitment feature (e.g. having a set date for funds withdrawal) that are used to build climate risk preparedness
		B Informal savings groups Accumulated savings from small community groups used before climatic events to prepare and to build resilience against climatic risks; savings can be used individually once share outs are made at the end of the cycle or collectively to build the resilience of the group
	Accessing savings to respond to climate risks	C Formal savings accounts Savings from formal FSP and mobile money accounts that are accessed during and after climatic emergencies to cope with the effects
		D Informal savings groups Accumulated savings from savings groups used individually or collectively to respond during and after climatic emergencies
Credit	Borrowing to adapt and build risk preparedness	E Formal borrowing Generic loans accessed either individually or as a group from financial service providers such as banks, MFIs and from digital platforms used before climatic events to prepare and build resilience
		F Informal borrowing Loans from group/community savings groups or friends and family used by vulnerable people to prepare against climatic risks
	Borrowing to respond to climate risks	G Formal borrowing Generic, short-term loans from FSPs or digital platforms used to cope with the effects of climate risks
		H Informal borrowing Loans from group/community savings groups used by vulnerable people to cope with the effects of climate risks
Insurance	Insuring against risk	I Mutual, cooperative, community organizations A diverse range of organizations including mutuals, mutual benefit organizations, cooperatives, friendly societies, burial societies, fraternal societies, community-based organizations, risk pooling organizations and self-insuring schemes that are member-owned and provide insurance for the members such as life insurance or property insurance that provides cover against effects of climate shocks and stresses
		J Risk sharing networks Risk sharing mechanisms that payout vulnerable people based on traditional risk sharing arrangements of families or groups, based on social relationships (friends and family) operating on reciprocity principle and based on pre/post determined rules of savings groups to provide emergency funds after a disaster
		K Money transfer operators Non-bank financial service providers platforms used to transfer remittances from migrants to recipients before, during and after a climatic event
Payments	Receiving payments to prepare and respond to climate risks	L Mobile payments Digital payment platforms that use mobile wallets to receive funds/remittances from friends and family before, during and after a climatic event and to receive G2P payments after climatic events

The review of climate-supportive financial products has surfaced several key takeaways

Takeaways on climate-supportive financial products

Adapting and building risk preparedness



Vulnerable people use a range of savings and borrowing products not designed specifically for climate purposes to build risk preparedness and support adaptation:

- **Despite such products not being ear-marked for climate purposes they are used to adapt and build risk preparedness and by investing in climate-resilient inputs, climate-resilient equipment, diversifying income and relocating to safer places**

Responding to climate risks



Vulnerable people also use savings and borrowing products to access liquidity in response to climate events:

- **Flexible savings accounts can be used for coping with and recovering from climate risks** but there is limited evidence of vulnerable people specifically locking in savings for responding to a risk that might not materialize
- Some vulnerable people **use loans to cope with shocks** by smoothing consumption and avoiding negative coping mechanism such as cutting food consumption
- Informal savings and loans are used by vulnerable people to respond to climate risks but can have **limitations in their effectiveness in dealing with covariate risks** that affect all members

Insuring against risk



Vulnerable people use alternatives to climate-specific insurance to provide cover against shocks and stresses arising from climate risks:

- **Mutual cooperatives, community organizations provide members with coverage against a range of adverse events** (e.g. death, household damages) including those brought on by climate change
- **Informal risk sharing networks also provide a means of insuring against broad risks** including those related to climate events although such mechanisms can have **lower resilience to large-scale climate shocks**

Receiving payments



Vulnerable people use a range of channels to access both P2P (incl. remittances, which many vulnerable households depend on during times of hardship caused by climate shocks and stresses) and G2P payments in responding to climate risks:

- Vulnerable people with **mobile money accounts have a greater chance of receiving remittances and government support** with lower cost and greater accessibility in the event of climate shocks
- **Money transfer operators also offer a channel for reaching vulnerable people, including those with lower digital literacy**

Formal savings accounts are used to accumulate savings for investment in climate adaptation and resilience

Formal savings account to adapt and build risk preparedness

Vulnerable people use formal savings accounts (sometimes with a commitment feature) or mobile money accounts to prepare and to build resilience before climatic risks.

Examples

- In Kenya, women headed households that adopted mobile savings accounts used the savings to leave agricultural jobs for more reliable, higher paying positions in business or retail that have a lower exposure to climate risks ([Building Resilience through financial inclusion](#))
- In Haiti, Build Change partnered with Sogebank, one of Haiti's major commercial banks, to open accounts with preferential terms for homeowners and builders to save subsidies they received from the government and other income. The savings are used to strengthen homes to improve resilience against hurricanes. ([Financial pathways to climate-resilient housing](#))
- In Nepal, women offered a no-fee savings accounts were less risk-averse one year later than women not offered accounts and thus were able to adopt higher risk but higher return income generating strategies which reduced their income volatility when hit by negative shocks. ([Building Resilience through financial inclusion](#))
- In Malawi, farmers with commitment savings accounts increased their agricultural input that led to an increase in their agricultural income and thus their resilience. ([Savings and climate resilience: a review of successes and challenges](#))

Learnings from formal savings accounts

Advantages:

- ✓ Formal savings are a secure way of storing assets providing protection from climatic events
- ✓ Formal savings could prevent diversion of money from responding to immediate pressure to spend
- ✓ Formal savings could create a platform for accessing larger productive credit used for investments in climate adaptation and resilience

Disadvantages:

- ✗ Low returns on savings may discourage long term savings for investment in climate resilience

Potential implications for climate-specific financial product design

- FSP's could design savings products that are both goal based and targeted towards building climate resilience and adaptation to increase vulnerable people's investment in climate-resilient technologies

Informal savings groups are used to accumulate savings for investment in climate adaptation and resilience

Informal savings groups to adapt and build risk preparedness

Vulnerable people use accumulated savings from small community groups to prepare and to build resilience before climatic risks. The savings can be used individually once share outs are made at the end of a cycle or collectively to build the resilience of the group.

Examples

- In Ethiopia, VSLA members used their savings to establish new income generating activities such as animal fattening to cope during periods of long droughts. ([Savings and climate resilience; a review of successes and challenges in current programming](#))
- In Niger, women use VSLA's to diversify their income beyond agriculture to increase resilience to frequent droughts, unreliable rainfall and other climatic pressures. ([In drought-hit Niger, women's savings could be route to resilience](#))
- In Uganda, smallholder farmers use savings groups to save for hybrid seeds and fertilizers to cope with dry spells and drought and erratic rainfall. ([Savings groups transform the lives of smallholder farmers in Uganda](#))
- In Ghana, women use their collective savings to expand their crops and plot size for greater production and to purchase higher quality agricultural inputs such as seeds and fertilizers. ([Six Ways Ghanaian Women Thrive in Village Savings and Loan Associations](#))
- In Peru, savings foster quality-improving housing investments through the accumulation of lump-sums of money required to make investments in housing ([Savings Groups Reduce Vulnerability, but have Mixed Effects on Financial Inclusion](#))
- In Ghana, households save remittances to diversify from agricultural activities to cope during dry season ([Migrants' remittances: A complementary source of financing adaptation to climate change at the local level in Ghana](#))

Learnings from informal savings groups

Advantages:

- ✓ Convenient to deposit money regularly
- ✓ Commitment to the group could facilitate compliance with climate resilience savings goals
- ✓ Informal savings through groups that loan may allow access to lower cost of informal credit
- ✓ Some groups make collective investment decisions to deal with climate shocks and stresses

Disadvantages:

- ✗ Savings can be too small to make large investment that could contribute more to adaptation
- ✗ Sometimes there may be little buy-in from savings group to prioritize climate adaptation

Potential implications for climate-specific financial product design

- FSP may work to develop mutual trust with the group so as to link them to formal products such as credit to increase funds available to support larger investment in adaptation and resilience
- Providing larger loans to the groups as opposed to small individual loans may lead to collective investment in climate adaptation and resilience

Formal savings accounts are used as a coping mechanism to the effects of climate shocks

Formal savings accounts to respond to climate risks

Vulnerable people use formal savings accounts or mobile money accounts to manage the impact of climatic shocks and stresses and to cope after climatic events.

Examples

- In Kenya, women used mobile money savings account labelled emergency savings in response to shocks and stresses and therefore were less likely to engage in transactional sex as a risk coping response. Further, individuals offered free savings accounts were less likely to receive transfers and more likely to send them, without negative effects on household welfare, indicating that they may have been better able to self-insure compared to those who were not offered an account. ([Building resilience through financial inclusion](#))
- In Burkina Faso and Senegal, women preferred to use savings accounts for emergencies instead of agricultural insurance as they perceived savings covered a wider set of risks than those covered by agricultural insurance. ([Exploring the Power of Savings for Women; Evidence-based Report Series on Women's Economic Empowerment](#))
- In Bangladesh, vulnerable households used their savings deposits to cope with the effects of floods. ([Coping strategies with floods in Bangladesh: An empirical study](#))
- In Kenya, 35% of respondents in a study reported using savings to manage impact of floods and droughts and of those, 56% saved in formal financial institutions. ([Building household coping mechanisms with the effects of droughts and floods using financial instruments](#))

Learnings from formal savings accounts

Advantages:

- ✓ Formal savings are a secure way of storing assets providing protection from climatic events
- ✓ Formal savings potentially prevent diversion of money from responding to immediate pressure to spend

Disadvantages:

- × Savings may be insufficient to cover risks due to low household income
- × Formal institutions may be inaccessible during emergencies due to distance or institution closure
- × Savings accounts with hard commitment may be inaccessible during emergencies

Potential implications for climate-specific financial product design

- Labelling accounts may incentivize accumulation of emergency savings to cope with climate shocks
- Providing savings products that balance commitment mechanisms and quick access during emergencies could encourage uptake of formal savings account for emergencies

Informal savings groups are used to cope and recover from the effects of climate shocks

Informal savings groups to respond to climate risks

Vulnerable people use accumulated savings from small community groups to manage the impact of climatic shocks and to cope after climatic events.

Examples

- In Ethiopia, members of the savings groups under CARE's GRAD program were able to sustain a prolonged period of drought without having to access loans from microfinance institutions and in Kenya, farmers used savings groups to smooth out consumption during prolonged periods of drought ([Savings and Climate Resilience: A review of successes and challenges in current programming](#))
- In Kenya, the urban poor in Kibera have relied on savings and loans groups to cope with the effects of floods in the absence of government support and formal financial services. ([Community-responsive adaptation to flooding in Kibera, Kenya](#))
- In Philippines, informal savings alongside other coping strategies contributed to stronger recovery after typhoon Yolanda. ([Savings and Climate Resilience: A review of successes and challenges in current programming](#))
- In Peru, migrants use savings groups to collect funds that help in recovery of areas back home hit by disaster such as drought and high temperatures. ([The Impact of Climate Change: Migration and Cities in South America](#))

Learnings from informal savings groups

Advantages:

- ✓ Where funds are stored in easily accessible platforms, informal savings' accessibility make them more effective as a recovery strategy
- ✓ Savings groups provide social capital which is key in ensuring mutual support at times of crises

Disadvantages:

- ✗ Savings groups may not be large enough to cope with large or recurrent shocks that prompt mass withdrawals across communities

Potential implications for climate-specific financial product design

- Formal FSP could look to leverage or replicate the increased accessibility of informal channels in times of emergency
- Insurance companies could offer group insurance to savings group to support increased withdrawals in support of climate shocks and stresses

Loans from formal providers are used for investment in climate adaptation and resilience

Formal borrowing to adapt and build risk preparedness

Vulnerable people use generic microloans accessed either individually or as a group from formal financial providers and digital platforms to prepare and to build resilience before climatic risks.

Examples

- In Ghana, Kenya, Mali, Senegal and Uganda, community level women's groups make available loans from funds provided by external microfinance institutions. The funds are combined with women's savings and through these funds, they invest in their farms by paying for labor which intensifies their production increasing their income. ([How Resilient Are Farming Households And Communities To A Changing Climate In Africa? A Gender-Based Perspective](#))
- In Bangladesh, farmers use small loans to diversify or increase their income through increased crop production building their resilience. ([Bank loans in Bangladesh open doors for poor farmers](#))
- In Bangladesh, people used credit subsidy to cover the cost of migration for work during the lean agricultural season which aids in income diversification during dry seasons ([Building resilience through financial inclusion](#))
- In Rwanda, smallholder farmers found microloans from microfinance institutions useful in advancing purchases of agricultural inputs, such as climate resilient high-quality seeds, fertilizer and pesticides and in purchasing water pumps and simple irrigation equipment to lessen the impact of floods and droughts on their plots. The microloans were provided together with training on building capacity to adapt to climate change ([What Do Microfinance Clients Need to Adapt to Climate Change?](#))

Learnings from formal borrowing

Advantages:

- ✓ Some microloans are provided alongside training to the borrower on building their capacity to adapt to climate change

Disadvantages:

- × The loans can be too small leading to incremental adaptation which may not reduce vulnerabilities
- × Reliance on microloans may lead to maladaptive outcomes through over-indebtedness.
- × Some product requirements may lock out the most vulnerable such as women and youth e.g., loans requiring cooperatives membership may exclude the youth who are unable to find capital to join

Potential implications for climate-specific financial product design

- FSPs can deliver loans alongside high-quality non-financial services focused on climate resilience
- FSPs can eliminate policies not sensitive to the needs of the most vulnerable which may limit their access to credit for climate resilience e.g., requiring cooperative membership for agricultural loans

Loans from informal groups are used for investment in climate adaptation and resilience

Informal borrowing to adapt and build risk preparedness

Vulnerable people use loans from group/community savings groups based on groups' defined procedures to prepare and to build resilience before climatic risks.

Examples

- In Nigeria, 28.3% of the crop farmers obtained funds from Isusu credit associations for financing climate change adaptation. Isusu or daily savings club is a credit association found in many rural Nigerian communities. (Informal sources of financing climate change adaptation amongst crop farmers in Nigeria)
- In Bangladesh, fisherwomen use collateral free soft loans from community savings groups to diversify their income through livestock farming which increases their resilience towards rising tides and the impacts of climate change. (Building climate resilience into Bangladesh's coastal communities)
- In Ghana, women's access to loans from VSLAs allowed them to invest in dry season livelihoods which ensures generation of income throughout the seasons. (Six ways women thrive in village savings and loan associations in Ghana)
- In Ethiopia, women use loans from VSLAs to diversify their incomes by investing in small businesses to help their husbands during drought and to generally build resilience to climate change. (Women mean business, savings groups in Ethiopia make it happen)

Learnings from informal borrowing

Advantages:

- ✓ Credit built from informal loans can allow access to formal loans for investment in climate resilience

Disadvantages:

- ✗ Sometimes savings groups may have insufficient funds limiting loan amounts available for investment in climate adaptation
- ✗ Savings groups funds held in cash may be vulnerable to climatic events and thus may not be available for borrowing during emergencies
- ✗ In the event many members default on loan repayment this could negatively impact group's resilience

Potential implications for climate-specific financial product design

- Formal FSP's could provide loans to savings groups as opposed to individuals to supplement their funds and to provide larger credit for investment

Loans from formal institutions are used as a coping mechanism to the effects of climate shocks and stresses

Formal borrowing to respond to climate risks

Vulnerable people use generic microloans accessed either individually or as a group from formal financial providers and digital platforms to manage the impact of climatic shocks and stresses and to cope after climatic events.

Examples

- In Kenya, during negative shocks (amongst them drought and floods), households use M-Shwari, a digital loan product to smooth consumption and are 6.3% less likely to forego expenses due to drought. ([Fintech and household resilience to shocks: evidence from digital loans in Kenya](#))
- In Bangladesh, poor households use microloans from microfinance institutions as consumption smoothing strategies during dry periods to lessen impact of seasonal hunger and other household stresses. ([The Role of Microfinance and Microfinance Institutions in Climate Change Adaptation: Learning from Experiences in Bangladesh](#))
- In Kenya, 24% of respondents in a study borrowed to manage the impacts of drought and floods. Of those, about 30% borrowed from formal financial institutions. ([Building household coping mechanisms with the effects of droughts and floods using financial instruments](#))

Learnings from formal borrowing

Advantages

- ✓ Loans can be easily accessible during climate emergencies if made instantaneous by providing access through digital platforms

Disadvantages

- ✗ High-cost loans may lead to hardship of loan repayments especially during climate emergencies which may lead to over indebtedness negatively impacting individual's resilience.

Potential implications for climate-specific financial product design

- FSPs may proactively respond to the financial and social impacts of climate shocks through measures such as loan restructuring, as well as appropriate products and services such as climate emergency loans

Loans from informal institutions, friends and family are used as a coping mechanism to the effects of climate shocks

Informal borrowing to respond to climate risks

Vulnerable people use loans from group/community savings groups based on groups' defined procedures to manage the impact of climatic shocks and to cope after climatic events.

Examples

- In Tanzania, loans from savings groups can be used to move out of flood-prone housing into safer accommodation. ([Saving Up for a Rainy Day? Savings Groups and Resilience to Flooding in Dar es Salaam, Tanzania](#))
- In India, women access loans from the Self-Employed Women's Association (SEWA) to replace or repair roofs, reinforce walls and rebuild in less hazard prone areas making them less vulnerable to extreme events such as floods and drought. ([Microfinance and Climate Change Adaptation](#))
- In Bangladesh, women took out loans from savings groups after cyclone Amphan to meet immediate household consumption needs, repair homes and revive livelihoods. ([Community savings groups play crucial role in Bangladesh during Covid-19 crisis](#))
- In Malawi, 57% of access to credit for farmers to cope with climate shocks and stresses comes from loans from neighbors/friends/family. ([The Adoption of Climate Smart Agriculture: The Role of Information and Insurance Under Climate Change](#))

Learnings from informal borrowing

Advantages

- ✓ Savings groups may provide flexibility into lending practices and room to renegotiate payment terms during climate emergencies
- ✓ Savings groups linked to FSPs may meet members credit needs simultaneously due to available external loans thus covering covariate risks

Disadvantages

- ✗ The available funds may not be large enough to meet individual credit needs during emergencies
- ✗ Loans for consumption can result in accumulation of debt by members and if unmanageable, could negatively impact the resilience of the group

Potential implications for climate-specific financial product design

- Formal FSP's could potentially test and develop products that provide group credit to the savings groups during emergencies to determine if this leads to greater rates of credit repayment than individual consumer loans lent during emergencies

Member-based MCCOs insurance is used by vulnerable households to cope with climatic shocks

Mutual, Cooperative, Community-based Organizations

Vulnerable people use a diverse range of organisations including mutuals, mutual benefit organisations, cooperatives, friendly societies, burial societies, fraternal societies, community-based organisations, risk pooling organisations and self-insuring schemes that are member owned to access insurance that is used to cope after climatic events.

Examples

- In Philippines, Mutual, Cooperative, Community-based Organisations (MCCOs) provided members with life insurance payoff after typhoon Haiyan that helped in smoothing consumption. ([Mutual microinsurance and the Sustainable Development Goals: An impact assessment following Typhoon Haiyan](#))
- In Nepal, mutual insurance schemes of farming cooperatives e.g., small farmer cooperatives are used for crop and livestock insurance against floods and drought. ([Agricultural insurance feasibility study for Nepal](#))
- In India, farmers who are members of a savings groups have access to a mutual insurance for their crops against drought. The mutual insurance was designed by DHAN as a member-based insurance for a federation of savings groups. ([Coping with catastrophes: A study of crop insurances from the perspective of small farmers in India](#))

Learnings from MCCO

Advantages

- ✓ Strong ties to local communities can strengthen trust in MCCOs' insurance products
- ✓ May be easily customizable to meet member's needs

Disadvantages

- ✗ Premiums collected can be insufficient to provide cover if all members experience loss at the same time due to the same climatic shock
- ✗ Some MCCOs may lack a proper re-insurance program leaving the members exposed to catastrophe loss

Potential implications for climate-specific financial product design

- Formal FSPs could provide re-insurance to a group of MCCOs based in different climatic regions likely to face different risks spreading out the risks and making available funds in addition to the insufficient premiums collected by MCCOs allowing them to cope with covariate risks

Risk sharing networks provide vulnerable people emergency funds to cope with climatic shocks

Risk sharing networks

Vulnerable people use risk sharing mechanisms that payout based on traditional risk sharing arrangements of families or groups, based on social relationships (friends and family) operating on reciprocity principle and based on pre/post determined rules of savings groups to cope after climatic events.

Examples

- In Tanzania many savings groups have a “social fund” (or jamii) which acts as a form of insurance in response to floods in the urban areas in Dar es Salaam. The insurance mechanism is either set in advance and written into the group constitution or decided collectively during a group meeting. . ([Saving Up for a Rainy Day? Savings Groups and Resilience to Flooding in Dar es Salaam, Tanzania](#))
- In Ethiopia, pastoralists use dabare, a risk sharing network where one household lends livestock to another on a temporary basis with the understanding roles may be reversed in the future. The reciprocal exchange is used in the event of adverse shock such as drought. ([Does Index Insurance Crowd In or Crowd Out Informal Risk Sharing? Evidence from Rural Ethiopia](#))
- In Ethiopia, people use Iddir, a community-based risk management to access cash or loans to cope with the effects of natural hazards such as drought and floods. Members are required to pay fixed monthly contributions (often a few birr per month). Poor households are able to use iddirs as they allow for in-kind premium payments ([Risk, coping mechanisms, and factors in the demand for micro-insurance in Ethiopia](#))
- In Kenya, a study found that M-PESA allowed poor people to access help from friends and family and to strengthen their informal risk-sharing networks. Those who used M-PESA did not have to cut consumption following drought but those who didn't use M-PESA reduced consumption by 7 percent in response to income shocks. ([Building resilience through financial inclusion](#))

Learnings from risk sharing networks

Advantages

- ✓ Some networks may allow for extension of insurance coverage to adverse events that had not been strictly defined ahead of time
- ✓ Funds from savings groups and friends/family may be easily accessible during climate emergencies

Disadvantages

- × May not be suitable to cover covariate risks
- × Where support is ad-hoc, members could be denied support where resources are limited
- × Could fall short of consumption smoothing where resources are limited which could require additional resources

Potential implications for climate-specific financial product design

- Insurers could leverage informal risk-sharing networks by providing insurance to migrants who may need to support relatives in rural areas in case of a shock
- Insurers could leverage informal groups and provide insurance that cover covariate insurance to the group

Money transfer operators are used by vulnerable people to receive funds to cope with climatic shocks and stresses

Money transfer operators

Vulnerable people receive remittances from their migrant friends/relatives through non-bank financial service providers platforms to cope during and after a climatic event.

Examples

- In Somali, Oxfam used hawala agents to transfer money to vulnerable households to cope with famine. ([Factors Affecting the Cost-efficiency of Electronic Transfers in Humanitarian Programmes](#))
- In Nepal, households affected by floods received money from diaspora organized charity through money transfer operators. ([Diaspora engagement in times of crisis](#))
- In Zambia, money was sent by diaspora relatives and social networks to people affected by cyclone Idai via MTOs. ([Diaspora engagement in times of crisis](#))

Learnings from risk sharing networks

Advantages

- ✓ Useful where digital or mobile networks have not yet been developed and the development of these innovative payment methods may take time
- ✓ Used in communities where there is cultural preference to cash-based services
- ✓ Have an established network of agents making funds accessible easily by the vulnerable

Disadvantages

- × May be affected during climate emergencies making funds inaccessible to the vulnerable
- × Recipients may need to visit several branches due to lack of foreign currency by some branches

Potential implications for climate-specific financial product design

- Money transfer operators may partner with mobile money providers to deliver remittances especially during climate emergencies
- Mobile money operators without sufficient agents could leverage on money transfer operators established network of agents to deliver funds

Mobile payments are used by vulnerable people to receive funds to cope with climatic shocks and stresses

Mobile payments

Vulnerable people receive funds/remittances from friends and family, government to person transfer, and humanitarian assistance through digital payment platforms that use mobile wallets to cope during and after a climatic event.

Examples

Person to person (P2P) transfers

- In Mozambique, during the 2013 flooding people in affected areas used their mobile wallets to receive digital money transfers from friends and families. ([In an Era of Urgent Climate Risk, Does Financial Inclusion Matter?](#))
- In Kenya, women use mobile money service M-Pesa to borrow funds from family or friends that help them ride out irregular harvests caused by climate change. ([Digital Financial Services - A Powerful Lever to Reduce Poverty and Achieve the SDGs](#))

Government to person transfers/Humanitarian assistance

- In Fiji, over 32,000 households affected by cyclone Winston received G2P payments through the Mpaia platform by Vodafone. ([Harnessing the Power of Mobile Money to Achieve the Sustainable Development Goals](#))
- In Philippines, households affected by typhoon Haiyan received financial aid through a mobile money programme implemented by Mercy corps and BankO. ([Harnessing the Power of Mobile Money to Achieve the Sustainable Development Goals](#))
- In Ethiopia, Feed the future has partnered with Belcash a Somali MFI to launch Hello Cash, a mobile banking service for farmers in eastern Somali state to save money, make and receive payments for agricultural products, and receive government assistance during period of climate disruptions such as drought ([The Role of Digital Payments in Sustainable Agriculture and Food Security](#))

Learnings from risk sharing networks

Advantages

- ✓ Mobile payments are easy, convenient and quickly transferred making funds from government, remittances and insurance payouts available on time to cope with climatic events

Disadvantages

- ✗ Inaccessible in areas with poor mobile infrastructure
- ✗ In some remote areas, mobile agents may face liquidity constraints especially during emergencies when there are mass withdrawals
- ✗ May leave out the most vulnerable who do not have digital access or have low digital literacy

Potential implications for climate-specific financial product design

- FSPs could leverage available and consented to data from mobile platforms to determine the creditworthiness for climate specific credit¹⁾
- FSPs could leverage on mobile payments platform to lower transactions costs during climate emergencies making it easier for the vulnerable to access these funds

Usage of climate-supportive products highlights potential improvements for climate-responsive financial products¹⁾

	Learnings from vulnerable people's usage of climate-supportive financial products	Implications for improving climate-responsive financial products for vulnerable people
Savings 	<p>Vulnerable people value the security of savings products (sometimes with specific commitments) that can be used to invest in risk preparedness and provide liquidity in the face of emergencies</p> <hr/> <p>Vulnerable value of the greater accessibility and social networks of informal savings group, which can be used for climate purposes</p> <hr/> <p>Despite their advantages, informal savings groups often have a lower resilience to large-scale shocks and mass withdrawals</p>	<p>There is a potential opportunity (reinforced by the shortage of climate-responsive savings products identified) to develop savings accounts linked to climate activities (e.g. investment in climate-resilient equipment, emergency withdrawals)</p> <hr/> <p>FSPs could leverage informal channels to increase the accessibility and penetration of climate-responsive financial products (e.g. offering climate-specific group savings accounts)</p> <hr/> <p>There is a potential opportunity for FSPs to support savings groups with climate-specific, group insurance products</p>
Credit 	<p>Vulnerable people sometimes turn to general borrowing to provide emergency liquidity in response to climate events</p> <hr/> <p>Despite informal lenders' advantages, they can struggle to offer sufficient ticket sizes to support vulnerable people's climate needs</p>	<p>There is a potential opportunity (reinforced by the shortage of climate-responsive emergency borrowing products) to develop emergency borrowing products linked to climate events</p> <hr/> <p>FSPs could offer larger, climate-specific loans to savings groups to support collective or individual members' climate-specific investments</p>
Insurance 	<p>Despite their advantages, MCCOs can lack re-insurance programs leaving members exposed to catastrophic loss</p> <hr/> <p>Despite the perception of if informal risk sharing networks as viable channels for insuring against risk they can have lower resilience to large-scale shocks</p>	<p>Insurance companies could offer insurance products to MCCOs to provide greater coverage against covariate risks</p> <hr/> <p>Insurance companies could offer insurance products to informal groups to provide greater coverage against covariate risks</p>
Payments 	<p>Money transfer operators can offer a more accessible payment channel in the absence of digital or mobile payment networks</p> <hr/> <p>Mobile payments offer an easy, quick and traceable channel for receiving payments to respond to climate events (e.g. government, remittances and insurance payouts)</p>	<p>Providers of climate-specific payments system can consider multi-channel payments so as not to exclude vulnerable people with lower digital literacy (e.g. female users, IDPs)</p> <hr/> <p>FSPs could leverage data on mobile transfers during climate emergencies to assess the creditworthiness of the vulnerable people in the face of climate events²⁾</p>

1) Potential opportunities identified should be validated with more in-depth analysis of vulnerable people's climate-specific livelihood and financial needs to better understand the gap between these needs and existing service provision; 2) Such an approach would need to accommodate potential concerns around consumer protection and government regulations of data sharing

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