BUSINESS FIGHTS POVERTY · INSTITUTE ·

CLIMATE RESILIENCE FOR MICRO-RETAILERS

How digital financial services can support the stability and resilience of micro-retailers in Southeast Asia

BUSINESS FIGHTS POVERTY

strive

Contents

About this Report 2

EXECUTIVE SUMMARY **4**

1. MICRO-RETAILER CLIMATE RESILIENCE: AN OVERLOOKED, BUT CRITICAL PRIORITY **8**

A Changing Climate and Rising Risks *9*

The Role of Digital Financial Services *12*

2. HOW DIGITAL FINANCIAL SOLUTIONS SUPPORT MICRO-RETAILERS WITH CLIMATE RESILIENCE **14**

Challenges and Opportunities *22*

3. DIAGNOSTIC FRAMEWORK AND CASE STUDIES **24**

Fortify *27*

Navigate *30*

Recover *32*

4. RECOMMENDATIONS FOR DIGITAL FINANCIAL SERVICE PROVIDERS **35**

Call to Action *41*

About this Report

This paper draws from desk research and practitioner interviews to explore how digital financial services can help micro-retailers in Southeast Asia build climate resilience. It is primarily intended to spark discussion amongst those working within digital financial services providers, including traditional financial institutions, fintechs and microfinance institutions. Whilst products must always be tailored to individual markets, this paper offers principles and recommendations for financial service providers (FSPs) that may also apply to other climate-exposed regions.

Mastercard Strive is a portfolio of philanthropic programs supported by the Mastercard Center for Inclusive Growth. Since 2021, it has reached 19 million micro and small businesses around the world, helping them go digital, get capital and access networks and know-how. Follow Mastercard Strive on LinkedIn and subscribe to its newsletter.

Business Fights Poverty is a global community of socially responsible businesses, NGOs and individuals driven by a shared vision of an equitable, resilient and sustainable future. For over 20 years, Business Fights Poverty has harnessed the power of collaboration to tackle pressing social and environmental challenges, foster innovation, and create lasting impact. Follow Business Fights Poverty on LinkedIn and sign up for free membership to stay connected.

It's time to shift the framing of digital financial inclusion, from a primary focus on growth to a narrative that also prioritises financial stability and resilience

EXECUTIVE SUMMARY

1. MICRO-RETAILER CLIMATE RESILIENCE: AN OVERLOOKED BUT CRITICAL PRIORITY

Micro-retailers are integral to Southeast Asia's economies and societies,

providing essential goods, jobs and income opportunities. Yet they operate on thin margins, often informally, with limited access to finance, infrastructure and safety nets. Climate change magnifies these vulnerabilities, with floods, typhoons and heatwaves disrupting supply chains, sales and operations.

Climate resilience is as critical as business growth.

Current digital financial services initiatives focus on growing micro-retailers' businesses but overlook the need for stability in an increasingly volatile world.

Current digital financial services initiatives focus on growing micro-retailers' businesses but overlook the need for stability in an increasingly volatile world.

There is significant scope for innovation.

Despite the rise of digital financial services, climate-specific digital financial solutions are not widespread, and those that exist are predominantly focused on agriculture. Addressing this gap can reduce portfolio risk, build customer trust, unlock market growth and strengthen the resilience of economies and societies.

2. HOW DIGITAL FINANCIAL SERVICES (DFS) SUPPORT MICRO-RETAILERS WITH CLIMATE RESILIENCE

Financial service providers (FSPs) are well placed to support micro-retailers in building climate resilience, by leveraging their capacities in data analytics, expanding access to capital, and through provision of wraparound services.

DFS can support micro-retailers to build resilience through three phases of a cycle:

Fortify
against ongoing climate impacts and likely future disruptions – In this phase, the focus is on building stability, good management practices, identifying likely day-to-day and extreme climate risks, and putting mitigation measures in place.

Navigate
specific climate-related events – In this phase, the focus is on preparing for a specific emergency, such as a typhoon, flood or heatwave; coping with disruption; and continuing as far as possible to generate income and support the local community.

Recover
after a disruption – In this phase, the focus is on rebuilding the business. This could include repairing damage and restocking, growing the business, and adapting the business model based on lessons learned.

Digital payments, savings, loans and insurance can play distinct roles in building resilience in each of these three phases.

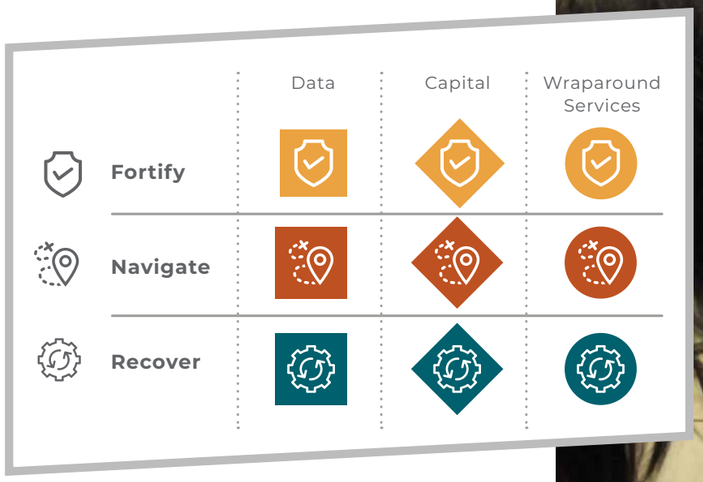
Each barrier also presents opportunities for innovation

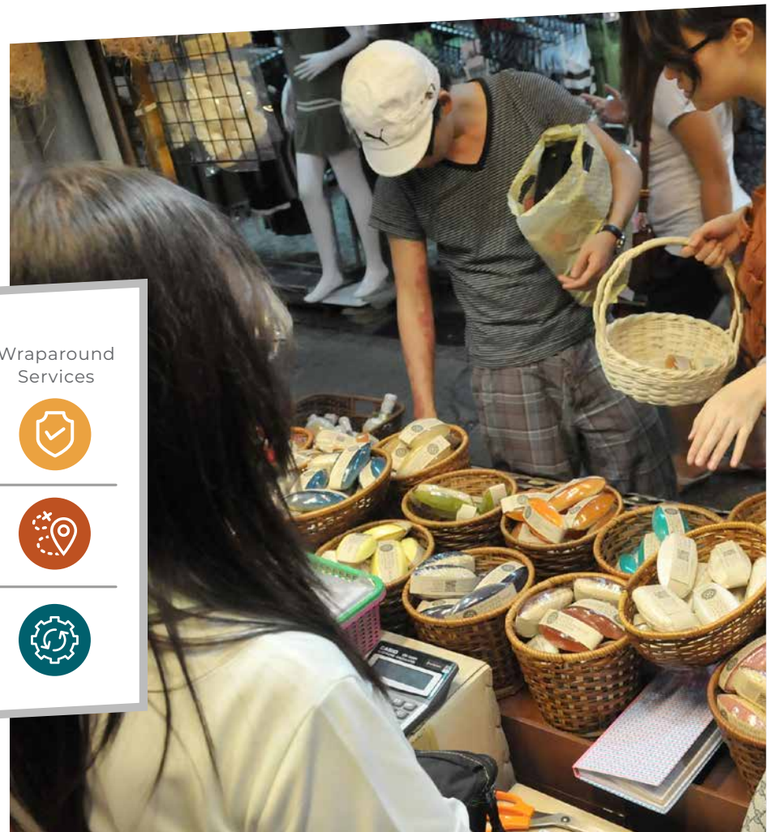
FSPs interested in seizing a first-mover advantage with a large, underserved market of micro-retailers will need to turn challenges into opportunities.

FSPs face challenges in understanding client needs, data gaps, product design, gender constraints, last-mile delivery, risk assessment, regulation, partnerships and trust. However, each barrier also presents opportunities for innovation in climate-smart products, new risk models, gender-responsive finance, hybrid delivery, policy engagement and ecosystem partnerships.

3. *DIAGNOSTIC FRAMEWORK AND CASE STUDIES*

FSPs can use the diagnostic framework presented in this paper to understand how their existing offerings support climate resilience for micro-retailers and identify areas for improvement and innovation. Six case studies provide examples of action.





4. RECOMMENDATIONS

Start with your core business.

Clarify the business case, secure leadership buy-in, map your current and potential impact, and empower individuals within the business to act.

Deepen knowledge of micro-retailers as a target market.

Use diverse sources of quantitative and qualitative data to understand needs and barriers to adoption. Partner with others, including climate analysts and local NGOs, to achieve this.

Design with micro-retailers in mind.

Design iteratively, incorporating feedback to ensure products are effective, simple, flexible, inclusive and gender-responsive.

Balance impact and commercial viability.

Embed resilience in scalable products while managing costs through partnerships.

Adopt innovative approaches to quantifying and sharing risk.

Integrate climate data and alternative metrics to improve risk scoring and affordability.

Share learnings.

Exchange insights with peers and adjacent sectors to accelerate innovation.

Call to Action

This paper hopes to encourage financial institutions, microfinance providers and fintechs to embed climate resilience into digital financial services for micro-retailers, bringing an equal focus on *stability* alongside growth. By adapting existing tools and collaborating with partners, providers can protect livelihoods, reduce portfolio risk, and build sustainable, inclusive markets in a climate-challenged future.

1. MICRO-RETAILER CLIMATE RESILIENCE: AN OVERLOOKED, BUT CRITICAL PRIORITY

Micro-retailers[1] are integral to their communities and to the global economy. They provide essential goods and services to households while also often serving as last-mile distributors for multinational value chains. The retail sector generates significant employment and income opportunities, particularly for women and young people, and represents a vital part of Southeast Asia's economic fabric.[2]

While much attention has been given to increasing micro-retailers' access to finance, markets and knowledge, far less focus has been placed on building their resilience in a world increasingly shaped by economic turmoil and climate disruption.

Yet these businesses are often insecure, operating on thin margins. Many operate informally, which restricts access to finance, government support and safety nets. They struggle with poor supply chain and utilities infrastructure, skill gaps, volatile prices and liquidity constraints, often relying on personal savings or informal borrowing. Women make up a significant proportion of micro-retailers[3] and face added barriers from restrictive norms and laws, compounding their vulnerability.

While much attention has been given to increasing micro-retailers' access to finance, markets and knowledge, far less focus has been placed on building their resilience in a world increasingly shaped by economic turmoil and climate disruption.

1 Micro-retailers are defined in this report as small shops, market stalls and street vendors working alone or employing nine people or fewer. Many are informal enterprises and/or family-owned.

2 David Kapya. 2023. Statistical profile of the wholesale and retail trade sector, September 2023. ILO Statistical Brief.

3 The percentage of women micro-retailers varies considerably by country; in Indonesia, 25% of sari-sari store owners are women, whereas in the Philippines, the figure is approximately 75%. Women's World Banking. "Micro-businesses 2.0: A new generation of women "social commerce" entrepreneurs in India and Indonesia". 30 November 2019. Women's World Banking; Gabriel Budi Sustrisno, "Study: 90% of women sari-sari store owners balance business and family in the Philippines". 10 March 2025. Marketing-Interactive.

A Changing Climate and Rising Risks

Climate change is compounding the pressures on micro-retailers. Eight of eleven Southeast Asian countries are at high or very high risk of experiencing disaster or vulnerability due to extreme natural events.[4] Floods, typhoons, heatwaves and shifting seasons already disrupt micro-retailers' supply chains, sales and operating hours. In Malaysia, for example, flooding in 2021 caused MYR 6.1 billion in damages,[5] 40% of which hit the retail sector.[6]

Beyond headline-grabbing shocks, gradual stresses such as hotter days, degraded infrastructure and worsening public health chip away at productivity and customer demand. Women micro-retailers may be disproportionately affected by climate change and its knock-on effects, reducing the time and energy available to develop their businesses.[7]

Despite their vulnerability, micro-retailers often prove remarkably adaptable. After Typhoon Odette, 200,000 sari-sari stores in the Philippines saw a spike in sales of essentials like noodles and hygiene products, highlighting their value to communities in crises.[8]

8/11 *Southeast Asian countries are at* ***high or very high risk*** *of experiencing disaster or vulnerability due to extreme natural events.*

MICRO-RETAILERS CLIMATE RISK IN SOUTHEAST ASIA

239 million
people are employed in retail in Asia and the Pacific. This represents 13.2% of total employment in the region.[9]

75% of grocery sales in Southeast Asia are made via 'traditional' small and micro-retail stores.[10]

57% of workers in the wholesale and retail trade sector in Southeast Asia and the Pacific are women.[11]

4 Based on 2024 World Risk Report rankings (exposure to multiple crises, including extreme natural events). Bündnis Entwicklung Hilft. 2024. World Risk Report 2024.

5 This equates to approximately US$ 1.46 billion, based on a currency conversion for 2021 of 4.17MYR to US$1.

6 Lezanne Anderson, Maja Pekkari, Jeremy Gray, Vera Neugebauer & Leandro Candotto. 2024. Building MSME Resilience in Southeast Asia with a country focus on Thailand and Malaysia. UNDP Insurance and Risk Finance Facility, UNDP.

7 Climate change worsens existing inequalities, disproportionately impacting women who remain underrepresented in climate decision-making. Women face additional health risks, particularly during pregnancy, and have less access to resources and information in crises, making them more likely to die or be displaced by climate disasters. Rising extreme weather, displacement, food insecurity and economic instability are also driving higher rates of gender-based violence against women and girls. Societal norms often place unpaid household and caregiving responsibilities on women, and climate change increases the burden of securing food, water and firewood (particularly in rural areas) and caring for sick relatives. Women are also important agents of community resilience, frequently being the first responders to climate-related disasters and central to community recovery, risk reduction, and adaptation. See UN Women, "Unpacking the care society: Caring for people and the Planet," 28 June 2024; United Nations Climate Action, "Why Women are key to climate action"; Lindsey Jones-Renaud, Ankita Panda, Carolina Robino and Maria Cracia Aguilar, 2025. Climate Change and Care Work. Policy Brief. The Asia Foundation; Spotlight Initiative & Dalberg, 2025. Colliding Crises: How the climate crisis fuels gender-based violence. Issue Brief.

8 Packworks. "Hygiene and Beauty Top Priorities among Filipinos upon disasters - Packworks' Sari IQ data reveals." 1 September 2022.

9 Kapya, Statistical profile of the wholesale and retail trade sector.

10 Jason Moy, Shiv Choudhury, Jon Sugihara, Julia Cua, Wayne Yeang, Jasryn Ng, Imelda Mongso & Michelle Ng, 2023. Revolution and Reinvention: The Future of Retail in Southeast Asia. Boston Consulting Group.

11 Kapya, Statistical profile of the wholesale and retail trade sector.

MICRO RETAILERS AND CLIMATE RISK

NATIONAL/ GLOBAL CORPORATIONS & LOCAL PRODUCERS

RISKS:

- Crop failures and lower yields leading to reduced variety and/or volume of stock
- Price inflation

MICRO RETAILER

RISKS:

- Extreme heat, fires, floods, storms, and/or disease pose a risk to workers' lives and health
- Loss or damage to property and stock
- Loss of power, internet and water supplies interrupting business operations
- Liquidity crises: lack of cash and inability to take digital payments
- Displacement in extreme cases
- Emerging regulatory and value chain ESG requirements, e.g. climate mitigation, health & safety
- Worsening health leading to increased sickness and time off
- Increased care responsibilities reducing time available for work

WAREHOUSES AND DISTRIBUTION CHANNELS

RISKS:

- Infrastructure damage and disruption, leading to delays in restocking goods

LAST MILE CUSTOMER

RISKS:

- Lower demand, as a result of less disposable income
- Reduced footfall (e.g. in adverse weather conditions or due to contagious disease outbreaks)

THE IMPACT OF CLIMATE DISRUPTION ON MICRO-RETAILERS IN JAKARTA, INDONESIA

The Center for Financial Inclusion asked micro-enterprises in Jarkarta about their experiences in the 36 months following a climate disruption.[12] While many negative impacts were reported, some micro-enterprises were able to survive, adapt and even improve their position following a climate disruption.

1 in 3 MSEs experienced climate disruption

	CLIMATE SHOCK	*Short term impacts*	*Financial Coping Mechanisms*	*Business model changes*	*Longer-term impacts*
Resilient actions	**MINDSET** **62%** stability **34%** growth & risk taking **4%** survival	**20%** increased sales following a shock	**56%** used business savings **40%** used personal funds **15%** borrowed money	**15%** changed what they sell **23%** diversified/ changed their suppliers **8%** relocated	**35%** were in a better position **24%** recovered
Negative impacts	**Most common experiences:** **22%** heat **14%** extreme rain, floods & landslides **10%** droughts	**71%** decreased sales **61%** increased costs **66%** disrupted operations **34%** assets damaged	**0%** received insurance payouts		**41%** not fully recovered

Importantly, this survey data represents the experience of the MSEs which survived climate disruption; it does not indicate how many MSEs ceased trading. Data on micro-enterprise survival rates following climate disruptions is lacking.[13]

53% *of Indonesian MSMEs have made no plans to cope with disasters.*[14]

12 Data in this graphic is taken from a study on digitisation, financial services and climate resilience in five cities, by the Center for Financial Inclusion (E. Totolo et al., 2025. Small Firms, Big Impact).

13 Data that does exist suggests that natural disasters have a significant impact on small businesses' ability to continue trading. Data from 2014 from the Federal Emergency Management Agency (FEMA) and US Department of Labor indicates that 40% of small businesses affected by natural disasters never reopen, and a further 25% cease trading within a year. The US Small Business Association has estimated that as many as 90% of small businesses fail within two years of a natural disaster. Federal Alliance for Safe Homes, 2014. Ready Business: Hurricane Toolkit; Congressional Research Service, 2025. Federal Disaster Assistance for Businesses.

14 Antara: Indonesia News Agency, "Indonesia's MSMEs urged to adopt insurance for business resilience." 18 October, 2025.

The Role of Digital Financial Services

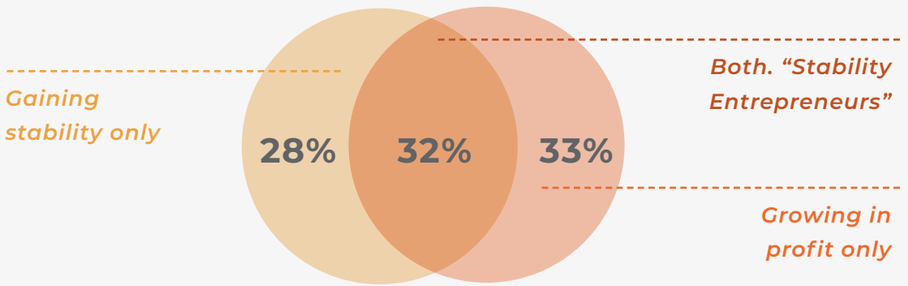
Current digital financial inclusion initiatives tend to emphasise growth – for example, offering credit to expand inventory, merchant-financing for larger orders, or digital tools to scale operations.[15] While they are important, these initiatives risk overlooking a major priority for micro-retailers: predictable income and the ability to withstand shocks.[16]

This suggests a need to shift the framing of digital financial inclusion, from a primary focus on growth to a narrative that also prioritises financial stability and resilience to shocks – including climate-related disruption.

> *"The narrative of growth ... is an important one, but it kept us stuck, unable to see in the bigger picture the importance of stability. There's a strong demand among MSEs for stability, even more than for growth."*
>
> ***Dr Edoardo Totolo, Center for Financial Inclusion***

THE VALUE OF STABILITY TO MICRO-ENTREPRENEURS IN INDONESIA

What is your vision for your business over the next year?



Source: Small Firm Diaries[17]

15 Partnerships between Unilever, AB InBev, Coca-Cola and fintechs, for instance, focus on expanding sales channels and productivity. See Unilever, "How AI and e-commerce tools are transforming emerging market retail", 16 April 2025; Mark Brohan, "Unilever expands its digital platform for B2C and B2B ecommerce", 28 April 2025, Digital Commerce 360; AB InBev. "Three for BEES: Inside our digital 'hive' that helps retail businesses thrive" 27 April 2023; Brit Heiring, "Press release: The Coca-Cola Foundation announces partnership with Kiva." August 21, 2023. Kiva.

16 A recent report found that across five cities (Addis Ababa, Delhi, Jakarta, Lagos and Sao Paolo), between 62–71% of micro-enterprise owners were focused on stability, 24–37% on growth and risk taking, and 1–13% on survival. Edoardo Totolo, Paul Gubbins, Lucciana Alvarez Ruiz, Anindita Chakraborty, Liz McGuinness & Colin Rice. 2025. Small Firms, Big Impact. Digitization, Financial Services, and Climate Resilience in Five Emerging Markets. Center for Financial Inclusion.

17 Small Firm Diaries. 2023. A new perspective on small firms in Indonesia: Summary of Key Findings from the Small Firm Diaries.

Digital financial services (DFS) are well placed to help build financial stability and climate resilience.[18] Payments, savings, credit and insurance delivered through digital platforms help micro-retailers build financial buffers, invest in protective infrastructure, safeguard the welfare of people and assets, and rebuild following disruption.[19]

The rise of DFS in Southeast Asia indicates the possibilities. The sector generated USD 30 billion in revenue in 2023, with digital payments driving adoption.[20] In 2024, 28% of new 30-day accounts globally were registered in Southeast Asia, and account ownership in the region has nearly doubled since 2011, to 58%.[21]

However, despite the rise of digital financial services, climate-specific financial products remain scarce and are predominantly focused on agriculture. Existing initiatives that focus on building the climate resilience of micro-retailers point the way,[22] but most solutions are nascent.

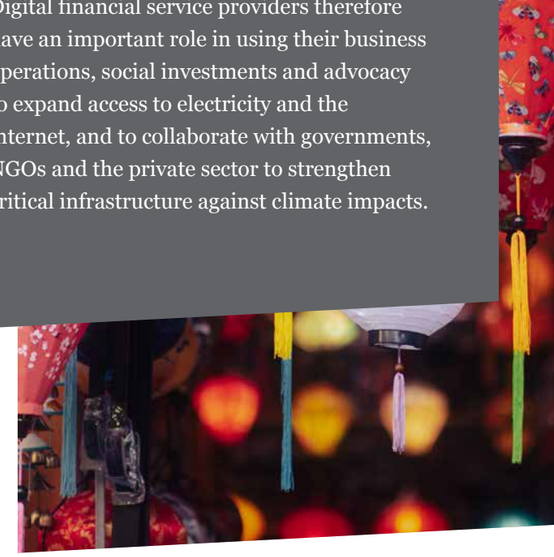
This gap creates an opportunity for DFS providers to innovate. Many existing inclusive finance products can support micro-retailers in building climate resilience. In addition, there is the opportunity to create differentiated products that specifically incorporate climate risk into their design – for example, weather-indexed insurance or loans with flexible repayment schedules tied to climate events. For financial institutions, addressing this gap is not only a path to reduce portfolio risk and earn customer trust, it is also a chance to unlock market growth while strengthening the resilience of economies and societies.

Leveraging Core Business, Philanthropy and Advocacy

This report highlights the vital role of digital financial solutions in helping micro-retailers build resilience to climate-related disruptions. It focuses mainly on how digital financial service providers can leverage their core business. However, businesses also have an important philanthropic and advocacy role.

Interviewees noted that digital financial solutions depend on access to devices, electricity and the internet. Yet many micro-retailers – especially women and those in rural or marginalised areas – lack equitable access to these essentials. Climate-related shocks can also disrupt power and connectivity, limiting the usefulness of digital financial services during crises.

Digital financial service providers therefore have an important role in using their business operations, social investments and advocacy to expand access to electricity and the internet, and to collaborate with governments, NGOs and the private sector to strengthen critical infrastructure against climate impacts.



18 In this paper, climate resilience refers to the ability of micro-retailers to withstand climate-related disruptions, so that they avoid long-term hardship and sustain their livelihoods.

19 World Bank. "Financial Inclusion Overview." 27 January 2025. CGAP, 2025. World Bank, 2025; Anaar Kara, Sabaa Notta and Sophie Sirtaine. 2025. Resilience for All: Why Inclusive Finance Can't Wait.

20 Google, Temasek & Bain. 2023. e-Conomy SEA 2023.

21 Rishi Raithatha & Gianluca Storchi. 2025. The State of the Industry Report on Mobile Money 2025. GSMA.

22 These include CGAP, the CIFAR Alliance, the InsuResilience Global Partnership, the UN Development Programmes' Insurance and Risk Finance Facility, and Centre for Financial Inclusion. Government-led initiatives such as the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) are developing country-specific disaster risk finance and insurance programmes, and the Asian Development Banks is promoting disaster risk finance and insurance as a means for member states to create safety nets for climate-vulnerable populations – for example, its Integrated Disaster Risk Management Fund and events such as the Disaster Risk Insurance Forum.

2. How digital financial services support micro-retailers with climate resilience

FSPs' existing products, platforms and capabilities can help micro-retailers build their climate resilience. In particular, FSPs are well placed to use three levers[23] which are already embedded in their work to a greater or lesser extent.

These levers are:

1. **Access to data**

   helps both FSPs and micro-retailers understand their climate risk. Some FSPs already integrate a degree of climate-related data into their risk models.

2. **Access to financial capital**

   is already a core business objective of many FSPs. Digital payments, savings, loans and insurance can each play a role in supporting micro-retailers to build their climate resilience across each of the three phases of the resilience cycle.

3. **Wraparound services**

   such as skills training, mentoring and access to networks. There are many examples of FSPs that complement their products with wraparound services, such as free training in entrepreneurial skills. These existing initiatives provide a platform to deliver specific programmes on how to build resilience for micro-retailers.

23 These levers were first identified by Christensen Global in their 2024 report, Unlocking the Power of Small Businesses to Drive Climate-Smart Inclusive Growth, published with Mastercard Center for Inclusive Growth.

From these foundations, FSPs can partner with a range of organisations to integrate a stronger focus on building climate resilience for micro-retailers into their existing products, create bundles of products tailored to support climate resilience, and develop new climate-resilience products specifically for the micro-retailer market.

Due to the recurrent and often seasonal nature of many climate-related disruptions, this paper looks at how micro-retailers can build their resilience in three distinct phases of a cycle. Micro-retailers can be supported to **fortify** their businesses against ongoing climate impacts and likely future disruptions, **navigate** specific climate-related events, and **recover** their livelihoods, building on their experiences.[24]

*Micro-retailers can be supported to **fortify** their businesses against ongoing climate impacts and likely future disruptions, **navigate** specific climate-related events, and **recover** their livelihoods, building on their experiences.*

Resilience Cycle

FORTIFY

Focus is on stability, good management practices, identifying likely day-to-day and extreme climate risks, putting mitigation measures in place

NAVIGATE

Focus is on preparing for a specific emergency such as a typhoon, flood or heatwave following an early warning alert, coping with disruption, and continuing as far as possible to generate income and support the local community

RECOVER

Focus is on rebuilding, repairing damage and restocking, growing the business, and adapting the business model based on the experience of disruption

24 These stages are inspired by Craig Churchill, Prashansa Jain and Aparna Dalal, 2023. Integrated financial services for better risk management. How savings, credit and insurance can protect the working poor; and BFA Global, 2021. Digital Finance for Climate Resilience (DF4CR): A Framework for Action.

FORTIFY

FSPs can help micro-retailers build stronger financial foundations that support day-to-day stability and long-term resilience to climate shocks.

FSPs can help micro-retailers build stronger financial foundations that support day-to-day stability and long-term resilience to climate shocks. Digital financial services (DFS) play a key role, enabling better money management, access to credit and the ability to save. In the Philippines, GCash offers digital wallets, credit, insurance and free learning tools to strengthen business skills.[25]

Basic financial literacy, such as budgeting and record-keeping, is crucial to unlock access to credit and insurance. HerVenture, a mobile app for women entrepreneurs in Vietnam and Indonesia, has improved resilience for 70% of its users while fostering peer support networks.[26] The existence of supportive networks (or 'social resilience') has been recognised as an important part of overall MSE resilience.[27] Strive Women provide networking opportunities alongside access to finance and skills-building (see case study in the next section).

The physical health of entrepreneurs and employees also influences business resilience, and climate change has a wide range of negative impacts on human health.[28] Health insurance appears to be a priority for MSE owners,[29] and FSPs can play an important role in widening access to medical cover through digital platforms. AXA Philippines, for example, bundles free health insurance with membership of GrowSari, a tech-enabled B2B platform for micro-retailers.[30]

Additionally, DFS expand access to resilience-boosting assets, such as off-grid energy or climate-resilient infrastructure. Products like solar loans or financing for heat-mitigation upgrades directly enhance micro-retailers' capacity to adapt and thrive (see Sun King case study below).

25 GCash 2025, Gabay & Agustin, 2025; GCASH, 2025b.

26 97% of HerVenture's users in 2024 improved their business management practices, 75% increased their profit, and 70% improved their business' resilience. HerVenture, 2025. About. Cherie Blair Foundation for Women, 2025. HerVenture.

27 Totolo et al., Small Firms Big Impact.

28 Climate change impacts on human health include increased levels of heat exposure, including in the workplace; an increase in water-borne diseases, such as cholera; increased levels of zoonotic disease (passed from animals to humans), such as malaria; higher levels of non-communicable disease, including chronic respiratory diseases and cardiovascular disease; and mental health impacts. Reduced food yields also contribute to malnutrition and associated health impacts. See World Health Organization, "Climate change", 12 October 2023; Association of Southeast Asian Nations, 2023. ASEAN Socio-Cultural Community Policy Brief – Integrating Climate Lens into The Health System: Regional Mitigation and Adaptation.

29 CFI's study of MSEs in five countries indicates that health insurance is a relatively popular form of insurance amongst MSE owners. In Jakarta, 22% of women entrepreneurs and 12% of men entrepreneurs reported having health insurance cover, compared with just 1% of women and no men holding business insurance. E. Totolo et al., 2025. Small Firms, Big Impact.

30 AXA Philippines, 2020. Axa Philippines and GrowSari offer free insurance to sari-sari store owners.

NAVIGATE

Micro-retailers can take proactive steps to limit losses from climate shocks – such as turning off appliances before floods or stocking high-demand goods ahead of storms – but this requires timely warnings,[31] preparation guidance and funds. Generali has partnered with UNDP's Insurance and Risk Finance Facility to support SMEs in Malaysia with flood risk information and mitigation guidance.[32] Digital platforms like Packworks, which connects 200,000 sari-sari stores in the Philippines, help retailers access lower-cost supplies and use data analytics to identify product demand during crises.[33]

Supporting the adoption of digital tools also prepares businesses to operate when cash is scarce or movement is restricted, though power and internet continuity remain critical. FSPs can partner with telecoms and energy providers to ensure emergency connectivity and payments. In Vietnam, military-industry telecoms group Viettel restored networks, provided charging stations, and enabled donations after Typhoon Yagi via its Viettel Money platform.[34]

Emergency cash transfers are an effective way to increase affected communities' ability to cope in disasters. It can also be recipients' first experience of using digital financial services. Mastercard uses its data

Micro-retailers can take proactive steps to limit losses from climate shocks – such as turning off appliances before floods or stocking high-demand goods ahead of storms

and payments expertise to provide digital solutions for aid agencies – for example, offline digital vouchers that operate with limited infrastructure, prepaid cards, and digital payments to mobile wallets, bank accounts and ATMs.[35] Oxfam's B-READY programme in the Philippines uses parametric data modelling to trigger cash transfers via debit cards and digital payment platforms so that affected communities can buy food, medicine or other goods in anticipation of extreme weather events. Sari-sari stores play an integral role as the Money-In, Money-Out Merchants who sell the necessary goods.[36]

31 A report by ASEAN found 'significant limitation' in early warning systems across the region, with the exception of the Philippines and Singapore. ASEAN, 2024. Strengthening ASEAN multi-hazard end to end early warning system for natural disasters: an assessment of current capacity.

32 Generali. 2025. SME Loss Prevention Framework.

33 Andres "Andoy" Montiel, "Can big data help sari-sari stores navigate the looming supply crisis". 22 February 2023. Packworks.

34 People's Army Newsletter. "Viettel allocates approximately VND 100 billion to support storm-hit localities." 14 September 2024.

35 Mastercard, 2025. Transforming Humanitarian Response: Empowering aid agencies and beneficiaries with digital solutions that improve lives.

36 Lawrence Robinson, Lou van Roozendaal, and Michelle van den Berg, 2024. Better Safe Than Sorry: Four Fundamentals for Scaling Up Anticipatory Action. Oxfam International.

In crises, MSMEs (including micro-retailers) often rely on savings, social networks or transfers, with credit and insurance underutilised (see graphic below).[37] FSPs can ease pressures through measures like grace periods or facilitating rapid access to savings. For example, GCASH offered grace periods on loan repayments following Typhoon Carina,[38] and VisionFund Myanmar removed its 30-day notice period for savings withdrawals during the COVID-19 pandemic.[39]

Parametric insurance can be bundled into loans to ease repayment during disruptions. One pilot in Kenya embeds blockchain-powered parametric insurance in digital microloans; when excess rainfall occurs, the trigger automatically reduces borrowers' repayment obligations.[40]

FSPs can ease pressures through measures like grace periods or facilitating rapid access to savings.

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

Source: Ruiz & Totolo, 2023.

37 Lucciana Alvarez Ruiz and Edoardo Totolo, "Exploring the Intersection of Climate Shocks and Financial Inclusion", 22 February 2023. Center for Financial Inclusion; Totolo et al., Small Firms, Big Impact.

38 Philippine Star, "GCash extends assistance to users affected by Typhoon Carina". 6 July 2024.

39 Megali Nanayakkara, "Savings Save the Day for Myanmar Clients in Pandemic". 14 August 2020, VisionFund.

40 Mercy Corps Ventures, "Pilot Launch | Reducing climate vulnerability through insurance-embedded MSME loans". 11 June 2025, Medium.

RECOVER

Informal MSMEs are often overlooked in emergency responses: aid targets vulnerable households, while government support goes to larger firms. The consequences are severe. After Typhoon Yolanda in the Philippines, only 30% of businesses renewed their licence.[41] Small shops faced damage, looting, lost customers, depleted stock and little capital to recover.[42] For those that survive, recovery can take months or years. Many micro-retailers shut down, sell assets, deplete savings, borrow from family or resort to costly loans that increase debt risk.[43] Insurance could ease hardship, but uptake is low and many policies exclude natural disasters. Business grants and in-kind support from philanthropy or governments, such as DTI-PPG Livelihood seeding programme,[44] can also provide cash and stock for micro-retailers to restart their businesses, alongside entrepreneurship training.

"Government assistance programs are often available only for registered businesses. Women are disproportionately affected because more of their businesses are unregistered."

Rachel Seftel, Cherie Blair Foundation for Women

Affordable recovery loans can improve survival and speed of recovery (see case studies below). While FSPs may hesitate to lend after disasters, supporting responsible customers builds trust, reduces defaults and supports inclusive recovery. In addition to loan products, financial institutions can partner with fast-moving consumer goods companies to help micro-retailers restock after disasters. For example, to help micro-retailers in Manila recover from the COVID-19 pandemic, American investment banking firm Jeffries LLC partnered with the Philippine Disaster Resilience Foundation, Coca-Cola, Unilever and others to provide each micro-retailer with up to Php 10,000 of products to sell.[45]

The recovery phase is also an opportunity to encourage investment in resilience, offering information and services that help micro-retailers adapt and rebuild stronger. Business owners who have experienced climate shocks are more likely to invest in measures to reduce the impact of future disruptions.[46]

41 Adobo Magazine, "Brand & Business. Cebuana Lhiillier, AXA, GIZ launches better and more affordable protection for businesses through MicroBiz Protek Jr." 7 September 2021.

42 IBON Foundation, 2015. Disaster Upon Disaster: Lessons Beyond Yolanda.

43 Totolo et al., Small Firms, Big Impact.

44 DTI Philippines, 2025. DTI Livelihood Seeding Program – Negosyo Serbisyo sa Barangay.

45 Philippines Disaster Resilience Foundation, 2020. Press release: Sari-sari program jumpstarting recovery of 400 COVID-affected micro-retailers launched.

46 Totolo et al., Small Firms, Big Impact.

Summary of how different digital financial product types build climate resilience for micro-retailers

	FORTIFY	NAVIGATE	RECOVER
Objective	• Strengthen the business and put mitigation measures in place	• Navigate a climate shock when it occurs	• Rebuild the business based on what has been learned
Challenges	• Lack of knowledge about climate risks and available mitigation measures • Lack of access to capital to implement them	• Staying safe and protecting assets • Continuing to generate income ww • Supporting the wider community	• Lack of access to capital to rebuild and restock • Lack of knowledge in how to adapt business based on experience

How DFS help at each stage

Digital payments

Mobile bank accounts, payments and e-wallets; digital B2C platforms | Digital stock management and B2B purchasing platforms

	• Support business growth, allowing business to save • Transaction history enables loan access • Mobile wallets and accounts provide a secure place to deposit cash • Platforms are a source of business skills advice and training • Digital inventory management can boost sales	• Mobile payments and platforms enable continued trade, even if there is lack of cash or physical disruption • Data-driven B2B platforms help micro-retailers stock up on items likely to be in demand during a crisis and access discounts • Digital payments facilitate philanthropic and government cash transfers	• Supports business recovery and growth, in a similar way to the fortify stage
Limitations	• *Relies on power and internet access, which is often patchy – particularly during a climate-related disruption* • *Concerns over security and lack of digital knowledge hamper adoption*		

	FORTIFY	NAVIGATE	RECOVER

Savings

Digital savings accounts

	• Builds a buffer for emergencies, separate from personal finances	• Quickly access emergency funds to replace stock or lost income	• Begin to rebuild reserves
Limitations	• Many micro-retailers do not have sufficient savings • Often, separate business and personal finances are not clearly separated		

Loans

Credit to buy stock and assets | Business investment loans | Emergency credit | Recovery loans

	• Access to climate resilience tools, enables investment in climate-smart assets and mitigation measures	• Emergency credit maintains short-term liquidity, enables purchase of in-demand stock, and acts as emergency funds in place of income	• Credit, business and recovery loans provide capital to restock and repair physical damage
Limitations	• *Often inaccessible, due to lack of formal credit history or ineligibility* • *Entrepreneurs are reluctant to take on additional debt, particularly in times of disruption* • *High interest rates, often due to lack of data and models to accurately quantify risk*		

Insurance

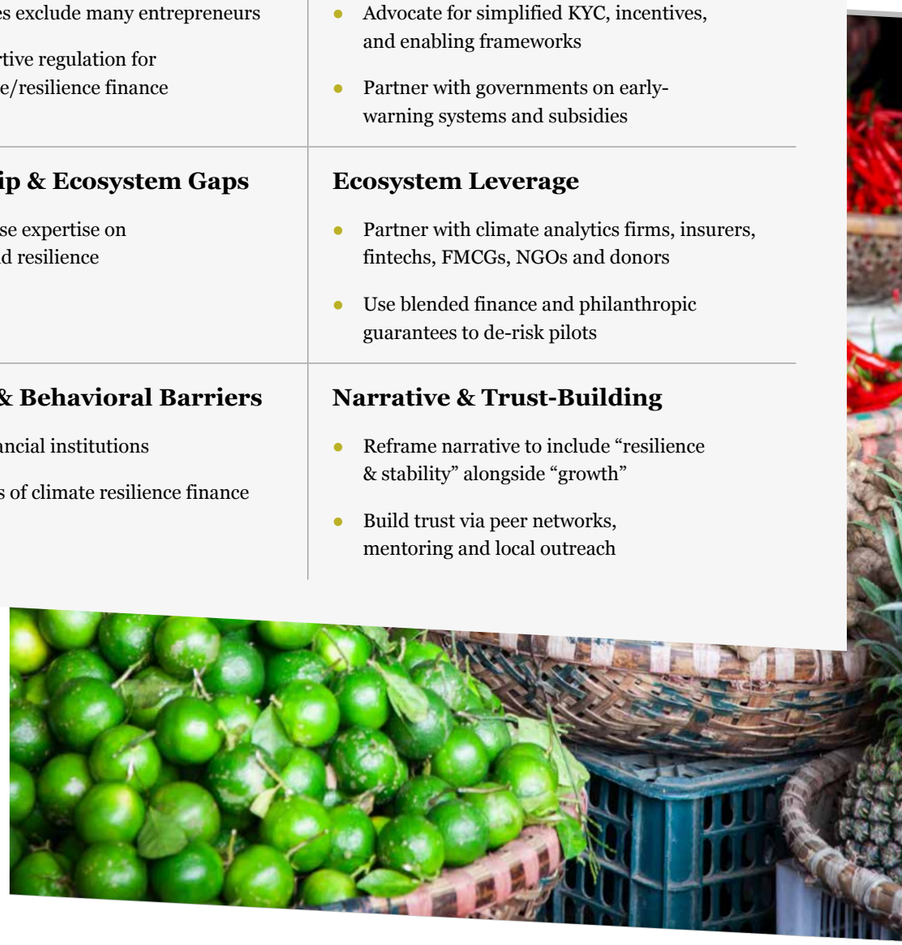
Business interruption cover and property insurance | Weather-indexed (parametric) insurance | Health insurance

	• Business and property cover protects against shocks and provides confidence to invest more in the business • Health/medical cover supports health of personnel	• Rapid and automated payouts (parametric insurance) provide emergency funds to replace income • Health/medical cover provides access to medical care and/or income payments if hospitalised	• Payouts from business risk and property insurance provide funds to repair damage and replace stock and other assets
Limitations	• *Very low adoption rates: lack of awareness and trust, costly premiums* • *Payouts usually take weeks, or even months* • *Many business policies exclude natural disasters or 'acts of God'* • *Post-disaster parametric risk insurance premiums are often heavily subsidised in emerging markets; sustainability in the face of climate change is not guaranteed*		

Challenges and Opportunities

Despite the many possibilities for digital financial services to strengthen climate resilience for micro-retailers, this remains an emerging field, and interviews highlighted several challenges that currently limit both availability and uptake. However, there are also many opportunities that can help FSPs unlock commercially viable products that build resilience for micro-retailers.

Challenges	Opportunities
1. Understanding Client Needs • Limited knowledge of micro-retailers' needs, especially for climate resilience • Difficulty capturing nuanced insights	**Market Opportunity** • Large, underserved segment of micro-retailers • First-mover advantage in climate-smart financial products
2. Data & Knowledge Gaps • Lack of climate risk data and expertise • Weak analytics for informal customer profiles	**Technology & Data Innovation** • Use alternative credit scoring (mobile payments, peer recommendation, satellite data) • Apply climate data and analytics to improve risk models
3. Weak Business Case • Concerns about low margins & unclear profitability • High distribution costs	**Portfolio Risk Reduction** • Resilience products can reduce defaults and protect portfolio stability • Opportunity to bundle products with existing services
4. Product Design Barriers • Hard to ensure affordability & accessibility • Challenges with low internet connectivity and digital literacy	**Product Innovation** • Develop pay-as-you-go, small-ticket, bundled offerings • Offline, low-bandwidth tools (USSD, SMS, agent-assisted)
5. Gender-Specific Constraints • Women face time poverty, limited collateral, lower digital literacy	***Gender-Responsive Finance*** • Design gender-responsive financial products and outreach
6. Operational & Distribution Challenges • High costs of reaching last-mile customers • Digital-only channels may not build trust	**Human + Digital Hybrid Models** • Reach and support customers through NGOs, and community networks that complement scalable digital delivery
7. Risk Assessment Limitations • Traditional credit scoring excludes informal retailers • Static models don't capture climate risk or resilience measures	**New Risk Models** • Use resilience scoring frameworks • Structure loans and repayments around climate events (e.g., rainy season) • Share risk via partnerships with insurers/reinsurers
8. Policy & Regulatory Barriers • Rigid KYC rules exclude many entrepreneurs • Lack of supportive regulation for microinsurance/resilience finance	**Policy Engagement** • Advocate for simplified KYC, incentives, and enabling frameworks • Partner with governments on early-warning systems and subsidies
9. Partnership & Ecosystem Gaps • Lack of in-house expertise on climate risk and resilience	**Ecosystem Leverage** • Partner with climate analytics firms, insurers, fintechs, FMCGs, NGOs and donors • Use blended finance and philanthropic guarantees to de-risk pilots
10. Cultural & Behavioral Barriers • Distrust of financial institutions • Low awareness of climate resilience finance	**Narrative & Trust-Building** • Reframe narrative to include "resilience & stability" alongside "growth" • Build trust via peer networks, mentoring and local outreach



3. Diagnostic framework and case studies

The following six case studies show how different digital financial solutions can help micro-retailers build their climate resilience. Each is presented with a diagnostic that indicates the main levers that have been used (i.e. data, capital and/or wraparound services), and the main stages in the resilience cycle that are supported by the product.

The diagnostic framework is a tool that FSPs can use to think through and articulate how their existing products can support micro-retailers' climate resilience at the three stages of the resilience cycle: fortify, navigate, and recover.

A Diagnostic Framework

A diagnostic framework to map the contribution of digital financial products to micro-retailers' climate resilience.

	Data	Capital	Wraparound Services
Fortify	**Information** on climate risk and long-term mitigation measures	**Capital** to invest in business growth and risk mitigation measures	**Advice** on business resilience and continuity, and building a well-managed, diversified and adaptable business
Navigate	**Early warnings** and specific risk mitigation advice	**Emergency funds** to survive and/or rapidly switch to new in-demand product lines	**Community support** networks and connection to sources of aid
Recover	**Information** on the effectiveness of mitigation measures and business response	**Recovery loans** to rebuild assets and restock	**Integration** of lessons learned into future business planning

The diagnostic framework is a tool that FSPs can use to think through and articulate how their existing products can support micro-retailers' climate resilience at the three stages of the resilience cycle: *fortify*, *navigate*, and *recover*. Once existing products have been mapped, the diagnostic can also be used to identify gaps for innovation, adapting or adding products or services in different quadrants of the map that are not covered by existing offerings. The map can also be used to identify areas for internal capacity-building, through partnerships that bring specific expertise.

Individual digital financial solutions may strengthen resilience across multiple quadrants, but it is unlikely that any one solution or even a single FSP's combined offerings will cover all nine quadrants. Instead, FSPs can focus on those areas that align best with their core capabilities and business model.

For example, FSPs that already provide capital loans to support micro-retailers' growth primarily in the *fortify* stage could consider bundling or redesigning loan products in a way that better supports their clients in the *navigate* and *recover* stages.

Individual digital financial solutions may strengthen resilience across multiple quadrants, but it is unlikely that any one solution or even a single FSP's combined offerings will cover all nine quadrants.

If these FSPs have particular expertise or interest in integrating climate data into their risk models, they could also explore how this data could be used to shape loan repayment plans around times of the year when climate risk is high, helping micro-retailers *navigate* seasons when climate disruption is more likely. They could also partner with others to provide better access to data – for example, climate risk and mitigation information to help micro-retailers *fortify* their businesses. Insurers could collect and provide data to clients on the effectiveness of specific mitigation measures in reducing losses, to help people learn from experience and *recover* stronger.

Alternatively, if FSPs already provide *wraparound services,* such as business skills training alongside loans, they could integrate units on building climate resilience for business in the *fortify* stage, connect micro-retailers with emergency assistance or form local community networks to help them *navigate* crises, and provide support tailored to micro-retailers who are trying to *recover* from a crisis.

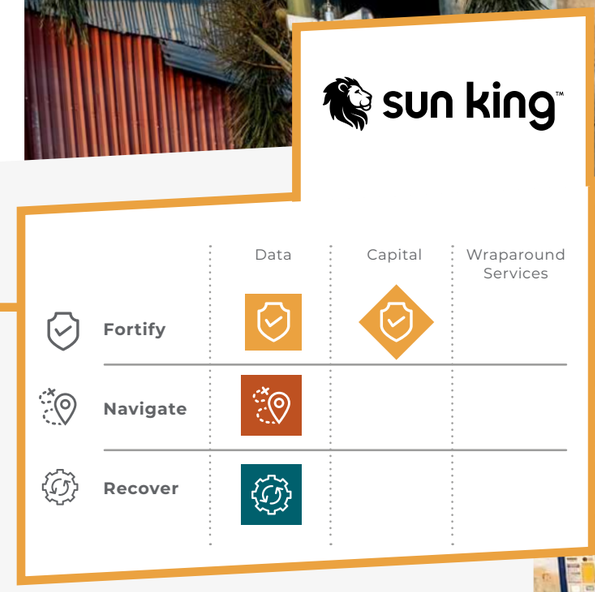
Fortify

Sun King:

Leveraging Pay-As-You-Go and Securitisations to rapidly scale access to solar energy[47]

Reliable power for lights, fans and phone charging allows micro-retailers to extend trading hours, enables refrigeration and mobile-based commerce, and cuts kerosene/diesel costs.

Sun King designs, installs and finances off-grid solar energy solutions designed for low-income and unbanked customers. Its products are sold in 65 countries in Asia Pacific (including Myanmar and the Philippines), Africa, Eastern Europe and Latin America, and it is currently operating directly in 12 countries.



Sun King's EasyBuy pay-as-you-go model starts from $0.21/day, with 35,000 local agents handling onboarding and after-sales support. After the initial 1–2 year repayment period, the buyer owns the device outright. Sun King's products contain embedded electronics which ensure usage stays in line with payments made, like a pre-paid mobile or electricity meter. Around 650,000 payments are collected daily via mobile money systems.

Sun King has sold over 28 million products and extended $1.4 billion in solar loans to over 10 million customers, approximately 65% of whom were new to formal credit. In addition to energy access, Sun King also now finances smartphones via the same platform, giving micro-retailers access to mobile money, digital tools, and information – including severe-weather alerts and risk mitigation advice.

"I grew up using candles to light at my home and little snack shop. Now [with solar power] I can extend the shop's opening hours till 9PM, receive more customers, and generate 20% more income for my family."

—Daw Myint Myint San, a small shop owner in Tanintharyi, Myanmar[48]

47 Sun King, 2025, Sustainable Financing Allocation and Impact Report: 2023 and 2024; Sun King, 2025, Our Impact.
48 Wit Yi Aung, "SolarHome – A Growing Off-Grid Success Story in a Fragile Myanmar". 31 March 2022, AVPN.

Sun King launched in Myanmar in 2017. Awareness of the availability and affordability of high-quality solar products is low, so Sun King operates through field agents who travel to often remote communities.

Innovative debt financing enabled Sun King to scale from 10 MW of solar installed in 2020 to 195 MW in 2025. PAYG products tie up capital until customers pay all their instalments. Securitisation converts future payments into investable assets, freeing up capital to reach more households and providing ESG-aligned investment opportunities for commercial banks and DFIs. Sun King completed Kenya's first two securitisations, totalling $286 million. Sun King has raised $450 million in local currency debt capital to date.

"Light is essential for people who live in villages, in remote areas. It is also a sign of prosperity and pride for a house... [and] essential for rural development. I am realising my job is... more meaningful than just selling a product."

Thurein Lin Htin, Sun King field agent, Taungoo, Myanmar[49]

"There's ingenuity in the product design process, with 35,000 agents catching feedback from customers. Huge technological changes have made solar and battery more affordable. But the financing model has quietly unlocked latent demand by making the upfront cost far more manageable for low-income homes and businesses."

Sam Viney, Sun King

49 SunKing, "Sun King Solar Stories: A day in the life of a Sun King Area Business Manager in Myanmar." 28 October 2020, YouTube.

Strive Women:

Access to Finance and Support for Women Micro -retailers[50]

Led by CARE and supported by the Mastercard Center for Inclusive Growth, Strive Women is a four-year programme empowering women entrepreneurs, mostly in urban retail and agricultural informal sectors, to strengthen and grow their businesses.

A typical Strive Women participant in Vietnam is a 43-year-old married woman with children and over a decade of experience in her business. Thirty-two percent of participants have less than 3 months' of savings to cope with a shock. Many lack access to finance, are hesitant to access loans or digital tools, and face stress, added care burdens and restrictive gender norms.

Strive Women focuses on four pillars of financial health:

- **Financial Resilience:** Strive Women Vietnam parters with Thanh Hoa Microfinance Institution (THMFI), which offers a loan with preferential interest rates, extended loan terms, and flexible repayment options for entrepreneurs who operate in sectors including pollution reduction, clean water installation, and renewable energy, among others. Between November 2024 and January 2025, 40 loans were issued, with an average loan size of $1,642.

- **Business Management:** Strive Women supports adoption of digital tools, flexible credit, and business training to build long-term sustainability in the face of growing climate uncertainty. In addition to support for micro-retailers, Strive Women Vietnam has provided training to improve green practices in agricultural businesses, and intend to use a green skills training app developed by MEVI for this purpose. They are also exploring financing for improved agricultural practices, including carbon credits, recycling textiles and water reduction schemes.
- **Confidence and Control:** Strive Women offers mentoring and access to networks that strengthen women entrepreneurs' decision-making power and adaptive capacity.
- **Quality of Life:** Strive Women is piloting family-inclusive approaches to ease unpaid care burdens and support mental well-being – factors that become more acute during climate-driven disruptions.

50 Mastercard Strive, 2025. Strive Women: Her Business, Her Financial Future; Care and Mastercard Strive, 2025. Measuring Women Entrepreneurs' Financial Health. Learning Summary, April 2025. Strive Women Baseline Evaluation: Pakistan, Peru and Vietnam.

Strive Women has instigated a specific workstream on developing trials to define and test solutions to address climate-related risks and opportunities facing women-led MSEs in Vietnam, Pakistan and Peru. These trials aim to reach at least 850-1200 entrepreneurs and will be evaluated with a view to planning a pilot.

> *"We cannot predict the weather, so what we can do in advance is to anticipate, to adopt the more sustainable practices to make sure that we can mitigate the risk."*
>
> **Tran Thi Minh Nguyet**, CARE in Vietnam

Navigate

Humanity Insured:

Strengthening climate resilience of communities through insurance and advice[51]

Humanity Insured is an NGO, backed by the insurance industry, that funds insurance premiums for those most at risk from climate change. It works in ODA-eligible countries with a focus on urban informal workers, coastal communities, smallholder farmers and displaced people.

Working with communities, Humanity Insured provides support to help people understand their climate risk and take steps to build their resilience, including putting in place parametric insurance for triggers such as heat, drought or high winds.

Communities contribute a small amount to the insurance premium, and the Humanity Insured grants cover the rest. The policies are provided by commercial insurance providers.

51 Humanity Insured, 2025; Humanity Insured, 2025. Climate Resilience for All.

It provides tropical cyclone insurance to coastal communities in three areas in the Philippines. The insurance pays out directly into beneficiaries' bank accounts and local livelihood programmes within 10 days of a trigger event, without the need to prove a loss. The size of the payout is scaled to the severity of the event. Trigger points are based on wind speeds recorded by the Joint Typhoon Warning Centre. It has protected 11,200 people in three years, with a maximum payout in this time of $1.7 million.

> *"24 hours' warning can reduce the damage from natural disasters by 30%. One-third of the world's people are not covered by an early warning system."*
>
> —UNDRR, 2025

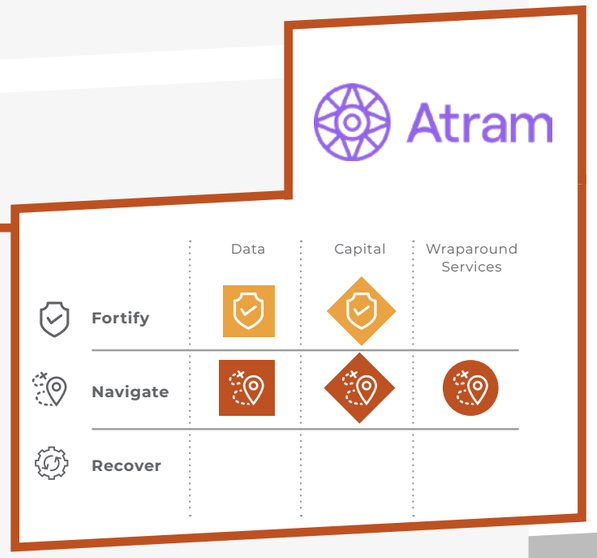
In India, its Climate Resilience for All programme provides parametric insurance for women working outside in extreme heat, as well as a cash layer that pays out at lower temperatures, providing support before the insurance is triggered. This has protected 225,000 women workers in a single year, with a maximum annual payout of £7.05m.

Atram:

Early warnings and embedded finance for mitigation measures + awareness[52]

Start-up Atram brings together expertise in meteorology, hydrology and disaster preparedness. Its digital solution combines AI-driven early warning systems (via Google FloodHub) with personalised advice about how micro-retailers can take steps to prepare. Atram is being piloted in Kenya and Colombia in 2025 and intends to expand to Southeast Asia and other regions globally.

Entrepreneurs receive alerts up to 7 days ahead via WhatsApp or voice messages, to ensure accessibility for low-literacy users, along with tailored recommendations like shifting inventory or updating logistics plans.



Users can ask follow-up questions, turning the bot into a "personal climate assistant" that delivers locally relevant, actionable guidance. Atram will also share user updates of current weather conditions and impacts in their area, providing real-time information that can help spur users into action.

52 Atram, 2025.

Much of the guidance Atram offers can be implemented for free. However, some useful preparation measures come at a cost. To help users act on the recommendations and advice, Atram intends to connect users with financial service providers who can provide emergency loans for flood preparedness measures, as well as to invest in stock that the local community will need.

Atram intends to gather feedback from users on how effective different preventative measures were, to enable it to continually improve the advice it offers and to support informed decision-making.

> *"Sending money [...] ahead of time [...], depending on the case, can generate a 3 to 15 times saving of losses that are avoided."*
>
> **David del Ser,** Atram

Recover

VisionFund International

Recovery Loans[53]

VisionFund, part of World Vision, delivers loans, savings and insurance products to clients in vulnerable, rural communities through 25 microfinance institutions in Asia, Africa, Eastern Europe and Latin America.

Following Typhoon Haiyan in 2013, VisionFund International and Philippine microfinance institution Community Economic Ventures Incorporated (CEVI) loaned $2.1 million to help affected people rebuild their livelihoods.

This initiative demonstrated that post-disaster lending can aid recovery whilst being commercially sustainable: 96% of recipients of the loan said it had helped with recovery, whilst on-time repayment rates were better than average for CEVI's usual loans, and the write-off ratio was around half of the usual for CEVI's portfolio. The interest rates covered the cost of making the loans in full.

This experience informed VisionFund's response to COVID-19, when they launched a $55 million Recovery Lending for Resilience programme. From 2019–2021, it provided 217,674 loans in 12 countries, and nearly 80% of clients were women. As part of this, VisionFund invested in mobile and digital technology to reduce the costs of lending and ensure access even where it is not possible to attend in-person branches.

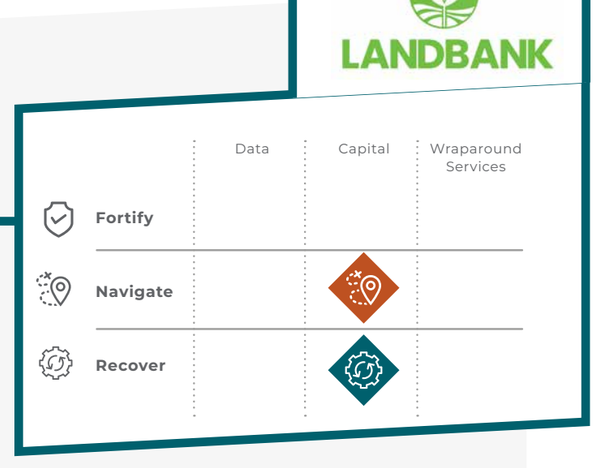
VisionFund Myanmar is supporting business owners with recovery lending following a 7.7 magnitude earthquake in March 2025. They visited clients in affected regions to assess the damage to homes and businesses. Women such as Nu Nu Yi, who lost her home and basket-making business in the earthquake, are being supported with flexible, affordable recovery loans so that they can restore their livelihoods. VisionFund Myanmar is equipping all its field staff with mobile devices to improve loan turnaround time and integrating digital payment channels for clients to reduce inefficient and time-consuming cash collections. Alongside recovery loans, VisionFund Myanmar also provides training on financial and digital literacy, as well as business management.

> *"Recovery lenders like VisionFund say 'You were a good entrepreneur a week ago. That hasn't changed. So how can we help you now?'"*
>
> **David del Ser,** Atram

LandBank CARES+

Rapid, Digital Recovery Loans to Rebuild Climate-Vulnerable MSMEs[54]

Following a series of severe typhoons and climate-related shocks in the Philippines, such as Tropical Storm Kristine, state-owned LandBank launched and expanded its CARES+ ("Community Assistance and Reintegration Support Plus") programme to provide recovery loans to cooperatives and MSMEs as well as corporations and electric distribution utilities. These loans aim to speed up recovery after climate shocks like floods and typhoons.



Households and small businesses suffering asset damage or income loss could access low-interest loans (up to 80% of project costs) for working capital, asset repair or equipment replacement.

53 ADB & VisionFund International, 2016. Disaster-Resilient Micro Finance: Learning from Communities Affected by Typhoon Haiyan; VisionFund, 2025. Recovery Lending for Resilience; VisionFund Myanmar, 2025. Our Work; VisionFund International, 2025 Linkedin post. LinkedIn 2025.

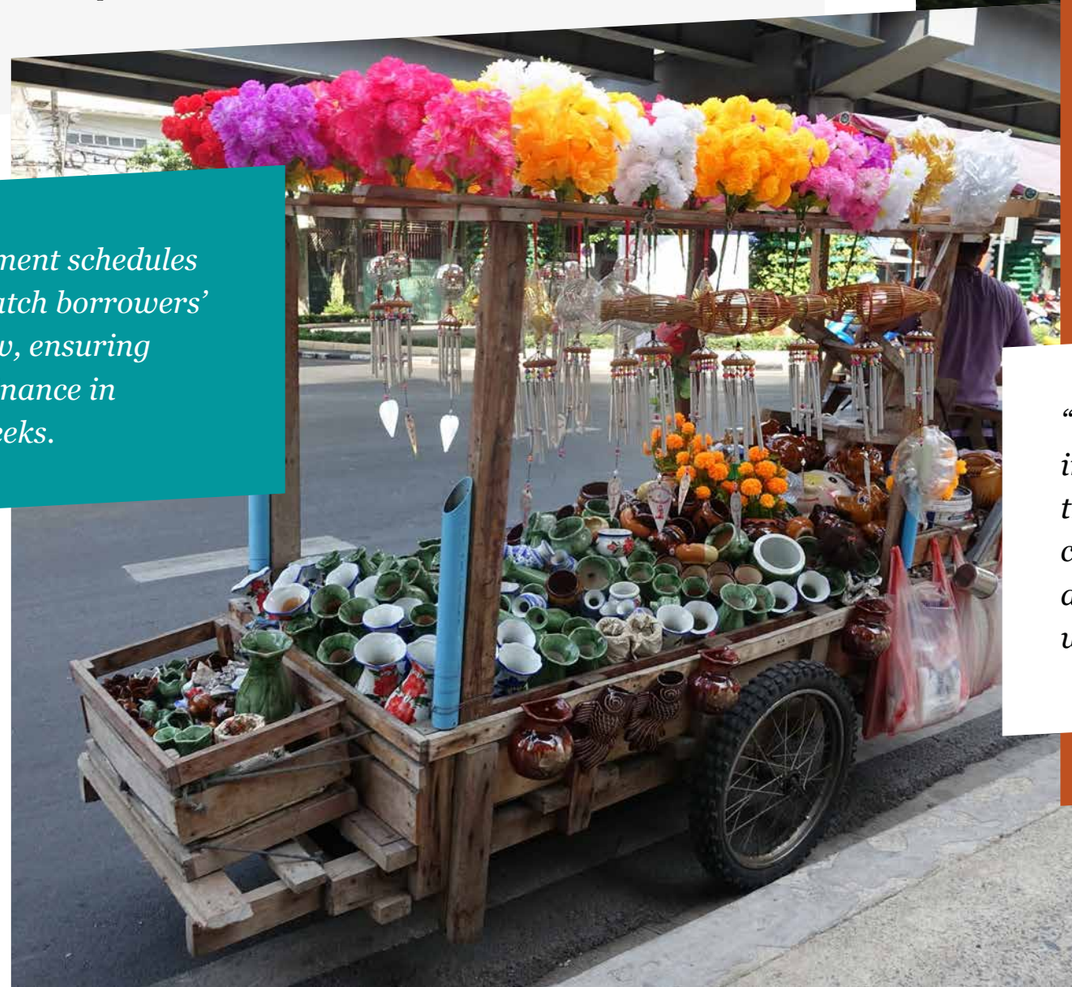
54 PR Station, "LANDBANK brings calamity assistance to GOCC Caravan"; Anna Leah Gonzales, "LandBank offers enhanced loans, cash support for emergencies". 2 September 2024, Philippine News Agency.

Applications are processed online or via LandBank's mobile app, and funds are deposited directly into borrowers' bank or payroll deposit accounts. LandBank also offers the EasyCash for Emergencies feature, allowing credit-card holders to convert available limits into emergency cash with up to 36-month repayment terms, all notified via SMS or email, eliminating the need for physical branch visits.

Loans and repayment schedules are tailored to match borrowers' expected cash flow, ensuring timely access to finance in as little as two weeks. While comprehensive impact data is not yet available, the initiative is designed to fast-track local recovery and help informal micro-retailers resume operations without resorting to high-cost borrowing. CARES+ illustrates a digitally-enabled recovery lending model that supports climate-vulnerable entrepreneurs with inclusive, rapid financing when it is needed most.

"One microfinance institution we work with in Malawi accredited their recovery lending after a cyclone in 2023 to a big increase in customer numbers and trust."

Michel Hanouch, CGAP



Loans and repayment schedules are tailored to match borrowers' expected cash flow, ensuring timely access to finance in as little as two weeks.

4. Recommendations for digital financial service providers

1. Start with your core business

Designing and scaling resilience solutions takes investment and patience. Begin by clarifying the business case, creating internal buy-in, and identifying who will be responsible for delivery.

- Assess how climate risks to micro-retailers may affect your business and/or investment portfolio, and explore what opportunities may exist for growth.
- Secure and communicate leadership commitment.
- Identify internal champions to increase focus on climate resilience.
- Map who within the organisation needs to be brought into decision-making to develop and deploy resilience solutions.
- Use the diagnostic framework on page 25 above to map how existing products support climate resilience for micro-retailers and identify potential areas for innovation and partnership.

"We underestimate the importance of individuals rather than institutions. So to find the change makers is as important as [finding] the institutions who will drive the change."

Ask:

Why does the resilience of micro-retailers matter to our business, and who will take the lead?

2. Deepen knowledge of micro-retailers as a target market

Resilience solutions are effective only when they meet micro-retailers' needs and preferences and overcome barriers to adoption. To understand micro-retailers' daily realities, combine different types of data and work with partners to fill knowledge gaps.

- Work with climate analytics firms to access localised hazard data.
- Use data analytics to segment customers by climate exposure, business type, owner demographics or digital experience.
- Commission field research and behavioural studies to identify how micro-retailers discover, trust and adopt services.
- Collaborate across the industry to develop climate risk models.

Ask:

How do micro-retailers perceive the climate risks they face and the usefulness of digital financial services in building resilience?

To understand micro-retailers' daily realities, combine different types of data and work with partners to fill knowledge gaps.

3. Design with micro-retailers in mind

Products must be simple, flexible and inclusive.

- Develop an iterative product design process that incorporates customer feedback and operational learning, embedded in cross-functional teams or innovation labs.
- Build in flexibility to product design, based on how climate change is affecting micro-retailers' businesses. For example, plan repayment schedules to accommodate irregular or seasonal cash flows, and/or enable offline access to accommodate internet outages.

"We always talk about how solutions can hit the three 'A's: Accessible, Affordable, Attractive."

Wendy Smith, AXA EssentiALL

- Complement digital tools with trusted human contact points, such as agents, peers and community networks.
- Ensure gender-responsible design,[55] recognising many micro-retailers are women who may have reduced access to mobile technology, and lower confidence to use digital platforms. Ask women about how climate change impacts their lives and consider how digital financial products could help alleviate these challenges.

Ask:

How can we lower barriers to adoption and build trust?

55 See Women's World Banking, 2023. Revolutionizing product design in financial services. Women's World Banking – Women-Centered Design Methodology; The World Bank, 2024. Advancing Women's Financial Inclusion: Guidelines to adopt a gender perspective in financial institutions. For more on the barriers women face in relation to climate and finance, see: Women's World Banking, 2024. Finance, Climate and Gender.

4. Balance impact and commercial viability

Resilience solutions need to be scalable whilst keeping operational and distribution costs manageable.

- Leverage existing products, platforms and distribution networks – for example, embedding resilience solutions such as auto-enrolled, weather index-based insurance into existing payment or wallet systems, loans or savings accounts.
- Leverage blended finance, subsidies or philanthropic guarantees to increase affordability during early adoption until sufficient scale is achieved.
- Partner with other FSPs, mobile money and B2B commerce platforms, fast-moving consumer goods companies, NGOs and governments to extend reach whilst pooling risks and/or distribution costs.

"There must be a business case for the provider, the model must be scalable to some extent, and it must add value to the customer."

Michel Hanouch, CGAP

Ask:

What partnerships or financing structures can help reach scale sustainably?

5. Adopt innovative approaches to quantifying and sharing risk

FSPs often struggle to accurately score the risk of underserved customers, resulting in unaffordable insurance premiums or loan interest rates. Innovative approaches are needed to more accurately quantify climate-related portfolio risks and reduce uncertainty.

- Improve credit scoring accuracy by integrating forward-looking climate data (forecasts, hazard maps) with alternative signals (mobile money use, inventory records, peer recommendations, satellite imagery).
- Reward resilience-building behaviours with incentives such as lower loan rates for insured clients or reduced premiums for implementing risk-mitigation measures.
- Apply portfolio-level risk management through scenario analysis of climate shocks and pooling risks across geographies or with insurers/ reinsurers to spread exposure.

Ask:

What new data can improve our risk models, and how can we track risk over time?

"You have to build systemic risks into the model. You can't just rely on an individual picture of creditworthiness. Data on systemic risks is publicly available, and it can increase stability and security in the financial system."

Dr Sonja Kelly, Women's World Banking Institute

6. Share Learnings

FSPs developing digital financial solutions that enhance the climate resilience of micro-retailers have an opportunity to learn from, and share valuable learnings with, adjacent sectors such as agriculture, FMCG and humanitarian aid.

- Take inspiration from developments in the agricultural sector, where diverse partnerships across fintech, mobile networks and value-chain actors are helping to understand farmers' climate risk exposure and driving uptake of new financial products.[56]
- Share insights with peers and humanitarian actors (for example, those working with refugee communities[57]) to avoid duplication and accelerate innovation.

"We are hoping to be able to showcase that these [insurance] tools can work for everyone. Through our initiatives, we show different ways of engaging people in the community without making decisions for them."

Neliswa Hare, Humanity Insured

Ask:

How can we contribute to collective learning on climate-resilient DFS?

56 IFC, 2024. Mapping of Digital Solutions to Support Financial Services Providers in Assessing Climate Impact on Agricultural Portfolios.

57 Supporting the resilience of micro-retailers in refugee communities can bolster local economic stability, reinforce markets, and reduce long-term aid dependency, aligning with humanitarian goals of fostering self-reliance and durable livelihoods. Yvonne Ndege, "Study finds refugee businesses play vital role in local economy". 4 May 2018, UNHCR, the UN Refugee Agency.

Call to Action

This paper calls on financial institutions, microfinance providers and fintechs to reconsider how they serve micro-retailers, who are vital to local economies and communities. DFS providers have a clear opportunity to create scalable solutions that build climate resilience, reduce portfolio risk and reach new markets.

While financial inclusion has often emphasised growth, rising climate disruption demands equal focus on stability and resilience. Existing tools, including digital payments, savings, loans and insurance, can help micro-retailers fortify their businesses against risks, navigate disruptions, and recover more effectively.

This paper has shared examples and a diagnostic tool to assess how products support climate resilience and highlight gaps for innovation. Providers can start by applying a resilience lens to existing products or go further by collaborating with a diverse range of partners to embed climate risks and resilience into product design.

Embedding resilience into financial services is about more than safeguarding businesses today; it is about ensuring that inclusive finance remains relevant and responsive in a changing climate. By working together, DFS providers and their partners can build solutions that protect livelihoods, strengthen communities, and support more sustainable markets for the future.

Embedding resilience into financial services is about more than safeguarding businesses today; it is about ensuring that inclusive finance remains relevant and responsive in a changing climate.

Questions for Further Research

- How can DFS providers partner with governments, humanitarian agencies and other sectors to support national-level preparedness for climate disruption?
- How can partnerships between DFS and multinational brands improve climate resilience for micro-retailers who serve last-mile communities?
- How can we better quantify the impact of digital financial solutions on the climate resilience of micro-retailers (as shown through case studies or quantitative studies)?
- How can DFS providers better quantify and mitigate the climate-related risks faced by micro-retailers in their portfolios?
- What are the most effective models for developing commercially-viable DFS that build climate-resilience for micro-retailers, and how can they be brought to scale?

Annex

ACKNOWLEDGEMENTS

This report was written by Dr Annabel Beales from Business Fights Poverty, with advice from Anne Spahr and Dr Radha Rajkotia from the Business Fights Poverty Global Expert Network, and research support from Floriana Von Hapsburg. We would like to extend our thanks to the following individuals who gave their time and knowledge to make this report possible:

Michel Hanouch,
Senior Financial Sector Specialist, GCAP

Neliswa Hare
Head of Projects and Partnership
Humanity Insured

Dr Sonja Kelly,
Global Head, Women's World Banking Institute

Tran Thi Minh Nguyet,
Financial Inclusion & Women's Entrepreneurship Manager, CARE in Vietnam

Rachel Seftel,
Head of Impact & Learning, Cherie Blair Foundation for Women

David del Ser,
Founder & CEO, Atram

Wendy Smith,
Agriculture & Public-Private Partnerships Lead, AXA EssentiALL

Dr Edoardo Totolo,
Deputy Managing Director, Center for Financial Inclusion

Sam Viney,
Head of Communications, Sun King

DISCLAIMER

Business Fights Poverty are grateful to Mastercard Strive who contributed to the funding of this report and provided input as part of a broad information gathering approach by the authors at Business Fights Poverty. In particular, the author would like thank Carolina Zuluaga, Manager, Research & insights, Mastercard Center for Inclusive Growth, Chris Edwards, Director, Funds & Programs, Caribou, and Janet Shulist, Senior Manager, Insights, Caribou, for their oversight and input. The findings, opinions and conclusions are the work of the author and do not necessarily represent findings, opinions or conclusions of Mastercard Strive.

SUGGESTED CITATION

Beales, A. 2025. Climate Resilience for Micro-Retailers: How digital financial services can support the stability and resilience of micro-retailers in Southeast Asia. Business Fights Poverty Institute & Mastercard Strive.