

What next for mainstreaming adaptation finance in emerging markets?

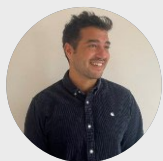


A Green Finance
Institute paper written
in partnership with:



Nicola Ranger

Founding Director,
Resilient Planet Finance Lab at
the University of Oxford and
Co-Director, UK Integrating
Finance and Biodiversity



Alex Kennedy

Managing Director, Head of
Sustainable Finance Solutions,
Standard Chartered; Chair of
Adaptation Finance Innovation Hub



Chantal Naidoo

Founding Director, Rabia
Transitions & Non-Executive
Director, Development Bank
of Southern Africa

Context

The world is already facing damaging impacts from climate change at the current 1.26°C increase in global temperatures.¹ This is most acute in Asia, Africa, the Middle East, and Small Island Developing States (SIDS), most of which are countries least responsible for global warming.

This is not just an economic or financial issue – it is a security and social justice issue: the latest United Nations (UN) analysis on global climate impacts underlines the need for urgent action, with 2023 marking the hottest year on record amid rising sea levels and the increasing extreme weather. Estimates vary but according to Swiss Re, natural disasters in 2023 caused economic losses of US\$280 billion, with 40% of those losses covered by insurance. This was a new record, with 142 insured-loss causing catastrophes in 2023. This figure is just the tip of the iceberg of the real uncounted costs on people's lives.² Analysis by Christian Aid found the poor suffer most – with devastating wildfires and floods hitting those who can least afford to rebuild, and the countries that have contributed least to the climate crisis being hit harder than the developed world.³

Further climate change is inevitable, although the magnitude and rate of climate change will be determined by societies' actions. Even so, it is often overlooked that keeping global temperature increases to no more than 1.5°C and reaching net zero by 2050 is in itself a scenario that requires adaptation to happen. Given the changing weather patterns we are already experiencing and the inertia in the climate system means that, even if greenhouse gas emissions ceased today, more extreme weather is to come.

Today, less than 10% of all climate-related finance is allocated to adaptation, with the majority of this coming from public finance sources. As such, it is unsurprising that the adaptation financing gap is widening globally. Current levels of funding remain well below the estimated US\$215 billion per year needed through to 2030 to adapt developing countries alone.⁴ For perspective, in January 2024, foreign debt sales from developing nations scaled an all-time record for January at US\$47 billion, led by major and less risky emerging markets, but the credit supply has still not recovered its 2020 high, and – as a comparator data point – is still a fraction of the overall investment needed.⁵ Issuances of green bonds with some adaptation and resilience component are growing but, again, are still only a fraction of the overall market – estimates place volumes at between ~2.5% and 16% of aggregate global issuances to date.⁶

Current levels of funding remain well below the estimated US\$215 billion per year needed through to 2030 to adapt developing countries alone.

In short, more private capital needs to be deployed in support of adaptation-focused investment in emerging markets. For this to happen two issues need to be overcome:

- The fundamental risk aversion of many mainstream banks and investors to emerging market opportunities: risk considerations include the financial stability of issuers, geopolitical shifts and higher costs of funding in developed markets.
- This risk aversion is compounded by concern about risks associated with physical climate change impacts, which could further increase antipathy towards investing in emerging markets.

The good news is that understanding of the challenges, imperatives and opportunities is growing. So too is the understanding that adaptation finance is not something to be 'done to' emerging markets counterparties, but to be developed in partnership. This note sets out what should happen next, building from a closed-door discussion held during London Climate Action Week (LCAW) with leading finance practitioners and experts, including those from India and South Africa as well as the UK.



From barriers to solutions

Noting engagement and interest in initiatives such as the adaptation working groups convened by the Prudential Regulation Authority and the Financial Conduct Authority (the Climate Financial Risk Forum – CFRF), Principles for Responsible Investment and Institutional Investors Group on Climate Change, sentiment among banks and asset managers is changing, driven by interest in the very rapid growth of these economies and commercial opportunities this brings. So too is understanding of the need for both mitigation and adaptation to be factored into financial decision-making and product development to ensure resilient economic opportunity is unlocked. For the insurance sector, it is becoming clear that a retreat from developed markets, and failure to engage with emerging market opportunities based on climate risks, is both a social ill and unsustainable for the sector’s survival long-term. Rather than cutting back on coverage, the industry needs to be innovating to expand it.

Building a better understanding of how emerging markets can adapt – and supporting clients and investee companies in these regions to facilitate the investments needed – makes good economic and financial sense. At a local level that is because it ensures that communities, businesses and assets can withstand the more frequent and intense weather extremes that are now upon us, enabling them to rebuild and restore access to critical infrastructure and thriving livelihoods more quickly than without such support. At a global level, this knowledge and capacity-building is important because it unlocks new market opportunities that also contribute to collective global resilience while supporting emissions reductions and nature protection and restoration.

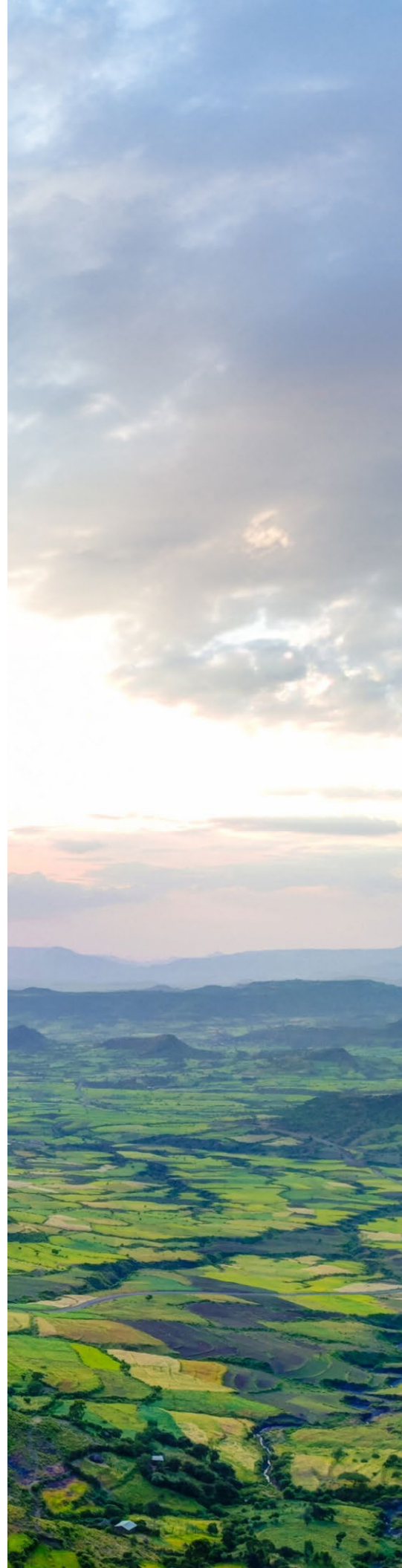
A range of measures and tools can be considered as part of supporting developed country investors to introduce these considerations through an emerging market's 'adaptation toolbox'. This includes engineered solutions, nature-based solutions, advancements in risk analytics and data, risk transfer solutions (insurance but also parametrics and risk pools), behavioural changes and supportive policies and regulations. However, many of these tools are currently underutilised, underfunded or inefficiently implemented, and in less well-developed emerging market contexts, availability and affordability present challenges.

Also growing among financial services actors is an understanding that means of consultation with appropriate local counterparties is essential at the project level. They may include non-usual suspects such as local governments, community representatives, environmental and humanitarian organisations, as well as local financiers.

This approach will, in turn, help embed locally appropriate adaptation and resilience into financial decision-making by private finance providers across all geographies in which they are active – and unlock investment opportunities amounting to hundreds of billions per year by 2030 and beyond.⁷

Three key themes are emerging to drive momentum across the public and private sectors in these markets:

1. Investment in greater awareness of the need and the opportunity by developed country investors.
2. Better use of supervisory/ policy levers by prudential regulators and policy makers to drive action by financial market participants.
3. More targeted risk-sharing between the public and private sectors – including accelerating the development and expansion of risk transfer solutions.





Better awareness of the need and the opportunity

On the public and the private side, there needs to be a better articulation and awareness of the opportunity.

Fortunately, models and tools are increasingly available to facilitate this.

Forward planning is key - On the public side, forward planning is key. As an example, in the wake of 2016's Tropical Cyclone (TC) Winston – the strongest and most devastating tropical cyclone to ever make landfall in the southern hemisphere, Fiji set a long-term objective to build resilience to natural shocks through 'Building Back Better'.⁸ To inform investment decisions for the future, the Fijian Government worked with the World Bank to develop the country's first-ever Climate Vulnerability Assessment (CVA). Underpinned by an understanding of the day-to-day reality of the Fijian people, the CVA sought to quantify and better understand the threat posed by natural hazards and climate change to Fiji in order to help design climate adaptation and risk management plans. It identified five main areas that could significantly reduce the country's vulnerability, including; inclusive and resilient urban development, enhanced and resilient infrastructure services, sustainable agriculture and fisheries, conserving

ecosystems and building socioeconomic resilience through actions on early warning and preparedness, social protection, and health care. The outcome of the CVA was a proposed list of 125 interventions across 10 sectors: housing and land use, hazard management, transport, water, energy, health/education, environment, agriculture, fisheries, and social protection. The total estimated cost to do all the interventions was F\$ 9.3 billion (almost 100% of GDP) over 10 years, plus additional maintenance and operational costs, and social expenditures. As a result of investments the World Bank subsequently made, none of the over 200 buildings constructed under its "Build Back Better" program were damaged when TC Harold hit in 2020.⁹

National development plans, infrastructure masterplans, Nationally Determined Contributions (NDCs), or resilience plans like the one based on the Fijian CVA – are key to creating investment plans to mainstream adaptation. This ideally needs to be combined with better forward-looking hazard data (discussed in more detail in the next section).

But financial institutions don't need to wait for these to be in place to act.

Taking action now

While government-led adaptation plans and taxonomies are very helpful in signalling to the market what ‘good looks like’ to support adaptation mainstreaming in emerging markets, there is no need to wait for these to be in place. Banks and insurers can work proactively with clients – and investors with investee companies - to understand hotspot vulnerability and, using the growing number of taxonomies that are available, assess adaptation readiness. As with mitigation, taxonomies can be an important tool for firms to make an initial assessment – even stepping into the breach where policies are lacking.

A guide developed by Standard Chartered, KPMG, and the United Nations Office for Disaster Risk Reduction (UNDRR) – with support from 20+ leading financial institutions, Multilateral Development Banks (MDBs) and non-government organisations (NGOs) – sets out investments that can be considered commercially viable within the context of adaptation and resilience needs in emerging markets and developing economies (Figure 1). This means – at its most basic level – that adaptation is about much more than just investing in physical sea defences funded from the public coffers.

Figure 1: Indicative Eligible Investments (Use of Proceeds) - Resilient Agrifood systems¹⁰

Climate Resilience Themes	Sub-Theme	Examples of Eligible Investments	Adaptation & resilience type		Green Bond/Green Loan Principles' Environmental Objectives					Social Bond/Social Loan Principles' Social Outcomes							
			Type 1: Activities that are adapted	Type 2: Activities that enable adaptation	Climate Change Adaptation	Climate Change Mitigation	Biodiversity	Pollution Prevention and Control	Natural Resource Conservation	Affordable basic infrastructure	Access to essential services	Affordable housing	Employment generation	Food security and sustainable food systems	Socioeconomic advancement and empowerment		
Resilient Agrifood Systems	Primary production	Climate resilient crops (e.g. drought resistant seeds, new varieties including R&D expenditures)		x	x		x								x		
		Vertical farming	x		x		x				x					x	
		Drip irrigation/more efficient irrigation for agricultural production systems (e.g. pressurised irrigation technologies)		x	x					x						x	
		Drainage and stormwater diversion and storage		x	x				x	x						x	
		Climate resilient livestock infrastructure (e.g. temperature regulation technologies - cooling sheds***, emergency shelters etc.)		x	x											x	
		Climate-smart agriculture infrastructure and/or technology, including measures to improve soil health		x	x					x						x	
		Climate-smart sustainable fisheries management (e.g. biodiverse agroeconomic systems, aquatic food systems)		x	x			x	x								
		Infrastructure to prevent runoff of agrochemicals and sediment into rivers or coastal basins during flooding/heavy rainfall (e.g. high precision laser land levelling)		x	x			x	x								

But there are many other such guides available – for example, research by the University of Oxford identified – collated and analysed – more than 30 taxonomies.¹¹ It is worth noting that existing adaptation taxonomies tend to have less quantified criteria than mitigation taxonomies, this is because what constitutes ‘good adaptation’ can vary significantly by location. This again, emphasises the need to place the client or investee companies’ view front and centre when developing financial solutions in order to facilitate desired and achievable resilience outcomes. In this case, the level of guidance provided by a taxonomy will be useful. The taxonomy developed by Mott Macdonald, for example, operates at a very detailed level, defining the changes to infrastructure needed to ensure resilience to a range of hazards.

Figure 2: Mott Macdonald Taxonomy.¹²

Climate Hazard Database						
Water		W: Pipelines and networks		Clean water pipe network		Climate hazard:
				<input checked="" type="checkbox"/> Freeze-thaw (extreme shifts in temperature) <input checked="" type="checkbox"/> Flooding - fluvial		<input checked="" type="checkbox"/> Extreme heat <input checked="" type="checkbox"/> Drought
				<input checked="" type="checkbox"/> Flooding - groundwater <input checked="" type="checkbox"/> Ground movement (heave, subsidence)		
Climate Hazard	Climate Risk	Types of impacts	Resilience measures	Recovery Measures	Prompts	
Freeze-thaw (extreme shifts in temperature)	Fluctuating temperatures around zero to cause pipe bursts	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Proactive replacement of ageing pipe Use of material resistant to freezing conditions Gravel casing around vulnerable pipes	Emergency replacement of pipes	What soil type is the pipe lined within? What is the pipe material? What is the pipe diameter and its criticality within the network?	
Extreme heat	Increased water demand causing pipe bursts	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Upgrade network capacity Customer campaigns to reduce consumption Proactive replacement of ageing pipes	Emergency pipe replacement Network reconfiguration	Is the system able to cope under increased water demand? Which parts of the network experience the highest peak demand?	
Flooding - groundwater	Pipe floatation and bursts from increased groundwater levels affecting lining	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Proactive replacement of ageing pipes in areas at risk of groundwater flooding Regular inspection of networks Establish redundancies in the network	Emergency replacement of pipes Tankering	Is the area prone to groundwater flooding/high levels of water table? What type of soils are present? What is the pipe material?	
Flooding - fluvial	Collapse/burst of traversing pipes from erosion of riverbanks	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Relining of pipes away from riverbanks Establish redundancies in the network Surveying and monitoring of pipe conditions	Emergency replacement of pipes	Is the area prone to erosion? What type of soils are present? What is the pipe material? What is the pipe diameter and its criticality	
Drought	Increased water demand causing pipe bursts	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Upgrade network capacity Proactive replacement of ageing pipes Customer campaigns to reduce consumption	Emergency pipe replacement Network reconfiguration	Is the system able to cope under increased water demand? Which parts of the network experience the highest peak demand?	
Drought	Shrinking and swelling of soils leading to pipe bursts	Interruption to supply (temp) Operational disruptions (temp) Structural damages	Proactive replacement of pipe with material resistant to expansive soil conditions Gravel casing around vulnerable pipes	Emergency replacement of pipes	Is the pipe lined in clay soils? What is the pipe material? What is the pipe diameter and its criticality within the network?	
Ground movement (heave, subsidence)	Ground movement with effect on lining of underground pipes (i.e. burst/collapse)	Structural damages Operational disruptions (temp) Interruptions to supply (temp)	Proactive replacement of pipes in areas prone to ground movement Establish redundancies in the network	Emergency replacement of pipes	Is the area prone to erosion and/or ground movements? What type of soils are present? What is the pipe material?	

Developing an investment-focused adaptation and resilience index - Cultivating a more granular understanding of climate resilience in markets could be key to better understanding risk and opportunity in relation to adaptation. Resilience indices already exist – for example, the World Risk Poll Resilience Index, which collates a range of polling data on individuals, holistic, household and community data – on factors such as disaster planning, quality of local infrastructure and social and financial safety nets - and the Global Resilience Index Initiative of the Resilient Planet Initiative, which collates data on hazards, vulnerabilities, exposures and physical risks for different assets globally.¹³ This type of tool could help address what can sometimes be exaggerated/ misinformed perceptions of risk in emerging markets due to a tendency to blanket apply metrics used for developed markets as opposed to really understanding local risks. Such a tool could be evolved to have more assessments of the resilience of existing infrastructure and communities using existing adaptation-focused taxonomies; combined with assessments of plans to improve infrastructure and societal resilience through adaptation planning – including secured nature-based and physical infrastructure solutions – as well as a range of the insurance products in place to enable resilience in the face of climate events, countering a tendency for a withdrawal of lending and investment to follow withdrawal of insurance.



Better use of supervisory and policy levers by prudential regulators and policy makers to drive action by financial market participants

Feedback from financial service practitioners indicates a number of concerns that are holding back the mainstreaming of adaptation finance in emerging markets and more broadly. These include:

- Lack of clarity on what potential climate futures (scenarios) to consider in developing adaptation strategy and product development.
- Concerns about the quality and relevance/ usefulness of data for supporting physical risk analysis and adaption opportunity identification, particularly when moving from global emission scenarios to local hazard and asset level data.
- Lack of guidance on how to integrate emerging information into investment, lending and underwriting decisions – and how best to disclose it to the market.

Scenarios - Stronger direction and guidance from prudential regulators on how to carry out effective physical risk-focused scenario analysis to support mainstreaming of adaptation financing is key. Taskforce on Climate-Related Financial Disclosures (TCFD) guidance currently states: “Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario”.¹⁴ The Network for Greening the Financial System (NGFS) scenarios help bridge this guidance gap – and are useful but not sufficient to understand physical risks within adaptation scenarios because they focus on macro-financial risks. Forthcoming proposals from the UK’s CFRF which is convened by the Prudential Regulation Authority and the Financial Conduct Authority, advise that two further steps are needed:

1. To encourage the use of local hazard assessment to validate short-term (up to five years) findings from NGFS-based scenario analysis. This represents a more granular approach to scenario analysis that will enable those deploying capital to direct it toward investments that will reduce the risk of current and future climate change impacts on economic activity, people, nature and individual assets by increasing their resilience to the changing climate.
2. For investment looking out beyond ~five years, a range of emissions pathways and climate response uncertainties need to be considered and a novel ‘Aim-Build-Contingency’ or ‘ABC framework’ is suggested to support decision-making under uncertainty. Here the Working Group have labelled the scenarios with global warming up to 2050 relative to pre-

industrial times, but firms may perform the risk assessment beyond 2050 if appropriate:

- **Aiming** for 1.5°C (a suitable proxy for this is the Intergovernmental Panel on Climate Change’s (IPCC) Shared Socioeconomic Pathway 1-1.9 (SSP1-1.9) scenario and taking the median climate response).
- **Building and budgeting** for 2°C by 2050 (the best proxy for this is the IPCC’s SSP2-4.5 scenario and taking the median climate response).
- **Contingency planning** for 2.5°C by 2050 (this is represented by the IPCC’s SSP3-7.0 scenario and taking the 95th percentile of the climate response).

Data - Access to good quality weather-related local hazard data is critically important to support short-term decision-making. Given that the impacts of climate change will vary by location, it is crucial to know where heat stress, flooding, humidity and hazards will affect infrastructure and communities so that appropriate resilience solutions can be co-developed. For financial institutions using this local data to support asset-based financing solutions, climate-related risks need to be assessed over the expected lifetime of the investment and tail risks (90th percentile), not just average (50th percentile) impacts, need to be fully understood. A database of good quality forward-looking and reliable hazard data sources searchable by timeframe, region, and resolution has been developed by a team at the Environmental Change Institute, Oxford University.¹⁵ However, gaps remain in data availability. To support emerging market investment, state-led investment into providing local hazard data is needed –

this could be delivered as part of overseas aid support, given the clear global public good nature of this investment and benefits for sustainable poverty alleviation, disaster resilience and economic development. Global coordination and collaboration is advantageous for all to close data gaps.

Every US\$1 spent on adaptation this decade, an economic benefit of US\$12 could be generated.

Where third-party datasets are provided, which draw on these sorts of public sources and then manipulate the data through black box approaches, assurances or 'kite' marks of quality should be requested of independent technical experts. Finally, to enable data application, companies need to disclose the locations of assets and/ or activities to support accurate analysis and meaningful resilience discussion. This is a key amendment for policy makers/ regulators: implementation of TCFD requirements into law should enable more adaptation-focused engagement by financial services firms with companies.

Guidance – This more granular approach to integrating hazard data into financial decision-making is very new – and significant data gaps exist as discussed. But it is important firms nonetheless get started on trying to use it since this is a key means to overcome the

challenges identified by Standard Chartered in their research, namely a perception of limited revenue streams and long investment horizons. A closer examination of concerns indicates current underinvestment stems largely from short-term perspectives, driven by a sense that adaptation is a future issue, not 'a now issue'. Getting started with using more granular datasets to support short-term decision-making and the ABC framework to support a longer-term view will help uncover the business case for acting early. Research conducted by Standard Chartered, published in its Adaptation Economy Report, found that for every US\$1 spent on adaptation this decade, an economic benefit of US\$12 could be generated – highlighting the significant economic pay-off of early action towards adaptation and the potential gains for investors. As global temperatures increase, emphasising the need for financial services firms to invest in the capability to support mainstreaming sooner rather than later is imperative. Here the role of prudential regulators is key.

As for countries, firms and the financial institutions supporting them, they should develop adaptation-inclusive transition plans as a default. The NGFS grouping can take the opportunity presented by its own Adaptation Working Group network to guide and support local financial market participants on the integration of this information into better risk management and disclosures alongside supporting clients and investee companies to seek financial adaptation solutions, drawing on forthcoming advice from the CFRF Adaptation Working Group. Special attention should be paid to the role of insurers as enablers of adaptation.



Targeted risk-sharing between the public and private sectors is the key to mobilising capital

Large-scale proactive mobilisation of private capital will be key to facilitating an orderly as possible transition to an adapted and resilient global economy, and clear definitions – alongside a shared understanding of what constitutes adaptation investment – are needed to support this. Within the private sector, adaptation investments can come from both private enterprises, as they invest in their operations and supply chains, and private financiers, including private commercial banks, microfinance institutions, insurance companies, institutional investors, private equity and venture capital investors. In many cases, the private sector is uniquely positioned to take on these investments, given their speed of delivery and relative flexibility with financial instruments.

It is commonly asserted that it is the government and multilateral development banks' role to drive private investment. However, the insurance sector is also emerging as a key player and partner in climate adaptation. Some insurers and brokers have started to prioritise adaptation and collaborate with their clients and the public sector to identify innovative ways to enhance current and future resilience. At the heart of this is the understanding that adaptation can be catalysed through a shift to a resilience-focused insurance system.

How (re)insurance can support the shift to a more resilient economy

(Re)insurers and investors can lean on three key capabilities to support the public and private sectors to better understand their climate-related risks and act upon them:

1. Data and analytics;
2. Advisory; and
3. Risk transfer products and efficient use of capital.

Data and analytics - Brokers, insurers and reinsurers have invested in advanced climate modelling capabilities for decades, from computing capabilities to skills. Outside academia, the insurance sector is ahead of other sectors in modelling climate risks and quantifying these risks into financial impacts.

Typically (re)insurers have the capabilities to model a wide range of climate risks including chronic risks such as changing temperatures, precipitation and coastal erosion to acute risks such as wildfires, hurricanes, droughts and landslides. There is a lot that the sector can contribute to enable corporates and policymakers alike to better understand the types and severity of climate risks they may become exposed to. Insurance executives have been talking increasingly publicly about the need for more sophisticated modelling systems, driven by increasingly advanced artificial intelligence, to enable them to provide affordable cover in a world that's deviating from historical patterns. This now needs to be acted on.¹⁶





Advisory - Based on advanced climate modelling, (re)insurers advise clients on short and long-term strategic planning. This can include ways to anticipate and prepare for chronic and acute risks; making informed decisions on locating new offices or operations; or how to allocate investments.

Many risk engineering teams are also able to translate climate risks into financial risks and support their clients in understanding the costs and benefits (or avoided costs) of implementing specific resilience measures.

Risk transfer solutions and more efficient use of capital - Increasingly, people and businesses can't assume the full costs of climate risks from their own funds or balance sheets. For hundreds of years, (re)insurers have helped businesses, people and investors to share risks more efficiently. (Re)insurers are already innovating with new mechanisms like parametric insurance and alternative risk transfers. There are also examples where (re)insurers have been able to create financial resilience for more vulnerable parts of the world, especially by working with the third sector (e.g. through resilience bonds¹⁷ or reinsuring third sector

funds¹⁸). With integrated strategies that tie risk transfer to risk reduction measures, insurers can provide incentives to promote the deployment of resilience interventions. For example, the purchase of policies can be accompanied by guidance for property-level protection measures or through the adoption of “build back better” principles by Flood Re in the UK that ensures rebuilding projects prioritise climate adaptation investments. Another example is the development of innovative community-based catastrophe insurance schemes that rely on parametric insurance cover and can create financial incentives for resilience interventions through investments.¹⁹ Parametric insurance and catastrophe bonds that pay out quickly post an event, provide more budget certainty. When these instruments are linked to “build back better” policies that increase resilience to future climate shocks, it will facilitate greater confidence that the private sector will deploy capital to support development in these markets.

The following case study sets out how an innovative approach to insurance has facilitated resilience and adaptation in an emerging market context.

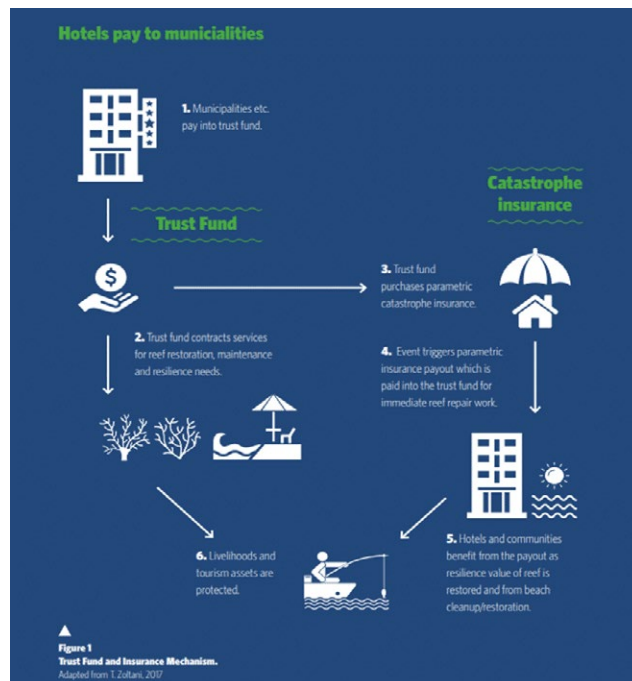
Case Study: Quintana Roo Reef Protection - Mexico

Type of intervention: Insurance

Structure: In 2018, the world's first insurance solution to preserve a natural ecosystem was launched, using a parametric mechanism. Private sector taxes and government funding were combined into a Trust, responsible for maintaining the reef. The insurance premium was then paid by the Trust, with fees generated through public/ private sources. The claim payment release would be triggered when hurricane wind speeds reached a certain level, allowing the policyholder to repair the area's coral reef quickly. The policy helps to maintain the reef and, by extension, the community that relies on it.

Success criteria: There were several stakeholders involved in this parametric insurance structure which included coastal property owners, municipal governments, the State Government of Quintana Roo, Coastal Management Zone Trust (CMZT) and insurance companies.

What next: Since launching this innovative design, Swiss Re continues to work to replicate this model elsewhere in the world. This includes coral reefs but also other types of natural ecosystems, such as mangroves.²⁰





Systematising support – the role of MDBs and other public finance institutions

In some instances, public-private risk sharing will be needed. The role of MDBs, international climate funds and national public banks/ export credit guarantee facilities will be especially important. While MDBs have announced they will step up efforts to finance adaptation activities, to date it appears to be seen as a separate line of business.²¹ Climate resilience needs to be integrated as standard into all infrastructure and green investment advice and support.

A key consideration should be how public capital can be deployed most efficiently to maximise private co-investment and ensure access to solutions that are socially inclusive. Here, a shift toward supporting emerging markets-led programmatic investment will help accelerate progress. Currently, there are many blended finance instruments and project preparation facilities – but they all

have different due diligence requirements: streamlined access is needed to reduce the effort of doing business. For example, the Green Climate Fund works project by project: this needs to shift to providing country-level or regional programmatic support with shared learning so that deals can be replicated. Programmes like the LEAF Coalition should be widened to include a focus not just on reducing deforestation but on the role of reforestation support as a means to increase resilience. A more programmatic approach needs to link directly to helping countries develop national adaptation plans, and execute them through using targeted risk-sharing to secure the private finance needed. The Bridgetown Agenda 2.0 calls for existing programmes to be better coordinated and focus on client country needs.



Looking ahead

The physical risks associated with climate change are escalating globally; no country is untouched and addressing economic and social consequences depends on the respective capabilities of countries. Calls abound for a transformation of the international financial system, in recognition of the fact that it is not built for, or adjusting to, the need to address the multiple crises we face in our time, and especially not so in emerging markets.

The economic counterfactual should inspire action: aggregating across the period 2025-2100, the total cost of inaction is estimated at US\$1,266 trillion, that is, the difference in losses under a business-as-usual scenario and those incurred within a 1.5°C pathway.²² But no one sector or organisation has all the answers. A systemic change is needed which is only possible if the different system actors come together to drive collective positive change.

As ever, not waiting for perfect information or tools is key. Properly supported, embedding adaptation imperatives into emerging markets investments helps mitigate some fundamental market risks through increasing transparency, strengthening forward-looking planning and governance of adaptation-focused portfolios. In addition, a better understanding of these markets, along with better utilisation of a range of insurance products alongside risk sharing through well-targeted support from public finance institutions in these markets can bring risks within the tolerance of a broader range of investors and lenders. In short, investing in resilience is good for investors and countries, because it makes investment in emerging markets lower risk and more sustainable long term.

Action can be accelerated through:

- National planning improvements – countries and regions need to be better supported by MDBs in the way that Fiji was supported to develop country-appropriate climate resilience investment plans.
- Private sector actors engaging more deeply with adaptation, using tools such as taxonomies plus better data and analytics to create the business case and basis for just and inclusive adaptation efforts.
- Regulators including a focus on adaptation in supervisory activities and approaches.
- Development of more decision-useful forms of risk assessment – such as the resilience index; this can close gaps between perceived versus actual risks.
- Public finance institutions that can mainstream adaptation into investment and risk approaches within countries – potentially via intermediaries such as Rabia Transitions in South Africa and through GFI's work in Indonesia – to develop products and programmes that partner with private finance to broaden access to capital and shared risk.

GFI is developing an international programme of work to support the delivery of the components of this to-do list. We invite potential delivery partners to get in touch to discuss how we can work together in a shared endeavour.



Endnotes

- 1 This is based on a 20-year mean period, combining the last decade of the observations with trends from a climate model for the next decade. Betts, R. A., Belcher, S. E., Hermanson, L., Klein Tank, A., Lowe, J. A., Jones, C. D., Morice, C. P., Rayner, N. A., Scaife, A. A., & Stott, P. A. (2023). Approaching 1.5 °C: How will we know we've reached this crucial warming mark? *Nature*, 624(7990), 33–35. <https://doi.org/10.1038/d41586-023-03775-z>
- 2 Standard Chartered, KPMG, UNDRR (2024) Mobilising capital for adaptation and resilience [Guide for Adaptation and Resilience Finance | Standard Chartered \(sc.com\)](#)
- 3 https://www.christianaid.org.uk/sites/default/files/2023-12/counting_the_cost_2023.pdf
- 4 Standard Chartered, KPMG, UNDRR (2024) Mobilising capital for adaptation and resilience [Guide for Adaptation and Resilience Finance | Standard Chartered \(sc.com\)](#)
- 5 <https://www.reuters.com/markets/europe/emerging-market-debt-sales-hit-january-record-despite-elusive-flows-2024-02-05/>
- 6 Climate Bonds Initiative data at <https://www.climatebonds.net/market/data/#use-of-proceeds-charts> indicates 2.5% of aggregate global issuances since 2014. The Global Centre on Adaptation estimates 16% to 2020. https://gca.org/wp-content/uploads/2021/09/State-of-Play-and-Roadmap-to-Scale-V2.pdf?gl=1*6ld30f*ga*MTY2NDA2NTM4Mi4xNzlyNDI5MzZM2*_up*MQ [check exact parameters of the latter]
- 7 Standard Chartered, KPMG, UNDRR (2024) Mobilising capital for adaptation and resilience [Guide for Adaptation and Resilience Finance | Standard Chartered \(sc.com\)](#)
- 8 Fiji is no stranger to natural disasters. In early 2016 Cyclone Clyde, tore through the islands. Over 40 people were killed, more than 60% of the population was affected, with around 131,000 people left homeless, and over a third of Fiji's GDP wiped out in 36 hours. See
- 9 <https://www.worldbank.org/en/news/immersive-story/2020/09/17/how-to-build-back-better-after-the-covid-19-crisis-a-practical-approach-applied-to-fiji#:~:text=As%20its%20massive%20rebuilding%20and,%E2%80%9CBuild%20Back%20Better%E2%80%9D%20program.>
- 10 Standard Chartered, KPMG, & UNDRR. (2024). Guide for Adaptation and Resilience Finance. <https://www.sc.com/en/adaptation-resilience-finance-guide/>
- 11 See database: <https://www.eci.ox.ac.uk/page/taxonomies-database>
- 12 Mott Macdonald, (2024). Example of in-house taxonomy.
- 13 <https://global.infrastructureresilience.org>
- 14 See <https://www.fsb-tcfd.org/recommendations/>
- 15 <https://www.eci.ox.ac.uk/research/tools-and-datasets>
- 16 <https://www.sustainable-insurer.com/news/ms-amliins-sethu-need-to-step-up-modelling-capabilities-for-chronic-climate-risks/> For example modelling capability needs to significantly increase to take into account limitations e.g. in correlating hazards, incorporating second order impacts and cascading effect, considering tipping points / recognising that pathways are non-linear.
- 17 World Bank. (2021). World Bank Catastrophe Bond Provides Jamaica \$185 Million in Storm Protection World Bank. <https://www.worldbank.org/en/news/press-release/2021/07/19/world-bank-catastrophe-bond-provides-jamaica-185-million-in-storm-protection>
- 18 AON. (2022). Aon Provides Innovative Solution for Red Cross Disaster Response Emergency Fund (DREF). Aon Plc Global Media Relations. <https://aon.mediaroom.com/Aon-Provides-Innovative-Solution-for-Red-Cross-Disaster-Response-Emergency-Fund-DREF>
- 19 Guy Carpenter. (2023). A New Pilot Program Assists Neighborhoods That Are Less Financially Resilient In Times Of Natural Disaster. <https://www.guycarp.com/insights/2023/06/new-pilot-program-assists-neighborhoods-less-financially-resilient-in-times-of-natural-disaster.html>
- 20 GFI Hive Case Study on the Quintana Roo Protection Scheme <https://www.greenfinanceinstitute.com/gfihive/case-studies/quintana-roo-reef-protection-parametric-insurance/>
- 21 <https://www.iisd.org/publications/report/multilateral-development-bank-efforts-mainstream-climate-adaptation>
- 22 World Meteorological Organization (2023), Climate change indicators reached record levels in 2023: WMO