

***Stimulating private sector
engagement and investment
in building disaster
resilience and climate
change adaptation***
Recommendations for public
finance support

*Department for
International Development*

Executive summary

December 2013

Important notices

Use and interpretation of this report

This executive summary is an excerpt from a report written by PwC for the Department for International Development (DFID). It sets out the findings from the project 'Stimulating Private Sector Engagement in Building Disaster Resilience and Climate Change Adaptation, REF: DFID/RM353.'

The outputs of this work are intended to support DFID and the Political Champions Group by providing information, analysis, and a set of options for further enhancing public sector support in this area. This document represents the analysis undertaken by PwC and does not represent the views of UK Government or its international affiliations.

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As part of our work, PwC consulted with a number of individuals from various external organisations including multinational corporations, national companies, SMEs, and public sector agencies based in the UK, Bangladesh, Kenya, Mozambique, and Pakistan, many of which operate globally. Information received and comments made by these individuals have been provided solely for the purpose of this project. Where quoted, wording may have been abbreviated or adjusted to support the flow of the report. The cited individuals have had the right to clarify the information presented on their organisation or to revoke comments made. Views of individuals consulted do not necessarily represent the views of the organisations or governments for which they work.

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The outputs of this work are intended to support DFID and the Political Champions Group by providing information, analysis, and a set of options to enhance public-private partnership on resilience

Glossary

Acronym	Definition
AECF	African Enterprise Challenge Fund
ASAP	Adaptation for Smallholder Agriculture Programme (IFAD)
BIF	Business Innovation Facility
BOP	Bottom of the pyramid
CCA	Climate change adaptation
CDKN	Climate and Development & Knowledge Network
CIF	Climate Investment Funds
CSA	Climate smart agriculture
CSR	Corporate social responsibility
DFI	Development finance institution
DFID	Department for International Development, UK
DRM	Disaster risk management
DRR	Disaster risk reduction
FAO	Food and Agricultural Organization
FMCG	Fast moving consumer goods
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFI	International financial institution
PIDG	Private Infrastructure Development Group
MDB	Multilateral development bank
ME	Microenterprise
MFI	Microfinance institution
MNC	Multinational company
NAPA	National Adaptation Programme of Action
NC	National company
PFI	Public finance instrument
PFM	Public finance mechanism
PPCR	Pilot Program for Climate Resilience
PPP	Public private partnership
SME	Small and medium sized enterprise
TA	Technical Assistance
TOC	Theory of change
UNDP	United Nations Development Program
USAID	United States Agency for International Development
UNFCCC	United National Framework Convention on Climate Change



Executive summary

The UK Government and the United Nations Development Program (UNDP), acting as co-chairs, launched the Political Champions Group in 2012 to bring greater political focus and investment to building disaster resilience. Part of the Group's interest lies in improving understanding of how to stimulate the private sector's engagement and what course of action can best deliver this.

This study explores how public finance can be better used to stimulate private sector engagement in building disaster resilience and preparedness for the risks posed by natural catastrophes and climate change. Through four detailed

country case studies (focusing on Bangladesh, Kenya, Mozambique and Pakistan), coupled with global research including public and private consultation, this report details what the private sector needs in order to overcome constraints to its engagement and investment in building resilience.

As part of this research, the effectiveness of existing resilience focused public-finance programmes that aim to stimulate private sector action has been reviewed. This report also draws out lessons learned on engaging business from wider private sector development focused initiatives. Finally, it assesses the gaps in existing efforts and proposes a

framework of action through which public finance can be used to scale up private sector engagement and investment. The recommendations cover how existing initiatives might be adjusted to improve their effectiveness, and whether a new mechanism is required to stimulate enhanced private sector action.

There were a number of opportunities that emerged from the country case studies developed through this study (see main report and appendices for more detailed information). Some are already being capitalised on by local companies, others require additional support.

How the private sector is affected by disaster and climate risk

The economic impact of natural hazards has risen from USD 10 billion per annum in 1975 to almost USD 400 billion in 2011 (see Figure 1). We continue to develop our economic activity and societies in many of the world's most vulnerable locations, often in floodplains or in areas that experience extreme weather or geophysical risks.

The impacts of disasters and climate change are felt most acutely in developing countries that exhibit higher vulnerability to disaster risk, and lower capacity to curb or manage them. Loss of life, diminished productivity and asset destruction lead to weakened livelihoods and poverty. Critically these consequences can limit wider development efforts. In some countries, climate related risks could cost up to 19% of GDP per annum by 2030, setting back years of economic growth¹. As global economic interdependence grows, climate and disaster related impacts in developing countries will be felt far beyond their own borders. This increasing level of exposure prompts us to consider the current plans, preparation and responses of the public and private sectors.

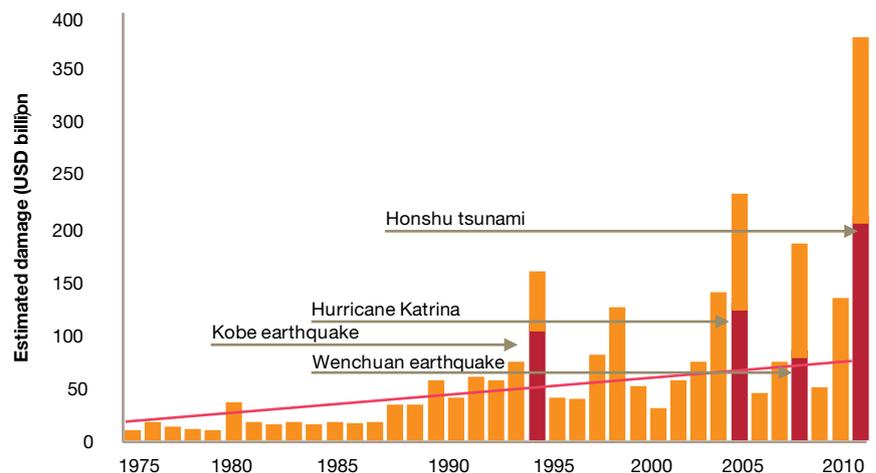
Business is central to the Post 2015 Development Agenda. To 'climate-proof' the Millennium Development Goals (MDGs) in Africa alone would cost an estimated USD 100 billion a year for the next decade.² This represents a 40% uplift on the current estimated level of spending. Public funds alone cannot achieve this and the private sector faces too many investment barriers. Collaborative action is therefore critical.

Global businesses and investors have immediate opportunities to grow in developing and emerging economies, but need to factor in the practical risks and costs of doing business in these countries. They require: a skilled and healthy workforce; license to operate; access to natural resources; adequate and resilient infrastructure; rule of law; and functioning institutions – all of which can be impacted by natural disasters and climate change. An upward trend of financial losses and interruption to local services from natural hazards and climate change will therefore impact on foreign direct investment.

markets. These include increased commodity or input prices, supply chain or distribution network interruption, changing market demand or reputational issues (see Table 1).

Natural hazards and climate change have a greater impact on 'sensitive' economic sectors such as agriculture, those with high value fixed assets (e.g. extractives, energy, utilities), and those with extensive supply chains (e.g. retail and consumer products). Those that are exposed to interruption from extreme weather and geophysical events (e.g. utilities, telecoms), or those with commodities that cannot be easily substituted (e.g. specific product lines

Figure 1: The rising cost of disasters



Impacts from natural hazards and climate change can affect a company directly through its own operations or indirectly through its value chain. 'Direct' impacts include physical asset damage, reduced operational performance, and staff and workplace disruption. 'Indirect' impacts amplify losses beyond individual operations and can often be felt across companies, sectors and countries due to the globalisation of value chains and

for major food and retail organisations or technology manufacturers) are most at risk. Financial services providers are also impacted including investors to these sensitive sectors, and those offering disaster and climate risk related financial products including insurance.

¹ Economics of Climate Development, Shaping climate resilient development: a framework for decision making, 2009

² Fankhauser and Schmidt-Traub (2010) 'From adaptation to climate resilient development: the costs of climate proofing the MDGs in Africa'. The cost of meeting the MDGs alone is USD 72 billion.

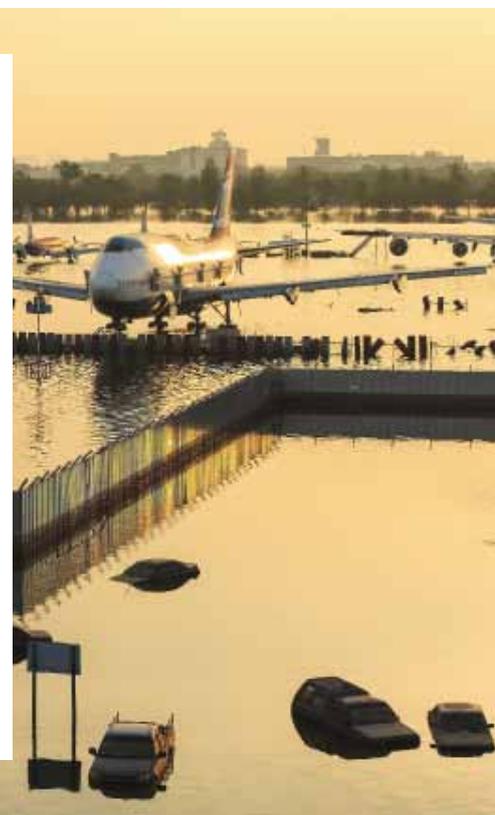
Table 1: Examples of business related impacts

Impact type	Examples of impacts to the private sector
Country development: Economic and livelihood impacts	The 2010 floods in Pakistan hit the agriculture, livestock and fisheries sectors hard. They caused total damages in the region of USD 10 billion ³ and significantly affected employment opportunities and the livelihoods of over 800,000 people. ⁴
Trade: International supply chains	Thailand plays an important role in three global supply chains: consumer electronics, textiles and the automotive industry. Many of these industries are concentrated in flood-prone enterprise zones, which present a significant risk to global supply chains. In 2011, extensive flooding resulted in numerous international corporations having to notify the markets that they would not meet profit expectations.
Key infrastructure: Business interruption	Flooding of the Limpopo River at the start of this year caused significant damage to the electricity transmission line from Mozambique to South Africa. Eskom, South Africa's primary energy utility and Mozambique's Hidroelectrica de Cahora Bassa's faced a 50% reduction in transmission capacity between the two countries as a result. ⁵
Operations: Raw materials/business inputs	The agribusiness Bunge reported a USD 56 million quarterly loss in its sugar and bio-energy operations in Brazil resulting from drought conditions affecting its growers. ⁶
Operations: Workforce health and safety	Employee sickness through waterborne diseases and the inability to reach work following the 2004 Bangladesh floods was estimated to have cost the country's garment industry USD 3 million per day.
Operations: Storage and logistics	Heavy rains, strong winds and flooding in Guatemala caused quarterly losses to Del Monte of USD 4 million from its banana operations following damage to a vulnerable warehouse storing large quantities of stock. ⁷

Business size and geography are important determinants of risk exposure. Smaller entities, such as social entrepreneurs and small and medium sized enterprises (SMEs), and typically businesses in developing nations, show greater vulnerability to climate and disaster risks as a result of lower capacity and capability to respond. Larger and more mature companies may experience higher financial losses, but are more likely to have the capacity and resources to prepare, absorb and adapt.

Climate change will further alter business risk profiles and also insurance availability and affordability. Risk exposures will continue to change from historical norms, with increasing occurrences of unforeseen and spatially and temporally correlated events. Increasing risk and uncertainty may push up insurance premiums or reduce coverage provision. These factors may also create new liabilities within an insurer's own diversified investment portfolio. 75% of insurers have said that they anticipate increased natural hazards and that the affordability and availability of insurance for businesses is likely to decline in the coming decades.⁸

Consequently, there is growing awareness amongst investors of the potentially large financial risks that natural disasters and the impacts of future climate change pose. Disaster and climate change risks and opportunities are starting to be recognised by investor groups such as the IIGC, IIGCC, and INCR.⁹ Over time this pressure will lead to revised investment policy, strategy or risk management processes.



³ IMF Working paper 12/245. Natural Disasters: Mitigating Impact, Managing Risks. 2012

⁴ Pakistan 2011 floods PDNA http://gfdrr.org/sites/gfdrr.org/files/Pakistan_Floods_2011_DNA_Report.pdf

⁵ <http://www.engineeringnews.co.za/article/hcb-eskom-work-on-cahora-bassa-line-refurb-plan-after-disruptions-2013-01-25>

⁶ Bunge Ltd., 'Q4 2010 Earnings Call Transcript,' Feb. 10, 2011, <http://www.morningstar.com/earnings/21927995-bunge-ltd-bgg4-2010.aspx?pindex=2>.

⁷ Fresh Del Monte Produce Inc., 'Q2 2010 Earnings Call Transcript,' Aug. 3, 2010, <http://seekingalpha.com/article/218349-freshdelmonte-produce-inc-q2-2010-earningscall-transcript>

⁸ Leurig, S., 2011. 'Climate Risk Disclosure by Insurers: Evaluating Insurer Responses to the NAIC Climate Disclosure Survey.' Ceres, Boston.

⁹ Pakistan 2011 floods PDNA http://gfdrr.org/sites/gfdrr.org/files/Pakistan_Floods_2011_DNA_Report.pdf

Resilience is a private sector opportunity

Opportunities to scale up public-private collaboration on building resilience are largely untapped. This is partially because resilience is often viewed as the responsibility of the public sector.

Successful businesses are those which best adapt in a continually changing market; building resilience to direct and indirect risks whilst seizing market opportunities to sell new products and services that build the resilience of others. High profile natural disasters spur businesses to evaluate risk exposures. But to make substantial and long-term changes, businesses need to understand the return on investment of resilience building actions. Businesses may choose or combine approaches to avoid, reduce, share or accept each risk, depending upon their risk appetite. Basic risk mitigation actions include:

- **physical** (e.g. infrastructure design improvements or retrofit)
- **social** (e.g. behavioural change and education)
- **financial** (e.g. use of risk transfer products such as insurance).

Business is already acting to reduce direct operational risk in a number of sectors. Companies with mature risk management approaches tend to manage their responses through organisation-wide business processes that identify and target planned responses to significant risks (often termed Enterprise Risk Management – ERM). Where a clear and quantified return on investment is evident, action is planned and implemented. However,

the identification of new risks (e.g. climate change or a historically unprecedented disaster) is often lacking.

Prospects also exist for sectors to develop new and innovative products and services targeted at building resilience. This brings economic benefits in the form of growth and jobs, but also reduces vulnerability and risk within their markets. To develop these, businesses need to understand the market opportunity, investment risk, and the return on investment to develop and scale-up these solutions.

Table 2 sets out some of the key business drivers for entering the resilience marketplace and provides some examples of organisations that are already realising the benefits.

Table 2: Business drivers for adaptation and disaster resilience action

Opportunity type	Benefits	Examples
Development and distribution of new products and services	<ul style="list-style-type: none"> • New revenue streams. • Gain competitive advantage. • Diversify risk portfolio. 	Swiss Re (and partners): The Horn of Africa Risk Transfer for Adaptation (HARITA) and R4 Rural Resilience Initiative allow cash-poor farmers to work for their insurance premiums by engaging in community-identified projects to build climate resilience. The potential to expand beyond Ethiopia to open up new SSA markets for insurers is high.
New, expanded markets for products and services	<ul style="list-style-type: none"> • New revenue streams. • Increased market share. • Long-term viability or success of business. 	Safaricom/GE: A partnership in Kenya, which supports the expansion of low carbon telecoms infrastructure into rural areas in the north. Solar powered mobile station base units resilient to power cuts, allow continued communication for the community, including the provision of drought and weather information to support rural small holders. A real triple win for development, resilience and climate change mitigation.
Cost savings	<ul style="list-style-type: none"> • Reduced raw material and operational costs. • Protects profitability when margins are tight. • Improved insurance purchasing and lower residual losses. 	Sun International Hotels: The Zambian hotel chain has developed a local food sourcing programme supporting 400 smallholder farmers. This has ensured their security of supply and reduced costs for their hotels, alongside providing livelihood opportunities to smallholders in the region.
Collaboration through supply chain	<ul style="list-style-type: none"> • Competitive advantage gained through a more secure and resilient supply chain. • Security of supply protects revenue streams. 	A global agribusiness consulted as part of this study: This global producer of tea and cut flowers works with its supplier farmers to help build awareness on climate change issues as well as facilitating a multi-stakeholder approach to build resilience, for example through better catchment management.
Reputation and brand value	<ul style="list-style-type: none"> • Market leadership. • Increased investor, consumer and other stakeholders' confidence. 	Siemens: Development of a low-cost, simple, portable water purification system that does not require electric power or purification chemicals, which can be distributed to vulnerable communities post-disaster. This, along with other innovations, has secured their reputation as a leader in technologies to address climate change and resilience challenges.

Barriers to scaling up private sector action

A business is likely to respond first to mitigate its own risks. It is much harder to engage businesses on issues that extend beyond their direct operations. For a business to act within its extended supply chain or community it requires better information and an appreciation of the business case for investment. The drivers and barriers that govern action beyond a company's direct operations are more complex, involving wider stakeholders, co-investments and less defined distribution of benefits.

The four countries engaged as part of this work (Bangladesh, Kenya, Mozambique and Pakistan) exhibited a variety of hazard types, population densities, institutional arrangements and levels of private sector development. All have experienced significant disaster losses. Barriers common to all case study countries and sectors included:

- a lack of relevant risk information
- low levels of capacity and skills required for the sector
- poor levels of access to credit to implement resilience measure and or market opportunity
- weak knowledge management structures to share good practice
- inadequate policy, regulatory and legal environments
- domestic infrastructure constraints.

Examples of collaborative challenges include investment into a new community flood control system that relies on multiple financiers, community cooperation and local government approval; or a major retailer providing seed, tools and training to farmers to implement climate smart agricultural practices where other buyers could benefit. Risk data to inform investment

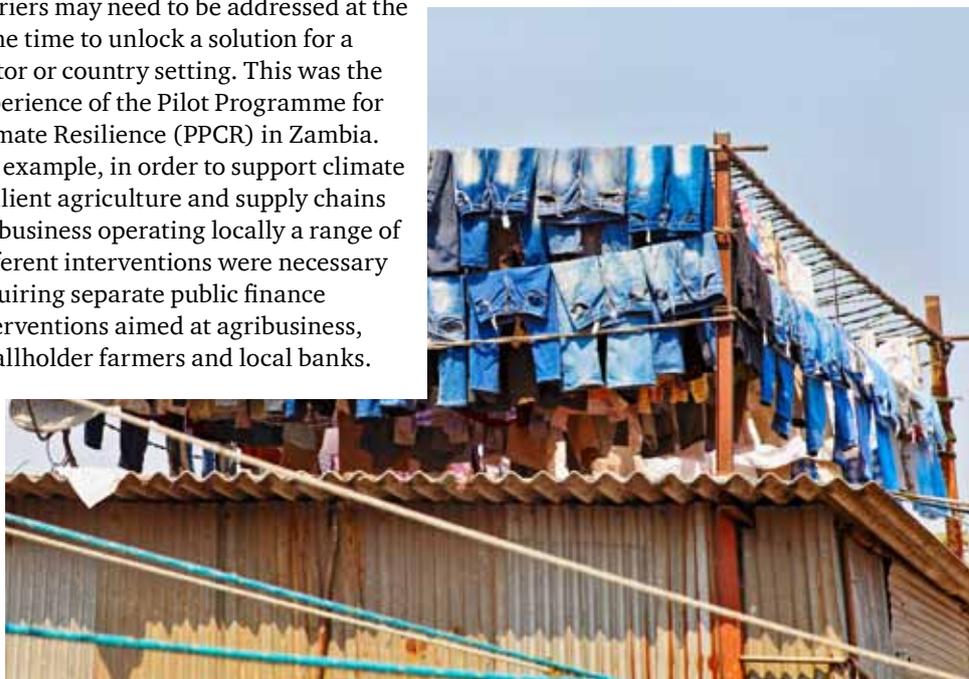
can also be difficult to attain without collaboration, for example a large brewer may be interested in a water stewardship investment a given region but may not be prepared to invest in a complex and costly water resource model if one is unavailable.

To develop new resilience-related products and services, it was observed that different private sector actors had different needs in terms of the support they required, or the gaps or barriers that were preventing them fulfilling a resilience related opportunity. Barriers exist to develop and commercialise new resilience related products and services in emerging and developing markets. Most significantly, strong access barriers exist that are specific to a local economy further supporting more holistic but sector-focused market intervention. Market barriers include: inadequate import/export and corporate laws; weak incentives; dilapidated or underdeveloped public and financial infrastructure; underlying corruption; and security related constraints. There are also challenges in understanding and stimulating the demand profile of potential markets, for example due to low risk adversity and/or low purchasing power of the local population.

In some circumstances a range of barriers may need to be addressed at the same time to unlock a solution for a sector or country setting. This was the experience of the Pilot Programme for Climate Resilience (PPCR) in Zambia. For example, in order to support climate resilient agriculture and supply chains for business operating locally a range of different interventions were necessary requiring separate public finance interventions aimed at agribusiness, smallholder farmers and local banks.

These included provision concessional loans and/or credit guarantees to local banks to underpin the development of smallholder asset lending products for procurement of necessary equipment and inputs (e.g. drip irrigation), provision of technical assistance to farmers to ensure successful adoption of the system, and off-take agreements with local agro-processors to encourage supply of the recommended crop.

Harnessed in the right way, MNCs can act as drivers and facilitators of change. MNCs act as major buyers of raw materials or processed outputs and are an important export channel for apparel and textiles in Bangladesh, extractives in Mozambique and food commodities in Pakistan. They also bring strong market influence and standards for contract producers. MNCs operating at sector level within countries, sharing knowledge from others and forming exemplar codes of practice, planning and standards. However, MNCs' buying power and the commercial pressures on their international operations, plus local dilution of transparency and traceability, means that they can be an indirect driver of exploitation and downward pricing. Many MNCs consider managing these risks to be a major challenge in some of these markets.



Private sector appetite for investment is influenced by regulatory controls, financial returns and investment risk. The private sector must be ‘enabled’ through policy, but also gain access to a credible and strong pipeline of bankable and high quality investments. This is a major challenge for emergent resilience projects and initiatives where innovation and transition challenges are added to the investment barriers that hamper the growth of many developing markets. Furthermore, investors are unlikely to make investment decisions without evidence of successful demonstration projects which are often a pre-requisite for investors to make an informed decision on an investment opportunity.

Table 3 below summarises the needs of different types of private sector actor. This analysis is based on linking a wide range of barriers to three critical private sector entry points: operations, value chain and product and service development.

Table 3: Needs assessment by type of private sector actor

	Direct operations	Value chain cooperation	Development of products and services
Small and Medium Enterprises	<ul style="list-style-type: none"> • Risk information and capacity building for risk management. • Technology transfer (e.g. intermediate crop technologies or mobile data). • Access to affordable credit and risk transfer products. • Regulatory frameworks for micro finance/insurance. 	<ul style="list-style-type: none"> • Awareness building of vulnerable communities and customers. • Collaboration platforms. • Methods and tools for risk management. 	<ul style="list-style-type: none"> • Market information. • Business plan support. • Investment support advice. • Access to markets.
National Companies	<ul style="list-style-type: none"> • Peer collaboration. • Sector development support. • Technology transfer (e.g. early warning systems and infrastructure solutions). • Risk information and vulnerability data. 	<ul style="list-style-type: none"> • Risk information. • Capacity building for risk management. • Financial de-risking for lenders. • Methods and tools for risk management. • Collaboration platforms at sector and government levels. • Information sharing and management systems. 	<ul style="list-style-type: none"> • Innovation incentives. • Legal and intellectual property support for innovation and product development. • Investment support and readiness.
Multi-National Corporations	<ul style="list-style-type: none"> • Risk information. • Methods and tools risk management. 	<ul style="list-style-type: none"> • Risk information. • Knowledge and collaboration platforms to support good practice and sector knowledge. 	<ul style="list-style-type: none"> • Improved market entry conditions. • Innovation incentives. • Financial de-risking.
Private investors	<ul style="list-style-type: none"> • Detailed risk information. 	<ul style="list-style-type: none"> • Awareness and knowledge. • Detailed risk information. • Business case related information. • Risk assessment methods and tools. 	<ul style="list-style-type: none"> • Detailed risk information. • De-risking support to lending and investment. • Policy structures, consistency and incentives.

To effect real change, public sector action needs to better understand where to focus its support to the private sector including the needs of small and medium sized enterprises (including Micro-SMEs), national companies, multi-national companies and private investors. For each of these actors, three main intervention points can be identified:

- protection of direct operations and workforce through risk management
- sector value chains (or portfolio in the case of investors)

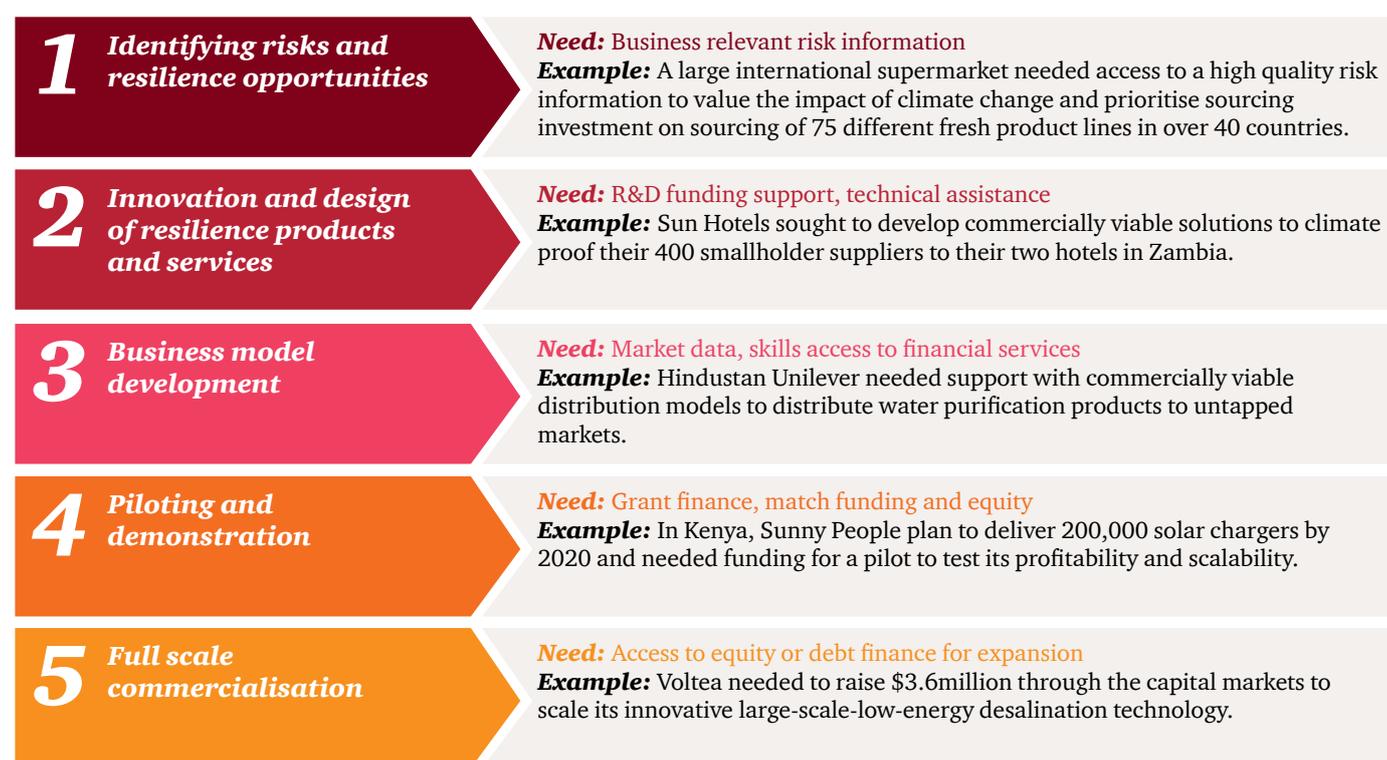
- development of new products and services that serve resilience goals.

In particular, there is a major role that the public sector can play in supporting the development of new products and service that help others to build resilience. Central to achieving this is understanding how market and commercial development processes work for goods and services and what the needs are of individual actors involved in this. This requires a more holistic ‘market -based’ approach. Figure 2 offers a simplified five-stage development

pathway for introducing a new resilience action, product or service.

Private sector organisations experience different needs at each stage depending on the context, their internal capacity and surrounding enabling environment. It is important to understand whether relevant and timely support is currently being provided to businesses across all or just some of these stages. However, if one or some of these needs are not met or there is a lack of continuity between stages, then a business may fail to progress or scale up its initiative.

Figure 2: Key intervention points for product and service commercialisation



Review of existing resilience initiatives and lessons learned

A cohort of 10 existing (or emerging) publically financed resilience initiatives have been comprehensively reviewed for their effectiveness at engaging the private sector in building resilience.

There are few others to draw from, so this review is supported by wider analysis of a further 30 private sector development funds and programmes from which lessons can be learned and transferred.

Tables 4 and 5 summarise the initiatives reviewed and are followed by a summary of observations, findings and lessons learned.

Table 4: Summary of resilience related funds and programmes critically reviewed by this work

Name	Financial scale (USD)		Scope			Focus			
	Pledged	Disbursed	Global	Regional	National	BOP	Gender	Key hazards	Key economic sectors
Adaptation Fund	341m	54m	●			●		●	○
The Least Developed Countries Fund	605m	133m	●			●			○
The Special Climate Change Fund	295m	111m	●			○		○	○
Pilot Programme for Climate Resilience	1.2bn	15m	●			●			○
Global Facility for Disaster Reduction and Recovery	278m	103m	●			○			○
Climate and Development Knowledge Network	72m	44m		●	●	○	○		●
Caribbean Catastrophe Risk Insurance Facility	68m	32m		●				●	
IFAD's Adaptation for Smallholder Agriculture Programme	250m	5m	●			●	○		●
Africa Enterprise Challenge Fund) REACT windows	35m	25m		●	●	○			○
IADB's PROADAPT Facility	11.9m	-		●		●	○		

Name	Implementing entity/recipient of support					Instruments			
	Multilateral implementing entity	National implementing entity	National government	Local service provider (NGO, private sector, CBO)	Private sector	Grants	Technical assistance	Loans	Risk reduction and transfer
Adaptation Fund	●	●	○	○		●			
The Least Developed Countries Fund	●		○	○		●	●		
The Special Climate Change Fund	●		○	○		●	●		
Pilot Programme for Climate Resilience	●		●	○	○	●	●	○	
Global Facility for Disaster Reduction and Recovery	●		○			●	●		
Climate and Development Knowledge Network			●	●	○	●	●		
Caribbean Catastrophe Risk Insurance Facility			●		○				●
IFAD's Adaptation for Smallholder Agriculture Programme	●		○		○	●	●		
IADB's PROADAPT Facility					●	●		○	

● Major/direct ○ Minor/indirect

Table 5: Summary of private sector development funds reviewed to establish lessons learned

Development challenge	Barriers addressed							
	Commercial risks	Technology and product risk	Policy environment	Capacity and skills	Corporate maturity	Collaboration and partnership	Information and knowledge	Global
GAVI's Advance Market Commitment	●	●						●
Harnessing non-state actors for better health for the poor Health Enterprise Fund	●			○				
DFID Construction Ideas Fund	●		●	●		●		
Emerging Africa Infrastructure Fund	●			●			●	
Private Infrastructure Development Group	●		●	●				
Public-Private Sector Infrastructure Advisory Facility			●	○		●	○	●
DFID Food Retail Industry Challenge Fund	●			○		●	●	
Global Agricultural and Food Security Programme	●	●						
Africa Enterprise Challenge Fund	●	○				●		
Energy and Environment Partnership Programme with Southern and East Africa	●							
Green Africa Power	●	○	●			●	○	
EBRD Sustainable Energy Initiative	●		○	●				
DFID Girls Education Challenge	○					●		
AfDB African Women in Business Initiative	○		○	●			●	
DFID Business Innovation Facility	○	●		●		●	●	
SIDA Innovations Against Poverty	●	●		○		●		●
UNDP African Facility for Inclusive Markets	○		●	●		●	●	
Fund for Africa Private Sector Assistance	○	●	●	●		●		
Seed Capital Assistance Facility	●							
Business Call to Action				●		○	○	●
Private Sector Investment Programme	●							●
Grassroots Business Fund	●			●				
Business Linkages Challenge Fund	○			○		●		
USAID Development Credit Agency	●	●		●				●
African Guarantee Fund for SMEs	○	●		●				
Financial Deepening Challenge Fund		●	●	●				
USAID Development Innovation Ventures	●	●						

● Major/direct ○ Minor/indirect ● Targeted commercial development support

Critical analysis of existing resilience instruments

Very few current resilience initiatives are designed for and effectively target the private sector. Overall there remains a shortfall in the penetration of Public Private Partnerships (PPPs) and concrete action by business as a result of public intervention. A number of programmes support governments in developing their policy and regulatory frameworks for resilience, but they often lack the critical focus and private sector engagement to ensure these reforms create an enabling environment for business investment and growth. Others are retrospectively adapted to try and involve the private sector in some way.

Resilience programmes have predominantly been focused around physical themes (e.g. coastal development and water management) rather than key sectors to which business can relate. Businesses are often focused on their operations, peers, sectors and markets. It is therefore necessary to communicate through key economic sector channels, and their specific resilience challenges and opportunities to improve uptake. The agricultural sector is perhaps the only exception. The ICT, financial services and manufacturing sectors may be critical to the economic growth and employment in certain developing countries; however, they have not yet been the focus of resilience initiatives.



The insurance sector is most frequently and successfully engaged by targeted initiatives, including pilot projects for micro-insurance, index-insurance schemes, regional or country-based public-private catastrophe risk pools (e.g. Caribbean Catastrophe Risk Insurance Facility (CCRIF), Turkey Catastrophe Insurance Pool (TCIP)), and Alternative Risk Transfer products (e.g. IFC-Swiss Re Global Index Insurance Facility; GFDRR Malawi weather derivatives, Mexico Catastrophe Bond). The agriculture sector receives a valid but disproportional level of support compared to other sectors including the built environment and manufacturing.

Otherwise, projects that have engaged the private sector have arisen on an opportunistic rather than a targeted basis and are unlikely to lead to transformative resilience. The inability to cluster or link these projects limits learning and impact, and suggests that this approach will not lead to transformational change. Some initiatives, such as the PPCR, are now exploring this issue and learning about how to make progress with the private sector being more involved in its work.

The language and style of outreach and communication is not tailored for a business audience. Terms used by the public sector (e.g. “adaptation”, “DRM”, “instruments”, and “technical assistance”) are unfamiliar to the private sector. Raising awareness of the business case for action and type of public support available through effective language and communication is critical. Enterprise risk and resilience, which can be measured and valued in relation to the specific operations of a company, are more recognisable.

There is a lack of practical support for the private sector that provides continuous support through the value chain or growth cycle (including innovation, start-up and commercialisation stages). Early stage R&D and innovation support is significantly under resourced, preventing new ideas from reaching the market. There is a lack of support to research, incentivise, incubate and scale new ideas. This means that a pipeline of strong and well-supported innovations is not being generated. For example, DFID’s Business Innovation Facility programme supports SMEs with business model development (stage 3 in figure 2) for climate smart agriculture practices in a range of countries, but following this there is limited support for the next challenge of demonstrating and scaling these business models, or addressing the market level constraints to growth (particularly those relevant to resilience).

Opportunities for support are often limited to MNCs and other large players who have the capacity to engage with the programme and take on sizeable concessional financing arrangements. The demands on initiatives to minimise transaction costs and meet due diligence requirements makes it hard for national companies and MSMEs to be engaged through these channels. The leaning towards the use of concessional loans when a private actor is a potential recipient (e.g. PPCR, AECF) also limits uptake overall and in particular by SMEs. Initiatives targeted at building the resilience of SMEs and smaller national companies as the most vulnerable private sector group are lacking outside of the agriculture sector.

Finally, it was clear through consultation with individual resilience programme designers and managers that the private sector is not usually included in the design and development of new initiatives, policies and regulations. If it is involved, it is often only as an afterthought or in a capacity in which it can observe rather than advise. If engaged, it will help to properly reflect its needs in the design of new supporting initiatives, policies and regulations.

Learning from wider experience of private sector development

The evidence base for which public sector interventions work best in supporting and catalysing private sector engagement and investment is currently limited and few publically funded initiatives exist (or are being designed) that target private sector action on resilience as a core objective. This is a critical issue as many adaptation and resilience responses will need the private sector in order to reach scale. This is the same for broader technology, finance and capacity building programmes.

But can we learn from other public support to private sector development? The table below summarises how gaps in existing or planned resilience initiatives could be filled with models developed for other private sector initiatives.

Table 6: Summary of lessons learned from existing private sector initiatives

Issues in the current resilience initiatives landscape	How can this issue be addressed?	Lessons learned from private sector development initiatives
1. Limited planned or strategic engagement with the private sector	Initiatives are designed to specifically target private sector entities as part of their strategic objectives. Businesses are also engaged in the design process.	Nearly all private sector development initiatives directly engage businesses on a project level. Small scale initiatives targeting businesses on specific projects are needed to complement the larger resilience initiatives currently in place. Initiatives need to be specific (whether through focusing on a key issue, sector or instrument).
2. Projects engaging the private sector emerging on an opportunistic and ad hoc basis	Greater focus and targeting of projects at a regional or country level and in key sectors to create a clustering effect which could lead to transformational change.	Examples used in the private sector development landscape that could be replicated or adapted for targeting resilience at the country or sector level include: <ul style="list-style-type: none"> country focused programmes such as the Ghana Business Linkages Challenge Fund, HANSHEP Health Enterprise Fund, AECF (Zimbabwe, Tanzania, South Sudan funding windows) sector focused programmes (e.g. Construction Ideas Fund). In certain instances, resilience could be integrated as a planned objective; for example, in the AECF windows that already include a number of agriculture projects that have resilience co-benefits. Including private sector resilience as an aim within an initiative such as CIF could be effective but conversely could make the initiative perhaps too specific and limiting.
3. Limited focus on the different models needed to engage various private sector actors Minimal opportunities available for national companies and SMEs to access support	Targeted initiatives that recognise and address the different barriers and drivers for MSMEs, NCs and MNCs.	Examples used in the private sector development landscape that could be replicated or adapted for targeting resilience at specific scales of private sector actors, particularly SMEs, include: <ul style="list-style-type: none"> B2B partnership initiatives that create access to markets for SMEs (e.g. FRICH, BLCF). Resilience objectives could be included to ensure that MNCs incorporate capacity building and training on climate smart agriculture techniques as part of their support to smallholders guarantee funds that offer credit lines to SMEs e.g. USAID DCA, African Guarantee Fund. Resilience objectives could be included to ensure that a bank reaches a certain portfolio percentage of 'resilient' projects. National companies are the most overlooked scale of private sector actor. They are viewed as having reasonable ability to finance action, however, they require other support in the form of information and opportunities for knowledge sharing and collaboration.

Table 6: Summary of lessons learned from existing private sector initiatives (continued)

Issues in the current resilience initiatives landscape	How can this issue be addressed?	Lessons learned from private sector development initiatives
4. Limited focus on key economic sectors with the exception of agriculture	Targeted initiatives that intervene along value chains in key economic sectors to address the bottlenecks and barriers that private sector actors working in that sector face.	<p>Examples used in the private sector development landscape that could be replicated or adapted for targeting resilience along the value chain, include:</p> <ul style="list-style-type: none"> sector focused programmes (e.g. Construction Ideas Fund). For example, a window focused on resilient building design and construction materials could be incorporated into the initiative guarantee funds could provide access to credit for a wider range of SMEs along the value chain in sectors other than agriculture.
5. Direct engagement of the private sector is sporadic and there is a lack of connectivity between these limited number of initiatives	Targeted initiatives that link up to provide support to private sector actors along the product/project development process (i.e. from initial risk/opportunity identification through to full scale commercialisation).	<p>There are currently limited initiatives supporting businesses in the initial risk/opportunity identification process. There is a concern that opportunities and innovations could be overlooked without support at this stage.</p> <p>Examples used in the private sector development landscape that could be replicated or adapted for targeting resilience along the project/product development process, include:</p> <ul style="list-style-type: none"> PIDG and its component facilities that address specific barriers along the project development process using a suite of instruments the informal relationship between PPIAF and PIDG. This relationship can bring about complementary action at the project level and in the national enabling environment to deliver outcomes a BIF style technical assistance facility that could support the development of innovative business models to create a strong pipeline for the AECF REACT windows.
6. Targeting of instruments, selection criteria for projects and marketing of opportunities to the private sector (for initiatives that directly engage businesses) need fine-tuning	Using lessons learned from engaging the private sector in broader development issues to ensure that support is suitably targeted at the private sector actors it is trying to engage.	<p>In designing initiatives, it is important to understand whether the engagement model and instruments used are effectively targeting the entities they are aiming to support (e.g. marginalised businesses).</p> <p>Knowledge hubs and well developed local networks in-country are important to raise awareness amongst businesses of the funding opportunities and support available.</p>

How to support the private sector in building resilience

We are presented with an immediate opportunity: to further build understanding and engagement between the public and private sectors, and to make investment in disaster and climate resilience more transparent, attractive and feasible. This will, in turn, unlock new markets and investment.

It is clear that unlike the common metric of ‘carbon’ in the field of climate change mitigation; there is no one-size-fits-all approach to enhancing private sector investment in resilience.¹⁰ Business will need different types of support depending on their sector, scale, their current level of risk management maturity and whether the intended activity is within or beyond their operations (the latter often needs greater incentive). The design of new approaches should remain sensitive to private sector needs including flexibility and non-bureaucratic processes.

Public finance solutions will have to be governed by the normal procedures of quality, value for money, safeguards and transparency. However, private sector engagement also needs to be commercially appropriate including careful management of qualification criteria, administrative burden, transaction costs, M&E demands, and timings. Positive engagement with the private sector can be hampered by language, culture and asymmetries of procedure.

Deep engagement at the country level is also needed to achieve broad transformational change. Some of the existing initiatives that have had success in building resilience have done so through focusing on priority countries (e.g. mainstreaming climate change into the national policy and planning process).



Table 7 below presents a range of different methods that development partners have used to address public policy and capacity barriers, develop the enabling environment and improve business know-how.

Table 7: Examples of the principal public finance delivery options

Group	Delivery option	Description	Example(s)
Financial support	Challenge fund.	An innovation accelerator offering match or grant funding for new business ideas.	Innovations against Poverty (IAP). Africa Enterprise Challenge Fund (AECF). Construction Ideas Fund. Food Retail Industry Challenge Fund (FRICH). USAID Development Innovation Ventures (DIV).
	Impact investment fund.	Investment funds seeking social outcomes and if necessary accepting lower returns.	Over 250 active funds including: <ul style="list-style-type: none"> • Global Impact Investing Network • The Calvert Foundation • Leapfrog Investments • National Community Investment Fund.
	Guarantee facility.	Multi country/sector facility with focused loan or policy guarantee products that reduce credit risk for local financiers.	Multilateral Investment Guarantee Agency (MIGA). ADB’s Political Risk Guarantee (PRG). Haiti Post-Disaster Partial Credit Guarantee Program.
	Investment funds (Infrastructure/corporate and project).	Infrastructure investment, private equity and project finance on a direct or public-private co-financing basis.	Private Infrastructure Development Group (PIDG). Climate Public Private Partnership (CP3). Emerging Africa Infrastructure Fund (EAIF) Sustainable Energy initiative (EBRD).

¹⁰ Clearly climate change mitigation does require other forms of support however the calculation of emissions reductions lends itself to a commoditised and monetised approach which is attractive to business and investors.

Table 7: Examples of the principal public finance delivery options (continued)

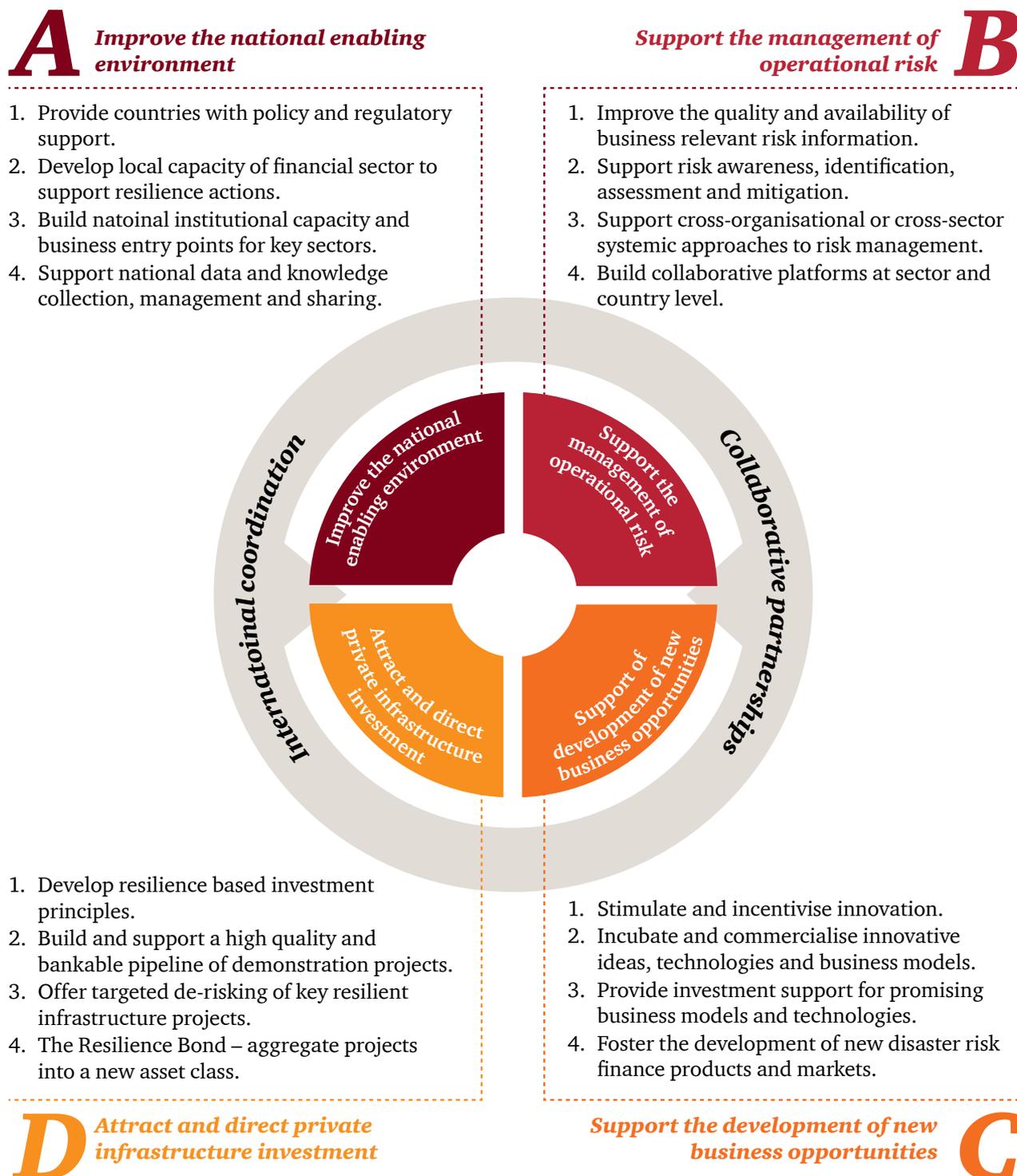
Group	Delivery option	Description	Example(s)
Technical assistance	Multi-donor trust/global fund.	An internationally administered fund structure with programme and project activities in a range of locations.	Sudan Multi-Donor Trust Funds. Trust Fund for East Timor. Technical Assistance Trust Fund. Afghanistan Reconstruction Trust Fund.
	Knowledge management facility/platform.	A centrally hosted digitally hosted entity with a mandate for acquiring and disseminating knowledge products. Can be embedded.	World Cities Network. ADB Climate Change Knowledge Hub. Inclusive business Practitioner Hub.
	Investment support facility.	Commercial and technical assistance directed towards investment readiness for low capacity private sector entities.	Microfinance Investment Support Facility for Afghanistan (MISFA). IFAD Rural Microenterprise Assets Programme.
	Private sector/market development facility.	Technical assistance approach supporting business model and plan development.	Innovations Against Poverty. Business Innovation Facility.
Partnership approaches	Public private partnership models.	Long-term public-private contracts to provide public services and spread investment and risk. Can be large or small scale.	Public-Private Infrastructure Advisory Facility (PPIAF). Various construction and asset management projects in English speaking countries.
	Communities of practice.	Informal and voluntary groups of professionals and stakeholders with a common interest linking contact, tools, methods and knowledge.	AfricaAdapt. Asian Cities Climate Change Resilience Network. Ecosystems and Livelihoods Adaptation Network. Argentina's Program for Local Adaptation. Climate Community of Practice in the Gulf of Mexico.
	Development partnerships and sector alliances.	Usually short to medium term projects involving a private sector company and a local government or donor sponsored implementing entity.	Unilever sources tea from many hundreds of thousands of smallholder farmers. The Lipton brand set up a public-private partnership project in 2006 with the Kenya Tea Development Agency including Rainforest Alliance, Oxfam and others. Unilever and the Sustainable Trade Initiative (IDH) have subsequently agreed to fund a further €4 million over the next two years.

A framework for public-private action

A framework of recommendations has been developed to provide a structure for a wide range of options for accelerating action and investment from the private sector on building disaster and climate resilience. They are relevant to all stakeholders that can play a role in supporting action on this issue, including donors,

national governments, private sector actors and NGOs. The framework is organised into four operational approaches. This helps to navigate the complex range of challenges and potential public sector supported interventions.

Figure 3: A framework for public-private action – four operational approaches



Operational approach A: Improve the business enabling environment

Recommendation	Description
A1: Provide countries with policy and regulatory support	Government has an important role to play in creating a coherent policy and regulatory context in which private sector resilience solutions can be implemented. Engagement of the private sector should be prioritised, along with key risks and sectors which will impact resilience activities. In practice, policy and regulatory support could include issues like improving the enforcement of building codes in the construction sector, land tenure, water rights, or intellectual property reform, and improving the regulatory environment for small businesses entrepreneurs or foreign investors.
A2: Develop local capacity of financial sector to support resilience actions	Access to finance is a common constraint for SMEs and other small scale businesses to adopt resilience technologies and practices. The bottom of the pyramid is often excluded from financial services, as they are not seen as a viable market. There is a need to support affordable lending and resilience-incentivising financial products. Public finance can offer support to the risk exposure of banks, as well as provide expertise and improved understanding. It may be possible to work through IFIs, national development banks and credit support agencies to deliver support. However, there are also social finance partners including microfinance institutions and businesses already active on this issue, but without the financial depth to reach all of those businesses and smallholders in need.
A3: Build national institutional capacity and business entry points for key sectors	In addition to supporting technical tasks and programmes, there is a need to support government institutions to further develop their capability, skills and resources to engage business in policy making, planning and implementation at both country and sector levels. In particular, engagement with business at sector level (i.e. through line Ministry or regulatory channel) to share information, action and resources needs to become more widespread and of a higher quality. Efforts to increase opportunities for public-private partnership should be increased and specific capabilities of the private sector should be leveraged in order to support disaster risk management and adaptation and preparedness planning.
A4: Support national risk data and knowledge collection, management and sharing	Access to national risk data, tools and knowledge around resilience for business users is currently limited and requires improvement. Market-relevant data includes detailed information on hazards, losses and exposures, and is sometimes subject to access restrictions and excessive pricing limiting uptake by businesses. Public sector support can help create greater access to existing data, improve data availability, quality and packaging, and enable data sharing and dissemination opportunities. Public sector support in the form of investment for data ventures and technical assistance would promote greater access to data and improvements in data collection and quality. Improved national risk data will also support the development of local insurance markets, with the co-benefit of promoting risk-reducing actions.



Operational approach B: Support better business operational risk management

Recommendation	Description
B1: Improved the quality and availability of business relevant risk information	<p>The availability of high quality risk information relevant to businesses remains a major challenge and barrier to action. Businesses require detailed information at a resolution appropriate to them – (e.g. showing potential effects on their assets and supply chains). Tools and platforms are available, which support country level risk data (e.g. UNISDR’s GAR data platform, World Bank Climate Change Knowledge Portal), however, this data is often not in a usable format for business to use (e.g. resolution is too low, inconsistent or patchy reporting/metrics across geographies and hazards, outputs are climate variables rather than risk metrics). Detail should be of a level so that risks can be monetised and decision making informed.</p>
B2: Support risk awareness, identification, assessment and mitigation	<p>Effective management of risks, particularly for developing country national businesses and SMEs must be improved in order to reduce the widespread vulnerability to risk. Support is required for disaster and climate change risks to be meaningfully incorporated into wider financial, operational and strategic risk management processes. Areas of support include:</p> <ul style="list-style-type: none"> • risk identification and screening • risk assessment and impact evaluation • risk mitigation evaluation, planning and implementation • risk monitoring, reporting and communication. <p>Public support needs to raise the awareness of risk management, demonstrate the business case for it and support implementation. This requires technical assistance for individual companies facilitated by knowledge tools. Different scales and types of business will require different formats of support, tailored to be relevant and pragmatic.</p>
B3: Support cross-organisational or cross-sector approaches to risk management	<p>There are opportunities to manage systemic risks at sector or geographical levels. Systemic issues are characterised by multiple barriers, challenges and stakeholders. To do this effectively, more than one intervention is required using a ‘market systems’ approach that addresses multiple barriers. For example, to connect smallholders with new markets you may need:</p> <ul style="list-style-type: none"> • market analysis to identify the commercial opportunity • accessibility of a new resilient seed and/or technology in the local market • short-term affordable credit arrangements to allow the farmer to purchase the new inputs • agricultural extension services embedded with resilience capacity building • infrastructure to collect, store and transfer the product to market • a payment model, infrastructure and allocation system that is accessible, reliable, cheap and fair. <p>Public support can help to identify and support these systemic approaches (with focused intervention) at sector and local levels. These solutions have the potential to set new models for sector development and replicate these to resolve similar issues in multiple countries and sectors. As a result they offer high transformative potential.</p>
B4: Build collaborative platforms for business resilience at sector and country levels	<p>The private sector can be most effectively engaged at sector and country level. Private sector actors are interested in value chain partnerships, public-private partnerships including at the local level and also sector alliances. Coordinated action to tackle common market-wide risks can enable solutions at scale. Relevant examples include the Tropical Forest Alliance and the Better Cotton Initiative. Support for these and similar platforms and initiatives at sector and country level can foster collaborative targets, action, advocacy and engagement on shared systemic resilience challenges.</p>

Operational approach C:

Support the development of innovative new business opportunities for resilience

Coherent and continuous support is required to take new products and services from innovative ideas through to commercial products and services available at scale. There is currently very little support offered to commercialise new resilience innovations in developing country markets. Small companies in particular can struggle to access finance to develop new market segments, grow their businesses or identify partners to help bring their innovations to market. There is a need to provide sequenced public support at each of the five commercialisation stages:

1. identifying risks and resilience opportunities
2. innovation and design of resilience products and services
3. business model development
4. piloting and demonstration
5. full scale commercialisation and investment.

It should be noted that continuity of support through these stages is the ultimate objective of these recommendations and is currently missing, which hampers innovation at scale.

Recommendation	Description
C1: Stimulate innovation in new business models, products and services for resilience (stages 1, 2 and 3)	<p>Early stage business development support of new resilience ideas is needed to promote innovation at scale. Public support should seek new ways to incentivise and move on new private sector led R&D and technological resilience solutions.</p> <p>Partnerships, at both local and international levels, have a strong potential to unlock transformative and innovative solutions. Blending different forms of expertise can deliver particular solutions beyond that achievable by the current business model.</p> <p>Innovation funds and prizes offering technical assistance and/or grants are suggested in order to promote and support private sector innovation, leveraging competition to generate R&D efforts.</p>
C2: Incubate business models and support piloting and demonstration projects (stages 3 and 4)	<p>Organisations with promising ideas often need initial support in order to implement pilots and demonstrate a track record and market feasibility, giving them the ability to attract further investment. Key areas of support are business model development, demonstration and testing. While technical assistance plays a central role, financial support in the form of matched grants or concessional loans is also required.</p>
C3: Provide investment support for tested business models, products and services to attract longer-term/ scaled up investment (stage 5)	<p>Support is needed for scaled-up and longer-term investment, while technical support is maintained on fund-raising and deals structuring as well as financial de-risking instruments. Investor risk is high for new ideas first entering a market; hence support for commercialisation may protect financially vulnerable enterprises from having to sell their ideas when this is not desirable. Businesses may also be helped to explore new forms of investment, including through partnering, micro-franchising and matching to collaborators and investors, as well as less conventional forms of funding such as online and mobile forms of crowdsourcing. Public intervention may also take the form of joint public-private ventures, or assistance to private enterprises in their dealings and relationships with investors. Technical assistance support around investment readiness, deal structuring and syndication is required, in addition to the provision of other financial interventions, including direct equity or concessional debt support and/or risk guarantees.</p>
C4: Foster the development of new disaster risk finance products and markets	<p>Risk transfer mechanisms (e.g. insurance, reinsurance, insurance pools, catastrophe bonds, micro-insurance and weather derivatives) have an important role to play in reducing economic interruptions to growth due to natural disasters. To scale up the provision of disaster risk finance products, governments and development partners will need to intervene more actively by playing important enabling and facilitating roles to stimulate local markets, including support for: national weather services, infrastructure, data systems and research; creating an enabling legal and regulatory environment; supporting risk pools; providing technical assistance, training, and product development support to the insurance value chain; supporting marketing and distribution channels for insurance particularly in rural areas; educating communities and companies about the use of insurance; partnering with international (re)insurers bringing in the necessary international skills, capital and capacity to kick-start local market activity.</p>

Operational approach D: Attract and direct private infrastructure investment to build resilience

Recommendation	Description
D1: Develop resilience based infrastructure investment principles	<p>Shared economic and investment principles embedding resilience are needed to underlie capital infrastructure project finance. Government, the private sector and the IFI/DFI community should coordinate to develop these and roll-out these new principles, similar to the adoption of the Equator-Principles. Not only would resilience principles help to ensure that projects with primary or secondary resilience benefits are increasingly attractive, but they would also define minimum project finance standards. The public sector should lead a process to develop these principles, as well as recruiting organisations to sign up to them. In addition to embedding resilience principles and criteria into mainstream project feasibility and due diligence processes, qualifying resilience projects could also generate forms of adaptation or resilience ‘credit’ (akin to Certified Emissions Reductions or CERs) that improve the project economics and viability acting as an incentive to investors. Although worthy of further research and consideration, the technical challenges in designing and governing such a payment for performance system for resilience are likely to be extremely challenging.</p>
D2: Build and support a high quality and bankable pipeline of demonstration resilient infrastructure projects	<p>Focusing on selected countries and sectors, public support could be administered to develop a portfolio of investment grade infrastructure projects that target resilience outcomes.</p> <p>Current development funds supporting infrastructure investment lack a specific focus on resilience. There is an opportunity to provide support at the country level that leverages local private sector networks to identify potential projects with resilience benefits and then supports their development and investment readiness. Support could be provided to address issues such as:</p> <ul style="list-style-type: none"> • market assessment • technical feasibility (including risk and resilience assessment) • financial structuring • investor relations and syndication of finance. <p>Targeted support of this nature could build a diverse portfolio of potential investments that are fine-tuned to maximise resilience benefits and bankability (possibly in line with the principles set out in recommendation D1). It would support the investment and deals process from the project developer’s perspective, and if necessary provide such as forms of limited risk sharing (e.g. risk guarantees, mezzanine debt) to facilitate the deal. A project pipeline of this nature could be financed through existing IFI/DFI channels, bilateral infrastructure initiatives such as PIDG, CP3 and Power Africa, and ultimately through the Green Climate Fund. The aggregated assets could also be suitable for a form of bond issue. These two opportunities are separately addressed in D3 and D4 below.</p>
D3: Offer targeted de-risking of key resilient infrastructure projects	<p>Public sector support can de-risk marginal resilience projects making them more attractive to the capital markets. De-risking investments is possible through financial instruments and public-private partnerships.</p> <p>Major infrastructure projects are increasingly developed as PPPs in which a variable proportion of the investment and risk is carried by the public sector and by private investors. PPPs can be structured to specifically address the management of disaster and climate change risk. Certain perils can be mitigated in design, some are handled by insurance, but others may need to be swapped or transferred as part of the PPP contract. The disaster related layer of risk may, for example, be transferred to government in return for extended performance guarantees construction times or service levels.</p> <p>Financial de-risking instruments would involve an intermediary such as an IFI or DFI that would provide a form of risk guarantee to the project lender. This guarantee could take the form of a price guarantee or a local currency guarantee for example. Alternatively an infrastructure development facility would take early stage project risk (i.e. the costs of designing, planning and bringing a project to financial close).</p> <p>Public support would establish infrastructure development funds and resources to carry out the above functions. The focus on these funds and resources would be resilient infrastructure projects in sensitive sectors (e.g. water, energy and agriculture).</p>

Recommendation	Description
<p>D4: The Resilience Bond – Aggregate projects into new asset class</p>	<p>The bond market is attracting growing interest as a source of debt capital to finance more sustainable infrastructure solutions. Bonds are particularly suited for providing sources of capital to finance long-term infrastructure projects (i.e. 10+ years). The extra upfront investments tend to be balanced by much lower operating costs, notably in the building, energy, industrial and transport sectors. These sectors are targeted because revenue streams are generally predictable and stable.</p> <p>Climate change bonds, currently valued at over USD 350 billion¹¹ have been issued by corporations, financial institutions, municipalities, state-backed entities and project related special purpose vehicles. The concept of a resilience bond would be an aggregation of projects that meet minimum standards in terms of their contribution to resilience goals. They might include built environment projects, green infrastructure and forestry bonds, water and defensive infrastructure.</p> <p>Public support would be required to help aggregate and potentially issue the bonds. This aggregation would allow for diversity of investments blending some lower yielding assets with higher yielding projects and income sources. A second function would be for the public sector to provide forms of risk mitigation to increase the attractiveness to investors. It is recommended that the feasibility of resilience bonds be examined in more detail including the role of concessional finance in improving their attractiveness and how project (and possibly corporate) aggregation could work.</p>

Floodgate opening to release flood waters



¹¹ Climate Bonds Initiative (2013). Bonds and Climate Change – the state of the market 2013.

Implementation: options for delivering these recommendations

Recognising that public resources are scarce, there are a range of options available to deliver some or all of the above operational approaches. Each option has benefits and drawbacks which need to be carefully considered in making decisions as to the most appropriate response and use of resources. Ranging from the 'business as usual' (BAU) or counterfactual scenario, to new country or sector programmes, to creating a new global resilience fund, the most appropriate course of action will depend on the ambition of the implementer(s), appetite for coordinated action between existing programmes and the availability of funding and other resources.

Our report findings underscore that the BAU approach is currently ineffective. This report does not recommend pursuing a 'business as usual' approach or creating a new global resilience fund. A new global fund architecture requires significant international coordination and political buy-in and is likely unachievable in the short to medium-term when scaled up action is essential (i.e. at least the next three to five years). The idea of a long-term global fund is also politically questionable in terms of its alignment with the emerging Green Climate Fund (GCF) architecture.

We therefore focus on three potentially viable options for approaches that offer pragmatic, realistic hybrid approaches. These options balance the need to act now with recognition of a realistic assessment of the scale of resources that are available to support this, and the need to support rather than compete with the emerging global architecture of the GCF:

- 1. Mainstreaming:** Modify existing programmes/initiatives (i.e. tailor or embed new initiatives within existing or related programmes).
- 2. Piloting and demonstration:** Establish a short-term pilot programme that tests new approaches in targeted countries or sectors with a focus on key 'gap' operational approaches (i.e. B: risk management and C: commercialisation support).
- 3. A new resilience programme/facility:** Create a multi-country multi-sector private sector resilience support facility ("A Resilient Markets Facility") supporting all recommended operational approaches (i.e. enabling environment, risk management, commercialisation and investment).

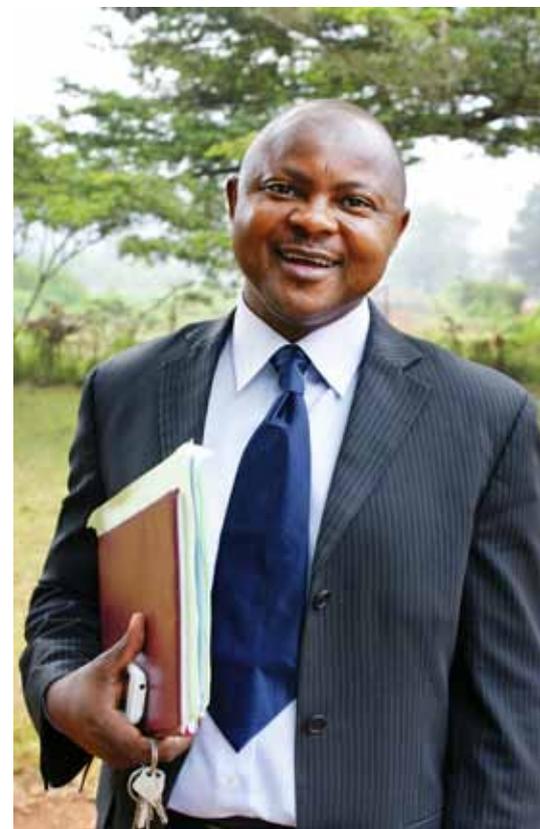
These options are not mutually exclusive and have been created to express the range of potential modalities by which public resources could be deployed. For example, existing donor-country partnerships and programmes could seek to mainstream support to private sector resilience building activities, but also run a pilot programme to demonstrate an individual operational approach through a new dedicated instrument.

The establishment of a new multi-country resilience facility represents a scaled approach, recognising the existing gap in the landscape of donor-support mechanisms for the private sector in this space.

It could act as a feeder for the GCF, developing a pipeline of investment-ready private sector resilience projects.

This will support the GCF's Private Sector Facility, once operational, which will need to engage with intermediaries to develop a pipeline of investment opportunities. Similar readiness-support mechanisms are being established to put in place a pipeline of private sector relevant REDD+ projects, which like adaptation is a more nascent area for public-private partnerships and investment than, for example, low carbon infrastructure and technologies.

In the section that follows, each option is presented and evaluated to display its features, benefits and constraints. Each shows a range of trade-offs between investment requirements, value-for money, time-frames, implementation risk and resilience impact.



Implementation options: summary factsheets

Option 1 – Mainstreaming

Summary

This approach involves the modification of current private sector donor support initiatives in an attempt to integrate and scale up resilience activities and outcomes. A degree of overlap exists between our recommendations and existing and planned resilience and private sector development initiatives. Existing and planned initiatives could theoretically deliver some of the recommendations within each of the operational approaches A, B, C and D.

If existing initiatives – both those targeted at resilience and those delivering on wider development goals – can be tailored, they could achieve at least some of the desired resilience outcomes. Some existing private sector development initiatives could be augmented to address our recommendations, in particular for supporting the development of new business opportunities (operational approach C) and attracting private infrastructure investment (operational approach D).

Others would however need considerable adjustment and modification, and substantial gaps would remain. This would involve a certain level of retrofitting and ad-hoc measures across programmes, sectors and geographies. In practice the opportunities to augment existing initiatives may be limited to a handful of programmes and geographical coverage and the targeting of priority issues may be compromised at the expense of core programme objectives and identity.

Key features of the approach

Implementation actions under this approach might include:

- increased delivery of private sector resilience outcomes such as improved risk management, asset resilience and security of supply. New forms of outreach, instruments, services and funding channelling through existing initiatives (e.g. AECF, BIF, PIDG, PPCR)
- donors conduct an appraisal and prioritisation process to consider their current portfolio and focus attention and additional financial and technical resources on key initiatives which could feasibly be modified to deliver new and better resilience outcomes whilst ensuring value for money
- integrate resilience goals into strategy, objectives and results frameworks for relevant projects and programmes where possible i.e. ‘mainstreaming’
- engage with and make adjustments to existing programmes to support one or more operational approaches/recommendations required to stimulate enhanced private sector action on resilience
- some sharing and cooperation may take place but no new facility/initiative would be created as a focal point for delivering scaled and coordinated private sector resilience related activities, learning and knowledge
- review potential interventions to wider donor supported initiatives/sectors and encourage collaboration to replicate and scale-up successful modifications (longer-term).

See full report for a summary of actions that could be taken to embed resilience activities into existing relevant initiatives, including where they can support each of the operational areas identified, and what assumptions or constraints should be addressed.

Structural components	<ul style="list-style-type: none">• Uses existing infrastructure of programmes and initiatives currently serving the private sector and/or resilience specifically.• Likely to be feasible in agriculture, land-use and infrastructure sectors.
Resource and funding needs	<ul style="list-style-type: none">• Medium cost burden (e.g. £2-5M) per initiative including:<ul style="list-style-type: none">– new and dedicated funding for resilience activities and capacity/skills– the frictional costs of attempting to shift focus of existing programmes.
Time period	<ul style="list-style-type: none">• Less than 1 year to design approach and secure funding.• A further 2 years to implement planned approaches and generate results.
Strengths	<ul style="list-style-type: none">• Lower cost and risk profile than creating something new.• Scales existing networks.• Useful for testing of certain approaches (within the constraints of existing programmes).• Avoids creating new initiatives in an increasingly crowded development landscape (note that there are very few resilience-focused initiatives).
Weaknesses	<ul style="list-style-type: none">• Limited evidence that this approach will successfully close the necessary gaps identified in this study including structured and continuous support to the development of new products and services.• Lack of impact and visibility for the private sector, including a dilution of messaging.• Piggy-backing of existing programmes masks the private sector resilience goals due to the identity of the existing initiative being conceived for a different purpose.• Scalable solutions will lack the infrastructure and learning mechanisms to support them.
Resilience impact	<ul style="list-style-type: none">• Incremental change in specific areas is likely to be the best reasonable outcome.• Geographically and sector constrained outcomes as per the remit of the existing initiative (and likely to achieve only partial overlap with vulnerability and resilience needs).
Value for money	<ul style="list-style-type: none">• Lower cost but with uncertain results.• Frictional issues in adapting existing mechanisms may prove politically and practically challenging.

Option 2 – Piloting and demonstration

Summary

This approach pilots a new ‘Business Resilience Facility’, limited to a select number of resilience challenges, sectors and/or countries. This programme of support would be highly targeted and could initially focus on two key gaps in existing landscape, namely the commercialisation of new products and services, and operational risk management support (operational approaches B and C).

Depending on the funding and resources available, such a newly established support programme could focus efforts on 3-5 countries with one or more ‘resilience-relevant’ sectors in each (consider relevance from both the business risk and opportunity perspective). The pilot programme would identify and take demonstration projects/innovations through to full commercialisation. Pilot mechanisms for sharing of results, best practice, lessons learned (success and failure) across countries and sectors would incorporate or link to a sector focused knowledge platform.

Key features of the approach

- Focuses on piloting instruments and technical support to projects in a range of sectors and countries over a short-term (e.g. 3-5 year) incubation period prior to scaling up successful mechanisms through a scaled up facility (option 3) or the GCF directly.
- Provides business support in the key ‘gap’ areas identified in this study, notably support for the management of operational risk (operational approach B) and the for development and commercialisation of new business opportunities (operational approach C).
- Offers direct and flexible business development support (i.e. moves beyond the traditional challenge fund approach) to enable and accelerate businesses throughout the full commercialisation and scale-up process.
- Delivers a flexible suite of TA support to help businesses overcome barriers to commercialisation and good risk management, but could also experiment in setting innovation challenges and prizes for focused resilience areas.
- Pilots a knowledge platform to share knowledge, lessons learned, best practice and provide matchmaking services.
- Risk management information, tools and training to the most vulnerable business types and sectors.

Structural components	<ul style="list-style-type: none">• The programme would fill gaps in the existing landscape of public finance support through its two operational windows targeting operational approaches B and C:<ul style="list-style-type: none">– window 1: Operational risk management (technical assistance window for local businesses)– window 2: Resilience innovation and commercialisation (business development and partnership support, through to investment readiness support and deal facilitation and structuring).
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Resource and funding needs	<ul style="list-style-type: none">• Minimum budget in the range £15-20M.• A programme manager is required for planning, procurement and disbursement of financial and technical support; on-demand business development and partnership support services; management of a regional or sector level knowledge sharing platform for practitioners; and management of a network of in-country technical and industry experts.
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Time period	<ul style="list-style-type: none">• <1 year to design and secure programme funding.• 3-6 months required to establish a pilot (3-5 year) facility and prioritise actions.
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Strengths	<ul style="list-style-type: none">• Clearly defined programme which can champion and progress action by the private sector on resilience.• Can focus on under supported sectors beyond agriculture and insurance e.g. construction, manufacturing, ICT.• Can focus on countries where political will and appetite is high, and where local private sector markets show good growth potential.
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Weaknesses	<ul style="list-style-type: none">• No window which addresses the need to strengthen the business enabling environment or to attract and direct private infrastructure investment.• Smaller scale demonstration projects, and limited geographical scale may not be enough to drive wider uptake from private sector actors and trans-boundary solutions.• Limited life-span can interrupt programme performance, profile and external engagement.
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Resilience impact	<ul style="list-style-type: none">• Benefits from having a dedicated objective and focused activities.• By focusing projects within a defined geography and/or sector greater in-roads to regional or sector transformation would be expected.• Likely to be operated by staff that have industry expertise, market knowledge and networks, and technical resilience experience.• Transfer of best practice and lessons learned to other resilience building opportunities.
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Value for money	<ul style="list-style-type: none">• Provides a flexible solution addressing a range of needs for private sector actors that should be scalable and replicable in other sectors and countries.• Relatively higher transaction costs expected due to shorter-term pilot mechanism with small scale pilots.• Will provide a template and model through which others can invest and scale support, including learning for the Green Climate Fund’s Private Sector Facility.
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Option 3 – Resilient Markets Facility

Summary

Creation of an at-scale £40-100+ million ‘Resilient Markets Facility’ operating in multiple countries and sectors. This more comprehensive market-based approach proposes a new and ambitious mechanism with a core focus on maximising private sector potential to support far-reaching resilience goals. It would take the form of a multi-country (10+) facility championing private sector resilience through a range of operational areas, financial and stakeholder channels.

The facility would act as an international focal point for driving forward private sector resilience activity raising the profile and exposure of resilience as a thematic area to overcome awareness and engagement barriers in the market. It could benefit from endorsement by the Political Champions working group and multi-donor collaboration. It would include operational ‘windows’ that target all four operational approaches including the enabling environment, operational risk management, commercialisation and investment support; thus providing a comprehensive market solution.

Key features of the approach

- Flexible, hybrid (min. 5yr) technical assistance, innovation and financing programme focusing on market development support services.
- Supported by a dedicated learning and outreach programme and platform that enables knowledge sharing between participating countries and businesses.
- Coordination and delivery of operational approaches A, B, C and D through targeted support windows.
- Maximises opportunities to design efficient long term and scaled solutions to engaging the private sector on resilience, and enables engagement with actors over a sustained period to take them through implementation and commercialisation.
- A market development approach targeting specific sectors and their resilience issues, working proactively over a consistent period to provide flexible technical/business development support to stimulate a market system response.
- Potential to build a portfolio of investment-ready projects that feed the Green Climate Fund’s Private Sector Facility. Likewise, the Facility can generate national and regional pipelines of investments/deals for IFIs, DFIs and commercial investors to take forward.
- Sharing of results, best practice, lessons learned (success and failure) across countries and sectors through an interactive and high profile global knowledge platform (e.g. knowledge products, tools, workshops, research).

Expected outputs and results

- Country programmes immersed in each local market operate at sector level with coordination and support from a centralised international programme management unit and learning programme.
- Window 1: (Optional) Business enabling environment (technical assistance window for governments to work in collaboration with local private sector).
- Window 2: Operational risk management (technical assistance window for local businesses).
- Window 3: Innovation and Incubation (business development and partnership support technical assistance, grants).
- Window 4: Investment readiness (technical assistance and linking with de-risking instruments and equity/debt investors to build a pipeline of large-scale transformational public-private joint ventures/co-financing).

Resource and funding needs

- Large scale, £40-100+ million, greater transactional efficiency and transformation potential.
- A programme manager and internal resources to support and manage contracts.

Time period

- 12-18 months required to develop the facility to launch.
- First operating phase to last at least 5 years.
- Likely operational timeframe 10 years depending on markets and geography covered plus efficacy and reach of related GCF activities.

Strengths

- Potential multi-donor solution with weight and presence to a dedicated focus on business resilience – a common private sector entry point for accessing support and learning.
- Can support Green Climate Fund architecture through pipeline development, readiness and demonstration of an adaptation-relevant operating model for the Private Sector Facility.
- Sufficient attention is given to currently under-supported issues e.g. operational risk management advice, training and tools.
- Structured and long-term engagement through a business-centric lens.
- The facility should result in more efficient, transparent and coherent spending of climate finance for private sector adaptation.

Weaknesses

- Large commitment of finance needed for the set-up of a multi-country facility.
- It may be easier to get buy-in from stakeholders by starting with a lighter touch option e.g. a pilot facility (see option 2).

Resilience impact

- The resilience impact delivered by the creation and running of a large multi-country facility is likely to be the greatest and most transformation by deliver market solutions.
- Will raise the profile and exposure of resilience as a thematic area on the international stage.

Value for money

- A multi-country mechanism will enable transactional efficiencies, cross-border business opportunities and maximise regional and international learning.

Summative comments

If businesses, communities and poor people have improved access to certain markets, their ability to anticipate, absorb, accommodate or recover from the impacts of disasters and climate change would greatly improve. Market failures however, are preventing some of these markets from developing or functioning as well as they might.

This study has evidenced considerable demand for support from a range of private sector actors including SMEs, national companies, MNCs and the investor community. It also shows that a major constraint in engaging the private sector on these challenges has been the lack of a dedicated and comprehensive vehicle/mechanism through which to deliver it. Much attention has been on global corporations working through supply chains. Whilst this is valid, it has masked a clearer underlying demand for in-country support working with national and SME organisations and entrepreneurs, often the value chain partners of larger corporations and where the impacts of disasters and climate change are most acutely experienced.

We are presented with considerable opportunity to work with country governments, private sector operators and investors (large and small) to deliver results through country and sector/market focused activities. For action to work, the interventions cannot be 'bit-part and dilute'. The minimum scale of operation is targeting one sector in one country through a dedicated mechanism. Much more can be achieved in terms of efficiency and impact by targeting multiple sectors in 10 or more countries.

Support for private sector-led activities to improve resilience has stalled for a lengthy period of time (too long) as a result of a poor evidence base and ambiguity regarding the most effective modality for support. Targeted public intervention and finance from the

international community can address market failures through business-relevant approaches to bring about 'systemic or transformational change' in business and societal resilience. These include de-risking business innovation and commercialisation processes, working to change national policy and regulatory frameworks, or improving the availability of resilience information, tools and standards. An evidence-based framework of recommendations, and then viable implementation options for these, has been set out.

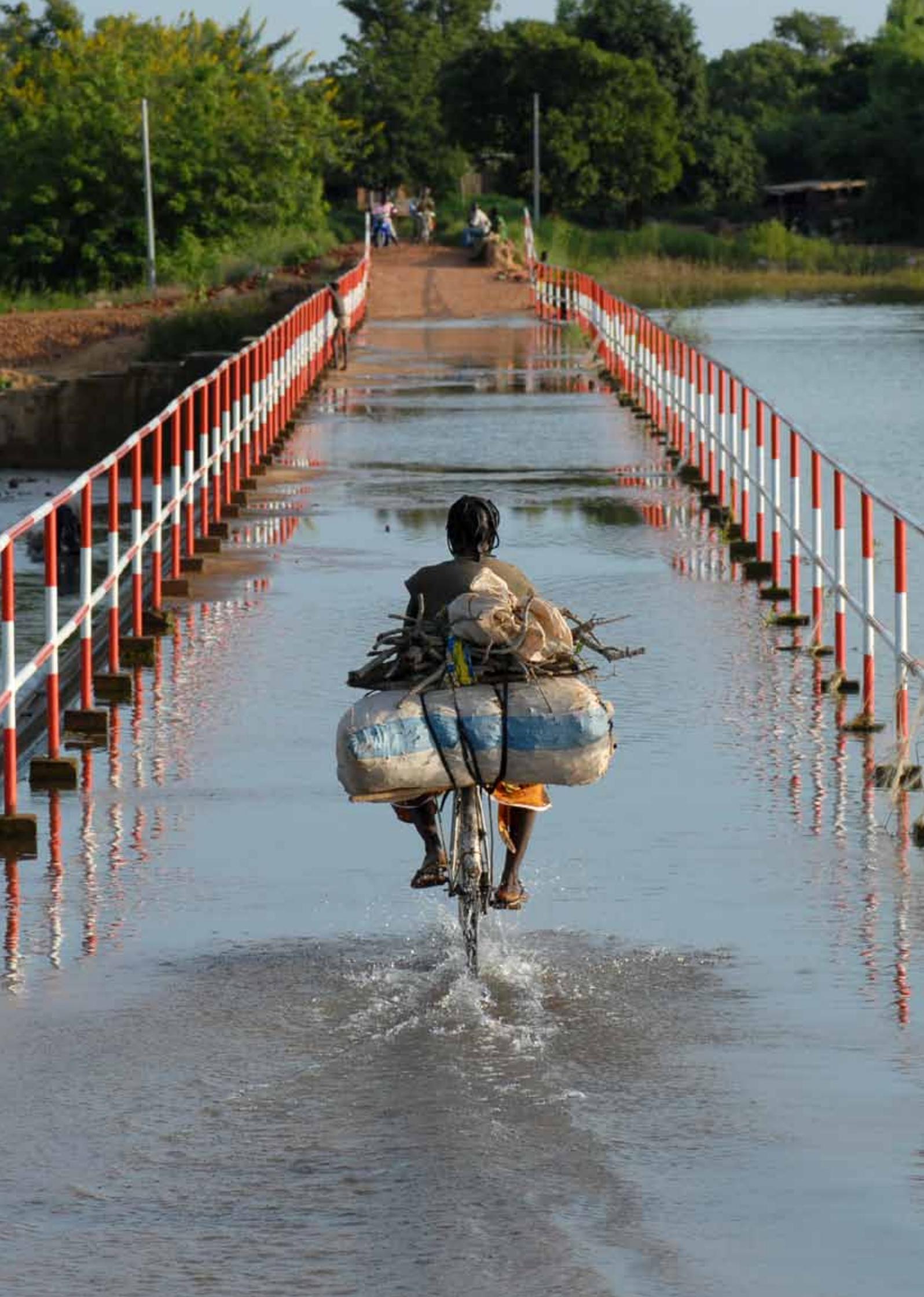
Of the implementing options presented, each is valid and broadly feasible, with its own value for money and impact profile. But the options also have trade-offs and compromises, and are by no means equal. Those set up with different objectives, geographical focuses and operating models will not easily accommodate and best engage business in investing in the resilience opportunity. Bit-part changes to the limited existing programmes may not fully address the reality that there is no existing initiative that can comprehensively deliver support to the private sector across the four operational approaches identified (i.e. business enabling environment, operational risk management, product and service development support, and resilient infrastructure investment). There may also be further challenges with realignment, networks, skills and flexibility.

A major barrier will be the ability to improve private sector awareness and sector level knowledge that to date has inhibited the uptake of available support. Targeted additional outreach, technical assistance and learning processes are required to foster business awareness of the opportunities that resilience offers and build their demand for support, action and investment.

A valid and strong business case exists to create a new public intervention that can transform the private sector's response in this area, and greatly enhance resilience outcomes for society, the most vulnerable and the poorest. There is an opportunity to create the international focal point that is currently lacking for driving forward private sector resilience activity, and raising the profile and exposure of resilience as a thematic area to overcome business awareness and engagement barriers. Such a new facility, whether piloted in a handful of countries and sectors, or at scale, can administer and coordinate a range of flexible support interventions and services that help to overcome key market failures and barriers to investment and private sector action on resilience.

A new dedicated private sector resilience programme will enable demonstration and learning of how targeted public sector action can be deployed to scale up private sector resilience activities. The pipeline of "ready" projects and partnerships generated can also help to feed the forthcoming Green Climate Fund's Private Sector Facility, IFIs, DFIs and commercial investors, all of which are looking to finance such deals but are currently stagnated by a lack of suitable projects and investments.

A newly established 'Resilient Markets Facility', and/or a targeted framework of sector interventions, can provide the key missing link between GCF funding and the climate finance readiness of the private sector in a range of countries.



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