Enhancing SME resilience through increased uptake of disaster risk reduction
This report presents

Evidence of SME vulnerability to disasters and socioeconomic impacts
- assessment of overall economic impact of disasters on SMEs
- summary of key issues impacting SME resilience
- international case study evidence on why and to what extent SMEs are disproportionately affected by hazards

Benefits of disaster risk reduction (DRR) for SMEs and the economy
- estimate of the value of increased DRR uptake by SMEs
- analysis of the channels through which increased DRR uptake creates value for the SMEs and the economy

Recommendations for policymakers, financiers and the broader business community to increased uptake of DRR by SMEs with emphasis on promoting BCP as an entry to DRR
- analysis of perquisites for DRR uptake as well as the related barriers
- summary of potential actions to undertake to address the barriers
- overview of potential pilots to test efficacy of suggested actions
Section 1: evidence for SME vulnerability to disasters

This section presents:

- An assessment of overall economic impact of disasters on SMEs
- A summary of key issues impacting SME resilience
- International case study evidence on why and to what extent SMEs are disproportionately affected by hazards
SMEs bear a disproportionate share of losses from disasters, owing to their location, their sectoral concentration and specific vulnerability factors

SMEs face losses worth $407-412 billion, equivalent to 0.5% of global GDP, from hydro-meteorological and geophysical hazards alone. Losses from a full set of hazards covered by Sendai framework are significantly greater.

High SME losses are expected given their economic importance, with 50% of global output and 70% of employment.

But SMEs’ share of losses is disproportionately high, 73-74% of the total losses to business. This reflects:

- Concentration of SMEs in high-risk regions, notably Asia (74% output share) and Africa (82% output share)
- Concentration of SMEs in agriculture (80% output share)
- The fact that SMEs are more vulnerable and take fewer actions to effectively manage and reduce risk (only 28% of microenterprises have a climate strategy in place)

Notes: *AAL include losses from hydro-meteorological and geophysical hazards only. Estimates are based on UNDRR data on regional AAL, attributed based on regional/sectoral shares of output and analysis of vulnerability.

Source: Vivid Economics based on UNDRR (2017), Okuyama and Sahin (2009), UNFCCC (2017)
Losses to SMEs have broader consequences that can suppress economic growth and increase poverty

| SME losses propagate around the global economic system | ▪ Factory closures in China due to Covid-19 meant 50% of SMEs in South Korea were unable to honour pre-agreed delivery dates.  
 ▪ Global risks can compound – for example the 2008 financial crisis and climate impacts on agricultural yields. |
|---------------|--------------------------------------------------|
| SMEs are critical to some countries’ external balances | ▪ SMEs produce 95% of coffee in Ethiopia – which accounts for 35% of national exports – but are highly vulnerable to drought.  
 ▪ SMEs dominate electrical machinery production in Malaysia, its top export in which it has a 3.3% global market share, but production vulnerable to flooding. |
| Risks to SMEs are a point of vulnerability to financial systems | ▪ As a result of Covid-19, up to 33% of MFIS had insufficient capital to meet outflows in Q3 2020. Over two-thirds of MFIS have substantially restricted lending, usually by more 50%.  
 ▪ This has long-term impacts on investment and growth |
| SMEs play a disproportionate role in supporting livelihoods of vulnerable people | ▪ SMEs concentrated in informal sector, supporting livelihoods of marginalized groups  
 ▪ Globally 34% of SMEs are owned by women |

Source: Brinkman et al., CGAP, Economist, Gallagher, SME Finance Forum (2020), WTO
Features of SMEs make them particularly vulnerable to hazards

**SME vulnerability**

**Concentration**
- Concentration in industries that are more exposed to risk
- Operations and supply chains are more geographically concentrated
- Greater reliance on a smaller number of suppliers and customers
- Reliant on a few key employees

**Example:** Localised value chains make SMEs more vulnerable to cascading effects from a disruption in utility services.

**Finance**
- Lower cash reserves
- Less access to finance and financial products tailored to their specific needs
- Weak bargaining power with creditors
- Less access to government support

**Example:** Lack of access to finance makes SMEs more vulnerable to the impacts of a disruption in transport along their supply chains.

**Risk awareness & strategy**
- Lower capacity to understand risk, both in terms of available staff and skills
- Strategic focus on recovery over prevention
- Reliance on informal solutions to resilience

**Example:** In the agriculture sector, smallholders are less likely to have implemented DRR solutions, increasing their vulnerability.

**Contracting & bargaining**
- Weak bargaining power along supply chains with large suppliers and/or customers, with weak regulatory back-up
- More likely to rely on informal relationships
- Increasing complexity and interdependencies of global supply chains

**Example:** In the construction sector, contractual arrangements do not protect SMEs against post-disaster inflationary pricing.
Smallholders have weak bargaining power with buyers and lack capacity in disaster risk reduction

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Event</th>
<th>Disaster extent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe drought disrupts agricultural production</td>
<td>Smallholder farmers experience large crop loss, with the impact intensifying in export crop sectors.</td>
</tr>
</tbody>
</table>

**Risk reduction solutions:**

- Improve contractual design to more equitably allocate risk between upstream buyers and downstream producers
- Strengthening national risk reduction strategies, including the roll-out of NBS
- Training and capacity building to improve uptake of DRR practices

**Value chain**

- Suppliers
- Producers
- Buyers
- Final customers

**SME issues**

- **Finance**
  - Lack of access
  - SMEs are less likely to have implemented DRR due to lack of finance and lack of access to technologies

- **Awareness**
  - Awareness of DRR
  - SMEs have less awareness of DRR practices, meaning they are less like to have implemented solutions

- **Bargaining power**
  - Access to markets
  - SMEs lack bargaining power, allowing large buyers to easily switch between producers

Globally, 125 million people depend on coffee for their livelihoods, with SMEs accounting for 70-80% of total production.
Coffee production in Ethiopia is dominated by smallhold farmers who are less likely to have implemented DRR, making them more vulnerable to drought

Hazard | Ethiopia’s coffee sector is particularly exposed to droughts, which are becoming more frequent and severe in Ethiopia as a result of climate change.

Importance of SMEs | SMEs dominate coffee production in Ethiopia, with smallholder farmers account for 95% of total coffee production.

- 80% of smallholders already live below the poverty line, meaning losses threaten to put producers further into poverty, driving food insecurity and health issues in the long-run.
- Coffee accounts for 35% of exports and 70% of Ethiopia’s foreign exchanges, meaning losses to the sector can result in significant macroeconomic impact.

Impact | Smallholders are less likely to have implemented DRR and have less bargaining power with buyers, causing greater revenue losses from drought than for larger firms.

- Smallhold coffee producers are less likely to have implemented DRR practices than larger firms, meaning the drought results in 40pp greater yield losses.
- Upstream buyers are easily able to switch between small producers, resulting in further revenue losses for Ethiopian smallholders, who represent 2.8% of global exports.
- Coffee prices are already low, causing smallholders to resort to coping strategies that cut costs, including the use of child labour and substitution to lower value but less drought vulnerable crops.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Importance of SMEs</th>
<th>Impact</th>
</tr>
</thead>
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<tr>
<th>Yield loss</th>
<th>Smallhold</th>
<th>Larger Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5%</td>
<td>52%</td>
<td>10%</td>
</tr>
<tr>
<td>5-10%</td>
<td>23%</td>
<td>35%</td>
</tr>
<tr>
<td>10-15%</td>
<td>47%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Notes: (1) areas in grey represent regions with either no agricultural production or no data availability (2) Journeyman (2003)

© UNDRR – United Nations Office for Disaster Risk Reduction
Construction projects are complex and involve multiple parties, creating project-specific, interconnected risks.

Risk reduction solutions:

- Increase access to finance and liquidity for...
  - hazard-resilient construction
  - covering emergency costs and loss in revenue
- Developing contractual models that more efficiently manage risks
- Ensure SMEs have fair access to public procurement processes for post-disaster reconstruction

The construction sector contributes 13% to global GDP, with SMEs accounting for 69% of total employment in the sector.

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Event</th>
<th>Disaster extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricane</td>
<td>Damage and disruption</td>
<td>Many SMEs are unable to gain from reconstruction activities, and excess demand puts inflationary pressure on inputs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
</tr>
<tr>
<td>Contractors</td>
</tr>
<tr>
<td>Principal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SME issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Vulnerability</td>
</tr>
<tr>
<td>SMEs lack access to emergency finance to cover loss in revenues</td>
</tr>
<tr>
<td>Contractual Weak bargaining power</td>
</tr>
<tr>
<td>The contractual agreements of SMEs do not protect against inflationary prices of inputs</td>
</tr>
<tr>
<td>Finance Access to DRR</td>
</tr>
<tr>
<td>SMEs lack strong relationships with government to be preferred the supplier for reconstruction activities</td>
</tr>
</tbody>
</table>

© UNDRR – United Nations Office for Disaster Risk Reduction
Construction sector in Barbados is dominated by SMEs which are more financially vulnerable and less able to gain from the post-disaster booms

Hazard | Barbados is exposed to multiple hazards, including hurricanes which can cause damage to both existing property and ongoing construction sites.

Importance of SMEs | The construction sector in Barbados is dominated by SMEs, which represent 97% of all businesses in the sector.
- SMEs in the construction sector directly contribute $282 million to GVA (4%) and 3500 jobs (4%) in Barbados.
- 41% of SMEs in Barbados have limited or no access to finance, meaning the availability of emergency finance is limited in the days and weeks following the disaster.

Impact | SMEs are more financially vulnerable than larger firms and are less able to gain from the post-disaster boom in reconstruction activities.
- Damages to construction sites create losses for firms. However, interview evidence suggests that SMEs in the construction sector may be more resilient and agile than other sectors due to lower fixed costs.
- Construction SMEs underpin other sectors of the economy such as tourism, creating spill over effects when they fail.
- For firms that survive the immediate impacts of a hurricane, property damage creates a post-disaster boom of reconstruction, but SMEs are unable to gain from this boom and are less able to manage inflationary pricing.

Transport connects each stage of the value chain, creating a dependence on critical assets where diversification is low.

### Risk reduction solutions:

- Increase the resilience of the transport network by...
  - improving network design
  - improving network recovery plans
  - conducting joint risk assessments for critical transport hubs
  - integrating interoperability into recovery planning

- Government credit guarantees in developing countries
- Adaptive social safety nets for the poor

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**Disaster** 

<table>
<thead>
<tr>
<th>Event</th>
<th>Disaster extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe flood</td>
<td>Many SMEs have no access to road for 2-3 weeks and badly disrupted access for up to a year</td>
</tr>
</tbody>
</table>

**Value chain**

- Inputs
- Producers
- Consumers

**SME issues**

- Concentration
  - Lack of diversification: Reliance on fewer supplier, customers, and employees means SMEs are more dependent on critical assets
  - Cascading effect: If a critical asset is damaged, all SMEs whose value chains depend on that asset are impacted

- Finance
  - Vulnerability: SMEs are more financially vulnerable
  - SMEs support jobs for vulnerable populations
Cambodia has a cluster of SMEs in the food and beverage manufacturing sector which is vulnerable to transportation disruptions due to flooding

**Hazard** | Cambodia experiences frequent flooding which damages critical road assets, cutting off communities and preventing trade for food & beverage manufacturing firms.

- The vulnerability of Cambodia’s road network means that supply chains are heavily dependent on a few critical roads.

**Importance of SMEs** | Cambodia has a high concentration of SMEs in the food and beverage manufacturing sector, where SMEs represent 99% of firms and support 38% of employment.

- Globally, FMB was a $158 billion industry in 2019, with Cambodia representing 2.7% of total exports.

**Impact** | SMEs are more dependent on critical infrastructure and have less access to finance, causing them to shut down more quickly than larger firms.

- Post-flood, road damage causes a 20pp greater impact on net profit margins for SMEs, causing SMEs shut down immediately while large firms can operate for longer.

- SMEs in FBM manufacturing contribute $2.1 billion to Cambodia’s overall GDP (10%), meaning their vulnerability creates substantial macroeconomic risk.

- SMEs are more likely to employ vulnerable groups such as the elderly, low-skilled workers, the poor, and women, meaning the financial impacts post-flood cause employment losses among already vulnerable groups.

<table>
<thead>
<tr>
<th></th>
<th>SME</th>
<th>Larger Firm</th>
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</thead>
<tbody>
<tr>
<td>Annual revenue</td>
<td>$175k</td>
<td>$1 million</td>
</tr>
<tr>
<td>Employees</td>
<td>22</td>
<td>327</td>
</tr>
<tr>
<td>Dependence on CI</td>
<td>100%</td>
<td>38%</td>
</tr>
<tr>
<td>Revenue loss (%)</td>
<td>54%</td>
<td>16%</td>
</tr>
<tr>
<td>Net profit margin for year</td>
<td>-23%</td>
<td>-3%</td>
</tr>
</tbody>
</table>

**Notes:** (1) The catchment area of a road is that area which relies on the road for connection to markets.

Utilities underpin all stages of SME value chains, creating vulnerability to cascading risks

<table>
<thead>
<tr>
<th>Event</th>
<th>Disaster extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power outage caused by storm, with restoration of services delayed by flooding</td>
<td>Duration of outage varies as services restored gradually</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value chain</th>
<th>Disaster</th>
<th>Event</th>
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<tbody>
<tr>
<td>Suppliers</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SMEs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Utility networks underpin every stage of the SME value chain.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>SME issues</th>
<th>Concentration</th>
<th>Concentration</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lack of diversification</td>
<td>Cascading effect</td>
<td>Vulnerability</td>
</tr>
<tr>
<td>Local clustering of businesses causes widespread shut-down</td>
<td>If one element of the value chain experiences the outage, SMEs along chain affected</td>
<td>SMEs have reduced finance / inventories</td>
<td></td>
</tr>
</tbody>
</table>

Duration of outage varies as services restored gradually

Power outage caused by storm, with restoration of services delayed by flooding

Event: Blackout

Disaster extent: Duration of outage varies as services restored gradually

Risk reduction solutions:

- Encourage SMEs to undertake business continuity planning
- Decrease SMEs dependence on critical assets
  - improving SMEs access to mitigating tools
- Encourage geographical diversification by SMEs
- Improve power network resilience by...
  - improving the security of utility supply
  - developing utility emergency response plans which cover SMEs

Note: other utilities outages may include water or gas interruption. For technological hazards, the frequency and length of interruption tends to be greater for water than electricity.
UK West Midlands is home to a cluster of SMEs in the automotive sector that is vulnerable to power outages from storms and flooding

Hazard | The UK frequently experiences winter storms and flooding, which can be highly disruptive to the power network.

- Automotive manufacturing firms are particularly vulnerable to power disruptions, as they rely on just-in-time production across complex value chains.

Importance of SMEs | The UK has a cluster of SMEs in the automotive manufacturing sector, where SMEs make up 90% of upstream suppliers.

- Globally, the automotive sector employed more than 8.4 million people in 2017, with manufacturers in the UK representing 5.1% of total exports.

Impact | Despite power outages causing longer interruptions and higher losses to SMEs than to larger firms, SMEs are relatively underprepared.

- As they are less likely to have back-up generators, SMEs experience longer duration of outages, causing losses to SMEs to be 33% greater than for larger firms.
- In addition, SMEs are more vulnerable, because of their dependence on a few large buyers (OEMs), who are likely to also experience the outage due to geographical clustering.
- SMEs are more labour-intensive (accounting for 11% of turnover but 30% of jobs), meaning losses suppress investment in a more labour-intensive sector.

Notes: (1) Share of generators on average is 33% greater for large firms, calculations assume same level of power outage across firms.
Conclusions

SMEs are highly vulnerable to disasters due to their size and geographic concentration, their inability to access finance or share risk through contractual terms, and a pervasive lack of risk awareness or strategic approach to risk management.

Vulnerability is concentrated in high hazard regions where SMEs account for a large share of employment, poverty rates are high and access to finance is low. All these factors are more prevalent in the global south. Nonetheless, impacts can propagate through local and global value chains, creating systemic risks to national economies and global risks across international value chains.

Case studies demonstrate that:

- **SMEs experience greater losses and are more likely to fail in the aftermath of disaster.** This can have macroeconomically significant impacts (SME coffee production accounts for almost 70% of forex earnings in Ethiopia), delay recovery (SMEs make up 97% of construction businesses in Barbados), and entrench inequality (61% of Cambodian SMEs are owned by women);

- **Vulnerability stems from a host of factors.** Dependence on critical infrastructure assets and single customers raises vulnerability of SMEs in the UK automotive sector and Cambodian food and beverage manufacturing, where the effect of flooding on profit margins can be 20%pt greater for SMEs. A lack of investment in disaster risk reduction by smallholder coffee producers in Ethiopia means drought losses are 42%pt higher than for larger producers. Low savings and an inability to manage input cost volatility means SMEs in the Barbados construction sector are far likelier to face insolvency than for other firms.

Case studies point towards prospective solutions that are investigated in further tasks. These include SME-led solutions, such as collective bargaining for fixed price contracts by smallholders in Ethiopia; policy-led solutions, such as channelling reconstruction spending through SMEs; and innovation by corporates and the financial sector, to support investment in risk reduction.
Section 2: the business case for enhanced DRR uptake by SMEs

This section presents:

- an estimate of the **value of increased DRR uptake** by SMEs
- an analysis of the **channels through which increased DRR uptake creates value** for the SMEs and the economy
There is a strong prima facie business case for increased uptake of DRR by SMEs

Full adoption of DRR measures can reduce economic losses by up to 31% for SMEs -- around $127bn per year

- Sectors such as wholesale and retail trade (up to 30%) and manufacturing (up to 31%) have a high scope for cost reduction through DRR.
- Loss reductions could be even larger in sectors such as agriculture (up to 35%), where DRR measures are more effective at reducing economic losses from climate hazards.

The scope for savings likely to be significantly greater, given widespread lack of adoption of DRR with strong value for money. For example, a BCR for infrastructure resilience is estimated to incur $4 of net benefit for every $1 invested.

Other actions that target SME vulnerability can further narrow the gap, These include:

- Less concentrated business models
- Improved SME access to DRR finance
- Improved risk sharing through contractual design

Notes: *AAL includes economic losses from hydro-meteorological and geophysical hazards only. Estimates are based on UNDRR data on regional AAL, attributed based on regional/sectoral shares of output and analysis of vulnerability. Bar chart displays high-end DRR uptake and high-end DRR benefits.

Source: Vivid Economics based on UNDRR (2017), Okuyama and Sahin (2009), UNFCCC (2017)
The wider benefits of greater DRR by SMEs substantially strengthen the business case

Direct benefits to SMEs

- Reduced disaster-related costs
- Increased speed of recovery
- Reduced impact on revenue
- Improved performance and competitiveness

Co-benefits

- Unlocked innovation
- Improved environmental outcomes

Increased resilience of SMEs

- Resilient jobs and livelihoods for vulnerable people
- Long-term economic growth

Increased investment and innovation

Progress towards SDGs
## Investment in DRR solutions yields direct benefits to SMEs through reduced impact, faster recovery times, improved performance, and increased innovation

<table>
<thead>
<tr>
<th>SME investment in DRR</th>
<th>SME disaster planning</th>
<th>Government investment in DRR</th>
<th>New contracting models</th>
<th>New business models</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Evidence of high returns on risk reduction investment</td>
<td>- Business continuity plans (BCPs) can help SMEs understand their risks and improve their decision-making over DRR, emergency response and financing strategies.</td>
<td>- Government-led DRR reduces impact of disasters on value chains</td>
<td>- Contracting terms can allocate risk more efficiently.</td>
<td>- New business models reduce effect of localisation and the dependence of SMEs on a few critical assets.</td>
</tr>
<tr>
<td>- Example of Nature Based Solutions (NBS) improving productivity and resilience. In Cameroon, NBS including drought-resistant seeds and crop diversification, resulting in increased yields for 58% of farmers and diversified revenue streams for 81%.</td>
<td>- In Japan, BCP planning included pre-existing contracts for post-disaster repairs helped reduce the recovery time of SMEs from the 2011 tsunami, enabling operations to resume within 1 month.</td>
<td>- Critical infrastructure such and transport or utilities particularly important to SMEs.</td>
<td>- In the UK, extreme weather clauses in construction contracts which shifted the risk of adverse weather away from individual contractors boosted the long-term performance of SMEs, through improved revenue security.</td>
<td>- In the Philippines, cloud computing helped SMEs improve their resilience by diversifying their ICT assets so that one disaster will not affect their entire system, thus helping mitigate data-related losses and allowing them to recover their ICT systems within a few hours.</td>
</tr>
</tbody>
</table>
Solutions generate wider co-benefits including poverty reduction, unlocking innovation, and improved environmental outcomes

<table>
<thead>
<tr>
<th>Poverty reduction</th>
<th>Innovation</th>
<th>Environmental outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>As key employers of vulnerable groups more resilient SMEs <strong>reduce poverty</strong>.</td>
<td><strong>Investment in DRR solutions supports more innovative SME growth</strong>, increasing economic growth in the long run.</td>
<td><strong>Nature Based Solutions improve environmental outcomes</strong> such as enhanced biodiversity, decreased deforestation, or improved air quality.</td>
</tr>
<tr>
<td>Remote, marginalised communities are more likely to depend on critical infrastructure assets. In Mozambique, road network improvements that increase resilience also increased smallholders’ access to markets, <strong>increasing incomes</strong> in an impoverished region.</td>
<td>For example, in the Philippines, cloud-based computing that improve resilience allow SMEs to access new business opportunities by increasing their <strong>access to global markets</strong>.</td>
<td>In Cameroon, farmer field schools were also used to help smallholder shift away from slash and burn farming to more sustainable farming practices, <strong>reducing deforestation</strong> in the Congo basin.</td>
</tr>
<tr>
<td>The poor face greater barriers to accessing finance. In China, increasing smallholder farmers’ access to finance led farmers to <strong>increase investment</strong> in their farms and use riskier, <strong>higher yield</strong> crops. As a result, the yields of smallholders increased up to 20%.</td>
<td><strong>Innovation in DRR can support communities where SMEs are prevalent</strong>. This can leverage technologies such as earth observation, the internet of things, and mobile banking to reach more remote, vulnerable communities.</td>
<td>In Dublin, a street tree planting program reduced the likelihood of flooding by reducing stormwater runoff, but also led to an estimated <strong>air quality improvement</strong> of 126%.</td>
</tr>
</tbody>
</table>

Conclusions

There is a **strong business case** for increased DRR by SMEs, including reductions in losses and wider benefits

- **Full adoption of DRR measures can reduce economic losses by up to 31% for SMEs -- around $127bn per year.** Largest potential in the agriculture sector

- **Required investment for DRR measures likely to be smaller than the potential savings** (i.e., reduced economic losses) - For example, a BCR for infrastructure resilience is estimated to incur $4 of net benefit for every $1 invested.

**Investment in DRR bring benefits both for the SMEs directly as well as for the boarder economy**

- SMEs for example benefits from reduced impact, faster recovery times, improved performance, and increased innovation

- The broader economy benefits from poverty reduction, unlocking innovation and improved environmental outcomes
Section 3: Recommendations to policy-makers, financiers and larger businesses

This section presents:

- **Recommendations** to policy-makers, financiers and larger business for **increasing the general uptake of DRR** by SMEs
- **Recommendations** to policy-makers, financiers and larger business for **increasing the general uptake Business Continuity Planning** by SMEs
This section will provide general recommendations to increase DRR uptake focusing on enhancing Business Continuity Planning as a key enabler of DRR.

### Recommendations to enhance DRR uptake

- An analysis of the **barriers for DDR uptake** for SMEs, focusing on four critical conditions:
  1. Access to finance
  2. Adaptation of resilient business models
  3. Efficient contracting
  4. Business Continuity Planning
- **Recommendations** to policy-makers, financiers and larger business for reducing these barriers to increase the general uptake of DRR by SMEs

### Deep Dive: Business Continuity Planning

- An analysis of current BCP frameworks and suggestions for improvement
- An analysis of the **barriers for BCP uptake** for SMEs
- **Recommendations** to policy-makers, financiers and larger business for reducing these barriers to increase the general uptake of BCP by SMEs
The critical conditions for SMEs to carry out DRR are currently impeded by barriers in the broader environment as well as at the SME-level

<table>
<thead>
<tr>
<th>Critical prerequisites</th>
<th>Access to finance</th>
<th>Adoption of resilient business models</th>
<th>Efficient contracting</th>
<th>Business continuity planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Barriers in the broader environment</strong></td>
<td>Inadequate support for DRR by providers of concessional finance* (developing countries)</td>
<td>Lack of supporting infrastructure (e.g. Africa)</td>
<td>Lack of incentives for larger firms to engage in fairer contracts (e.g. agriculture)</td>
<td>Lack of policy incentives</td>
</tr>
<tr>
<td></td>
<td>Weak channels for distribution</td>
<td>Weak policy incentives and regulatory barriers (e.g. Africa, Latin America)</td>
<td>Absence of legal protection for SMEs</td>
<td></td>
</tr>
<tr>
<td><strong>Barriers at the SME-level</strong></td>
<td>Low SME capacity</td>
<td>Low SME capacity (e.g. agriculture, construction)</td>
<td>Lack of accessibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of awareness</td>
<td></td>
<td>Lack of awareness</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Providers of concessional finance refers to countries and regional organisations (e.g. EU) donating aid, as well as international aid agencies/organisations (e.g. Red Cross).

Source: UNDRR
### Enhancing SME resilience – Section 3: Recommendations to enhance DRR uptake by SMEs

**Policy-makers, financiers and larger business can take several actions to remove barriers to DRR uptake by SMEs**

<table>
<thead>
<tr>
<th>Critical conditions for DRR uptake</th>
<th>Policymakers</th>
<th>Financiers</th>
<th>Broader business community</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to finance</strong></td>
<td>IOs, standards organisations, government and public bodies, NGOs</td>
<td>Insurers, lenders, providers of concessional finance</td>
<td>Large corporations, business consortiums and chambers, BCP vendors and providers</td>
</tr>
<tr>
<td>- Increase public and donor flows</td>
<td>- Provide incentives (e.g., through lower premiums/interest rates contingent on DRR measures)</td>
<td>- Develop innovative affordable instruments tailored to SME needs</td>
<td>- Share necessary infrastructure (e.g., cloud infrastructure)</td>
</tr>
<tr>
<td>- Remove barriers to private finance</td>
<td>- Provide incentives (e.g., through lower premiums/interest rates contingent on DRR measures)</td>
<td>- Facilitate DRR focused finance from impact investors</td>
<td>- Share necessary infrastructure (e.g., cloud infrastructure)</td>
</tr>
<tr>
<td>- Enhance the capacity of local financial institutions to appraise investments</td>
<td>- Develop innovative affordable instruments tailored to SME needs</td>
<td>- Share necessary infrastructure (e.g., cloud infrastructure)</td>
<td>- Share necessary infrastructure (e.g., cloud infrastructure)</td>
</tr>
</tbody>
</table>

| Resilient business models | | | - Adopt efficient contracting models |
| - Provide supporting infrastructure | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) |
| - Enhance SME capacity and awareness | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) |
| - Reduce barriers to trade | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) |
| - Provide incentives for the uptake of digital technologies | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) | - Share necessary infrastructure (e.g., cloud infrastructure) |

| Efficient contracts | | | |
| - Address power imbalances by fostering contract negotiation and collective bargaining capacities of SMEs | - Address power imbalances by fostering contract negotiation and collective bargaining capacities of SMEs | - Address power imbalances by fostering contract negotiation and collective bargaining capacities of SMEs | - Address power imbalances by fostering contract negotiation and collective bargaining capacities of SMEs |

| BCP uptake | | | |
| - Mainstream prevention into BCP definitions | - Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation) | - Provide and disseminate information, tools and decision support for BCP | - Provide and disseminate information, tools and decision support for BCP |
| - Fund BCP dissemination activities | - Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation) | - Build SME capacity through training, guidance and certification | - Build SME capacity through training, guidance and certification |
| - Provide knowledge sharing platforms | - Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation) | - Corporate with BCP vendors to promote SME specific BCP products | - Corporate with BCP vendors to promote SME specific BCP products |
| - Provide incentives for uptake | - Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation) | - Encourage BCP through business networks/peer-2-peer programs | - Encourage BCP through business networks/peer-2-peer programs |
| - Provide incentives for uptake | - Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation) | - Provide incentives through BCP contingent contracts | - Provide incentives through BCP contingent contracts |

Source: UNDRR
## Potential solutions to address barriers to investment in DRR and suggested pilots to test them

<table>
<thead>
<tr>
<th>Programme</th>
<th>Model development</th>
<th>Suggested pilots</th>
<th>Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donor support for DRR by SMEs</td>
<td>- Assess case for lending to SMEs for DRR as part of donor spending on resilience</td>
<td>- Amend capital adequacy rules to unlock investment by (re-)insurers <em>e.g.</em>, European Union</td>
<td>Providers of concessional finance</td>
</tr>
</tbody>
</table>
|                                                 | - Identify mechanisms, such as a regional resilience fund *e.g.*, developing countries | - Pilot tailored financial instruments:  
  - E.g.: Expand micro-finance for DRR *e.g.*, Philippines  
  - Explore expansion of Climate Resilience and Adaptation Finance & Technology Transfer Facility (CRAFT) for DRR finance to other regions/ sectors | International development and finance agencies                                     |
|                                                 | - Consolidate evidence on financing models, success factors and barriers          |                                                                                 | Governments                                                                  |
| Mechanisms for financial support               | - Develop candidate solutions to increase funding, assess cost and impact *e.g.*, developing countries |                                                                                 | Financial institutions (monetary financial institutions, SME divisions of public and private banks) |
|                                                 |                                                                                  |                                                                                 | Business chambers                                                            |

Notes: Italics – candidate countries, regions or sectors for potential pilots  
Source: UNDRR
### Potential solutions to support the development of resilient business models and suggested pilots to test them

<table>
<thead>
<tr>
<th>Programme</th>
<th>Model development</th>
<th>Suggested pilots</th>
<th>Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce barriers and provide incentives for innovation</td>
<td>• <strong>Develop models</strong> for government to incentivise efficient approaches, drawing on evidence of successful innovation in similar fields (e.g., DRF), experience of Covid (e.g., construction, transport, across sectors)</td>
<td>• <strong>Apply SM Group’s model of digital infrastructure provision</strong> to other regions (e.g., Caribbean)</td>
<td>• Governments</td>
</tr>
<tr>
<td></td>
<td>• <strong>Develop regulatory models</strong> that reduce barriers to new business models (e.g., targeting complexity of tax system, barriers to international diversification) (e.g. European Union, Africa, Latin America)</td>
<td></td>
<td>• Business chambers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Large corporations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• ARISE members</td>
</tr>
</tbody>
</table>

Notes: Italics – candidate countries, regions or sectors for potential pilots
Source: UNDRR
Potential solutions to foster adaptation of efficient contracts and suggested pilots to test them

<table>
<thead>
<tr>
<th>Programme</th>
<th>Model development</th>
<th>Suggested pilots</th>
<th>Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research/ pilots on what works</td>
<td>Synthesis on experience of contracting models, evidence of success factors/ barriers, impacts (e.g., agriculture, construction)</td>
<td>Pilot new contractual models in the construction sector with the Centre for SME Development (e.g., United Kingdom)</td>
<td>Governments and public bodies</td>
</tr>
<tr>
<td></td>
<td>Develop contract model archetypes, assess applications to key sectors/ regions</td>
<td>Conduct research on the propagation of risk along value chains (e.g., global; manufacturing and agriculture sector)</td>
<td>Business chambers</td>
</tr>
<tr>
<td>Capacity building</td>
<td>Support capacity building activities</td>
<td></td>
<td>Large corporations</td>
</tr>
<tr>
<td>Regulatory changes</td>
<td>Develop models of arbitration and enforcement</td>
<td></td>
<td>Business consortiums</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pilot SMEs</td>
</tr>
</tbody>
</table>

Notes: Italics – candidate countries, regions or sectors for potential pilots

Source: UNDRR

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This section will provide general recommendations to increase DRR uptake—focusing on enhancing Business Continuity Planning as a key enabler of DRR.

### Recommendations to enhance DRR uptake

- An analysis of the **barriers for DDR uptake** for SMEs, focusing on four critical conditions:
  1. Access to finance
  2. Adoption of resilient business models
  3. Efficient contracting
  4. Business Continuity Planning
- **Recommendations** to policy-makers, financiers and larger business for **reducing these barriers** to increase the general uptake of DRR by SMEs

### Deep Dive: Business Continuity Planning

- An analysis of **current BCP frameworks** and **suggestions for improvement**
- An analysis of the **barriers for BCP uptake** for SMEs
- **Recommendations** to policy-makers, financiers and larger business for **reducing these barriers** to increase the general uptake of BCP by SMEs
## Recap: BCP can serve as an entry point for DRR uptake

<table>
<thead>
<tr>
<th>Critical conditions for DRR uptake</th>
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<th>Broader business community</th>
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</tr>
<tr>
<td>Resilient business models</td>
<td>Providing supporting infrastructure</td>
<td>Provide incentives (e.g., through lower premiums/interest rates contingent on DRR measures)</td>
<td>Share necessary infrastructure (e.g., cloud infrastructure)</td>
</tr>
<tr>
<td>Efficient contracts</td>
<td>Provide SME capacity and awareness</td>
<td>Develop innovative affordable instruments tailored to SME needs</td>
<td>Adopt efficient contracting models</td>
</tr>
<tr>
<td>BCP uptake</td>
<td>Mainstream prevention into BCP definitions</td>
<td>Provide incentives for adoption of BCP supporting prevention (e.g., through contracts with lower premiums or interest rates contingent on BCP implementation)</td>
<td>Provide and disseminate information, tools and decision support for BCP</td>
</tr>
</tbody>
</table>

Source: UNDRR
Current BCP uptake is low amongst SMEs, with existing guidance poorly suited for risk prevention

Current BCP guidance comes from international bodies, governments and businesses and are adopted by SMEs on a voluntary basis.

- Most large firms have a BCP plan and follow BCM practices as outlined in ISO 22301. In contrast, there is little indication of international standards being adopted by SMEs.
- On average, only 20-30% of SMEs have a written BCP in place. The barriers which prevent SME uptake of BCPs are: lack of firm capacity, weak incentives, low disaster risk awareness and inadequate stakeholder support.

Even where formal BCPs are developed, they are complex and do not address some of the key resilience issues for SMEs.

- Many standards such as ISO 22301 may be too complicated to be effectively used by SMEs.
- BCP standards such as the British Standards Institute’s (BSI) BS 25999 do not consider key issues for SME resilience such as low organisational capacity.
- Most BCP definitions have a greater focus on ex-post recovery rather than prevention.

Enhancing SME resilience – Section 3: Recommendations to enhance BCP uptake

Drawbacks of current BCP approaches for SMEs

- Lack of tailored BCP guidance for SMEs
- Greater focus on recovery over prevention
The uptake of business continuity plans (BCPs) by SMEs has been low and inadequate

The map below displays examples of the uptake of DRR practices amongst SMEs around the globe. There has typically been low formal BCP uptake amongst SMEs, such as written plans, especially in developing countries with high levels of unregistered businesses.

In a 2020 study, only 20% of SMEs had taken ex ante measure for flooding risk

Only 31% of SMEs in Italy have a BCP that accounts for disaster risk

In Japan, only 10% of SMEs have implemented BCPs

A recent study in Kenya and Uganda showed only 33% of SMEs had written a BCP

Only 25% of micro firms have a BCP in place in the Philippines

In Dominica and British Virgin Islands, even though 67% of respondents had BCPs, only 15% had written plans with low levels of integration of DRM practices

52% of SMEs in Mexico have a BCP or risk strategy in place

57% of SMEs in India have a strategy in place to deal with future risks

In a 2008 study, no Australian SMEs had undergone planning for a pandemic

Notes: Data was obtained from Evans et al. (2008), (APEC, 2014), (UNIDO, 2020), (Intellecap, 2015), (Japan Ministry of Economy, 2019), (Red Cross Red Crescent Climate Centre, 2017), (Auzzir et al., 2018), (UNISDR Regional Office for the Americas and the Caribbean, 2018)

Source: UNDRR
A six-step guide of developing a comprehensive prevention-focused BCP can serve as an entry point for SMEs to undertake DRR measures

The ILO (2020)’s six-step guide was modified based on key opportunities to enhance BCPs

- Improved understanding of risks (scenario analysis) as well as DRR co-benefits
- Prioritisation of DRR investments and strategic SME decision-making
- Focus on prevention in BCP definitions and standards

Prioritising DRR investments require screening criteria & metrics such as:

- Cost effectiveness (e.g. return on investment)
- Longevity (e.g. time taken to realise benefits)
- Risk appetite (e.g. recovery time objectives)
- SME capacity (e.g. ease of implementation)

Notes: DRR elements are added to ILO’s six-step business continuity plan for SMEs (2020).

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## Potential solutions for policymakers to increase BCP uptake of SMEs

<table>
<thead>
<tr>
<th>Goal</th>
<th>Recommended actions</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance accessibility</td>
<td><strong>Mainstream prevention</strong> into BCP definitions (standard setting institutions, IOs, NGOs; with larger corporation, business chambers, practitioner groups)</td>
<td>The OECD (2020) and SMEs established foresight initiatives which include cooperation in <strong>stakeholder analysis and identifying a roadmap to understand risks</strong></td>
</tr>
<tr>
<td>Increase awareness</td>
<td><strong>Fund dissemination activities</strong> in pilot locations; M&amp;E to gauge success</td>
<td>In Kenya, AGRA (Alliance for a Green Revolution in Africa) funds a partnership between agricultural producers and buyers, that conducts <strong>ex-ante training to support SMEs with DRR decision-making</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>Establish a knowledge-sharing platform to facilitate peer-to-peer SME exchange</strong> of BCP best practices (governments, public bodies, IOs; with larger corporation, business chambers, practitioner groups)</td>
<td>In the UK, local authorities can use local resilience forums to connect SMEs and <strong>promote integration of ERM and BCP</strong>.</td>
</tr>
<tr>
<td>Provide incentives</td>
<td><strong>Provide incentives</strong> through supporting innovative ways to pool capacity at the community scale (national governments, local authorities, IOs, NGOs; with business chambers)</td>
<td><strong>Digitisation of prevention-focused BCPs</strong> can enable SMEs to complete guidance on-the-go using simple online forms and apps. There is scope to enhance pre-existing apps that build organisations resilience, such as ShaRe by Resilience First <strong>by adding ERM elements</strong>. This can be extended to SMEs via business chambers or ministries of trade.</td>
</tr>
</tbody>
</table>

Notes: Italics: stakeholders responsible. Bold highlights: DRR elements in case study.

Source: UNDRR based on Conservation Agriculture For Food Security, 2020; FAO, 2017; Mukherjee et al., 2020; UNDRR, 2020b; UNISDR Regional Office for the Americas and the Caribbean, 2018; UP ISSI, 2016, Resilience First, 2021

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# Potential solutions for financiers to increase BCP uptake of SMEs

<table>
<thead>
<tr>
<th>Goal</th>
<th>Recommended actions</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide incentives</td>
<td>Provide financial incentives to SMEs for BCP adoption through insurers and financiers (e.g. BCP certification to lower insurance costs/ loan repayment instalments, leveraging risk management expertise of insurance sector) (lenders, donors, financial institutions)</td>
<td>84% insurers in the UK are willing to provided improved insurance policy terms if a business had a BCP in Place (BIBA, 2020). Insurers can be part of pilots which provide reduced minimum premiums to SMEs with a BCP or ERM system. Large banks prolonging equated monthly instalment (EMI) dates for SMEs affected by COVID-19 in India. As a preventive measure, future EMI dates and payments can be linked to prevention-focused BCP undertaken by SMEs</td>
</tr>
</tbody>
</table>

Notes: Italics: stakeholders responsible. Bold highlights: DRR elements in case study.

Source: UNDRR based on AIG, 2013; BIBA, 2020
## Potential solutions for the broader business community to increase BCP uptake of SMEs

### Goal

<table>
<thead>
<tr>
<th>Enhance accessibility</th>
<th>Increase awareness</th>
<th>Provide incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td>Disseminate information and tools for risk assessment and decision support (large corporations, business consortiums; with government and public bodies, IOs, NGOs) <strong>Build capacity</strong> among SMEs for implementation of BCP (large corporations, business consortiums, practitioner groups; with government and public bodies, IOs, NGOs)</td>
<td>Increase awareness of BCP and disaster risks through peer-to-peer partnerships, connecting SMEs with larger businesses and through creation of a network of BCP champions (large businesses, ARISE members)</td>
<td>Provide contractual incentives (e.g. minimum BCP requirements in supplier agreements) to SMEs for BCP adoption (large businesses and suppliers)</td>
</tr>
</tbody>
</table>

### Case Study

| In Philippines, SM Group set the target of making 5,000 SMEs disaster-resilient through **prevention focused BCP training**. MaRS Start-up toolkit allows SMEs to select **strategic foresight options** most feasible to them. Some providers like BCI, complement ISO standards with practical templates and tools to support SME implementation. This can be further improved by **integrating ERM and BCP approaches**. Additional case studies: weather updates and DRR advise from Kukua weather station in Africa, UNISDR’s Quick Risk Estimation (QRE) tool | A business peer-to-peer mentoring programme in New York, has resulted in 83% survival rate of early-stage mentored SMEs, which includes **risk management advice**. In the Philippines, SME suppliers of large enterprises are often required to undertake BCP in supplier agreements. This can be **enhanced by adding DRR conditionality, like mandatory risk assessment**. |

Notes: Italics: stakeholders responsible. Bold highlights: DRR elements in case study.

Source: UNDRR based on ARISE Philippines, 2019; BCI, 2020b; Business Mentor NY, 2020; Gonzales, 2019; Sustainability West Midlands, 2013

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Next steps to implement suggested solutions to enhance accessibility to prevention-focused BCPs

<table>
<thead>
<tr>
<th>Model development</th>
<th>Suggested activities and pilots</th>
<th>Stakeholders</th>
</tr>
</thead>
</table>
| Research to understand what works                    | ▪ **Regional workshops** with SMEs and large corporations to assess increase in DRR activities following BCP
▪ **Empirical analysis** on the implications of COVID-19 for SME BCP planning focused on prevention | ▪ ARISE members
▪ Business chambers (e.g. FICCI, CARICHAM) |

| Apply and pilot enhanced BCP guidance                | ▪ **Workshop with BCP standard setting institutions** to identify ways of integrating prevention, and elements of ERM into BCP and in a simplified format
▪ Run **pilot initiatives** in sectors and regions suggested to test risk assessment / decision support approaches (e.g., apply and test eco-centric BCP models in agriculture sector, India; place-based BCPs, UK)
▪ Carry out M&E
▪ Develop accessible BCP as well as **risk assessment tools and tailored risk information** based on pilot evidence (e.g., digitalisation of BCPs, Caribbean; partner with weather station service to link risk information with BCP updates for agriculture sector, East Africa)
▪ Develop and share **screening criteria and metrics** for SMEs to prioritise risk management measures in BCP | ▪ ARISE members
▪ Business chambers
▪ Pilot SMEs
▪ Risk information providers
▪ Insurers |

| Enhance capacity of SMEs to develop BCP focused on prevention | ▪ Deliver **customised risk management training** in pilot areas based on local needs and capacity (e.g. digital and language accessibility)
▪ Facilitate **peer-to-peer partnerships** and connect SMEs with larger businesses supporting BCP
▪ **Network of BCP champions** (e.g. large businesses, ARISE members) to support with BCP planning
▪ Foster a marketplace for BCP solutions which focus on prevention and integrate relevant aspects of ERM by consulting with BCP vendors to customise solutions to SME needs
▪ **Guidebook** for BCP vendors on addressing barriers in the BCP marketplace, integrating strategic foresight into BCP and recommendations on how to approach SME clients | ▪ Business chambers
▪ Practitioner groups |
Next steps to implement suggested solutions to increase awareness of prevention-focused BCPs

<table>
<thead>
<tr>
<th>Model development</th>
<th>Suggested activities and pilots</th>
<th>Stakeholders</th>
</tr>
</thead>
</table>
| Broader dissemination | - **Partner with international stakeholders** to develop a plan (including content and channels) to disseminate DRR / planning information widely  
- **Knowledge-sharing platform** to facilitate peer-to-peer SME exchange of BCP good practices  
- **Workshop** with risk information institutions, business associations, financiers and insurers to identify channels of circulating risk information and risk assessment tools with SMEs  
- **Fund dissemination activities** in pilot locations. M&E to gauge success  
- **Guidance on dissemination** activities for other stakeholders | - Local governments  
- International DRR organisations  
- ARISE members  
- Business chambers |
## Next steps to implement suggested solutions to enhance incentives for BCP writing

<table>
<thead>
<tr>
<th>Model development</th>
<th>Suggested activities and pilots</th>
<th>Stakeholders</th>
</tr>
</thead>
</table>
| **Incentives for BCP through financial sector** | ▪ **Desk research and interviews** to inform strategic study on standards required by lenders and insurers to integrate aspects of ERM into BCPs to focus on prevention, costs and benefits – opportunities to develop, risks to address and DRR activities to pursue  
▪ **Strategic study** on opportunities for insurers and financiers on how to integrate BCP focused on DRR through SME insurance and financing, prospective benefits to stakeholders, next steps  
▪ **Run pilot initiatives** in sectors and regions suggested                                                                 | ▪ Local governments  
▪ International DRR organisations  
▪ ARISE members  
▪ Business chambers |
| **Incentives through contracts** | ▪ Parallel work programme to above, focusing on contractual incentives to adopt BCP                                                                                                                                                   |                                    |
| **Incentives for innovation**     | ▪ **Develop models** for governments to incentivise efficient approaches, drawing on evidence of successful innovation in similar fields (e.g. DRF, ERM), experience of Covid  
▪ **Pilot DRR models**                                                                                                           |                                    |
Conclusions

Low uptake of DRR by SMEs reflects a lack of access to finance, barriers to innovation/more resilient business models, skewed contractual relationships with larger companies, and low uptake of business continuity planning.

Policymakers, financiers and the broader business community can promote DRR uptake by, e.g.,:

- **Improving access to finance** through targeted incentives/DRR-contingent offers or increasing the overall availability of finance for DRR projects
- **Promoting more resilient business models** through reducing regulatory barriers (i.e., trade barriers), increasing access to digital technologies, building capacity
- **Fostering more efficient contracts** through reducing power imbalances and if needed adjusting the regulatory framework
- **Encouraging uptake of prevention-focused BCP** through providing a more comprehensive and more easily accessible framework as well as coordinated actions to increase accessibility, incentives and awareness of benefits of DRR

BCP can serve as a entry point for DRR uptake. Pilots and further research should be guided by successful examples provided in the case studies
Annex: Case studies on the benefits of DRR for SMEs
In Cameroon, NBS were rolled-out alongside farmer field schools to increase yields and diversity farmers’ revenues, reducing the impact of droughts

**Challenge** | Cameroon is experiencing increasing irregularities in rainfall due to climate change, is causing **reduced yields** for smallhold farmers and driving **food insecurity** in already vulnerable areas.

- Historically, smallhold farmers have focused on cultivating only one crop, providing a **single revenue stream** and leaving them **highly vulnerable** to the changes in rainfall.
- Traditional farming practices include slash-and-burn techniques which are **driving deforestation** in the Congo basin, which provides global environmental services including carbon sequestration and biodiversity conservation.

**Barrier** | As most smallhold farmers are based in remote areas, most lack **access to DRR technologies and techniques**, leaving them with **limited adaptive capacity** to changing rainfall patterns.

**Solution** | A **policy-led program** funded by the Canadian International Development Agency which worked in collaboration with smallhold farmers to improve their resilience through the implementation of NBS.

- The program provided farmers with access to bio-fertilizers and worked with smallholders to develop drought-resistant seeds.
- The program also included the development of farmer field schools, in which smallholders shared knowledge on different crops and collaborated to developing improved techniques.

**Impact** | The program included 2,000 poor and vulnerable farmers, resulting in increased yields of existing crops for 58% of farmers and diversified revenue streams for 81%.

- The program increased the resilience of smallholders by helping farmers **diversify their revenue streams** and implement NBS which **increased their crops’ resilience** to drought.
- It also led to several **co-benefits**, including improved environmental outcomes through reduced deforestation.

---

**Outputs**
- Knowledge-sharing
- Roll-out of NBS
- Development of improved techniques

**Impact**
- Increased yields
- Diversification of revenue
- Reduced deforestation

**Inputs**
- Provision of NBS including drought-resistant bio-fertilizers
- Development of farmer field schools
- Increased access to finance

Source: Antonielli et al (2017)
In Mozambique, road infrastructure investment was targeted to increase network resilience, reducing post-disaster disruptions to SME supply chains

**Challenge** | Road network vulnerability to flooding in Mozambique leads to **lengthy post-disaster disruptions** in supply chains for smallhold farmers.

- The economy of the Zambezia and Nampula provinces of Mozambique is highly dependent on smallhold farmers, but the road network has **low redundancy**, meaning that disruptions from a flood event can **cut smallholders off from markets** for months.

**Barrier** | The **geographical concentration** of rural SMEs means they are **highly dependent** on a few critical roads for market access, limiting their resilience to flooding events.

**Solution** | A **policy-led program** financed by the World Bank improved the resilience of the road network by targeting road infrastructure investments based on their criticality to rural economies.

- With limited finance for road infrastructure improvements ($15 million), **interventions were targeted** based on A) the current and future vulnerability of the asset and B) the criticality of the asset to rural economies, dominated by smallhold farmers.

- Based on the prioritization exercise, investments were made in cleaning and repairing bridges and upgrading culverts in priority districts.

**Impact** | The $15 million investment reduced annual losses to users (mostly smallhold farmers) by an estimated **$10-21 million** (with an overall benefit-cost ratio of 2).

- The program of investments improved the resilience of smallholders by **improving the resilience of the assets they depend on** to access markets. This has resulted in both **reduced revenue losses** and **reduced cost of transportation** post-disaster.

- It also led to several **co-benefits**, including reduced damage from disasters and improved market access for smallholders overall.


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In the Philippines, infrastructure investments improved the resiliency of the power network, limiting power-related losses

Challenge | The Philippines consistently suffers from heavy typhoons. Between 2002 and 2012, there were around 350 extreme weather events, causing $130 billion in damage annually and widespread power outages.

- SMEs are particularly susceptible to power outages, with less capacity for on-site power generators. Therefore, they are at greater risk of suffering economic losses from such weather events.

Barrier | Energy infrastructure in the Philippines was insufficient in its resilience to typhoons, due to lack of public and private investment. This left businesses, particularly SMEs, at risk of power-related losses.

Solution | Significant investments in the Philippines transmission and distribution (T&D) network.

- The National Power Corporation (NPC) approved two energy infrastructure projects in 2002, worth $90.4 million, using loans from the Asian Development Bank (ADB) and Japan Bank for International Cooperation.

- Investments included the reinforcement and upgrading of a 230kV T&D network between San Manuel and Mexico, on Luzon, with additional substation upgrades where required. Six transmission substations were also expanded on the island of Mindanao, as well as the connection of households in semi-urban/rural areas.

Impact | Investments substantially improved the reliability and capacity of power distribution in the targeted area. The project prevented the continued breakdowns of T&D networks and substations, as well as preventing the overloading of existing smaller powerlines in the Northern Luzon Transmission Corridor.

- Such improvements helps to mitigate the risk of power-related losses to SMEs, with infrastructure better equipped to withstand the effects of climate-related hazards.
In the UK, adverse weather contract clauses shifted the risk of hazards onto the employer, as well as stabilizing revenue streams for construction SMEs

**Challenge** | Construction SMEs have historically had a high vulnerability towards extreme weather events in the UK, such as heavy floods in 2007 and significant snowfalls in 2009/2010.

- In the 2009 snowfall, a large share of the businesses which were predicted to go bust due to operations failure were in the construction sector. At the time, 99% of construction businesses in the UK were SMEs.

**Barrier** | Disruption to site works can directly lead to a fall in income levels, limiting their ability to stay afloat or procure the necessary resources to adapt to such events. The construction sector also has a complex supply chain which may indirectly impede operations when impacted by hazards.

**Solution** | JCT Design & Build Contract (2011 and 2016)

- JCT contracts were initially introduced in 2011, which shifted the risk of adverse weather events away from the contractor and onto the employer.

- In the case of an adverse weather event, the JCT contract enables the contractor to claim a fair and reasonable extension of time to the project, without risk of penalty. Although there are situations in which the contractor can claim additional loss and expense claims, this is typically not the case.

**Impact** | Construction SMEs using the JCT contract benefit from revenue security, assured that they will not be replaced by larger firms who may be better equipped to adapt to extreme hazards.

- In 2017, there were 330,239 construction SMEs operating in the UK. Each contributed towards an average of ~£4,500 of value added per week. This highlights the opportunity for direct value gained by SMEs as a result of fair contract extension in the case of extreme weather.

- Where construction supply chains are damaged, project extensions also allow SMEs flexibility and time in procuring new resources to ensure completion of the work.
In Japan, a BCP plan helped a SME recover all business operations within a month and support restorative work for its customers after a tsunami

**Challenge** | Suzuki Kogyo Co. Ltd is a small business with 67 employees in Sendai City, Japan. The company is involved in the transport of industrial waste, recycling and water purification and provision. In 2011, Suzuki Kogyo was affected by the Tōhoku earthquake and tsunami.

- Due to the tsunami, the company’s propriety vehicles, equipment and machinery was lost, and incineration and other water facilities severely damaged.

**BCP Measures | BCP plan, in-house training and collaboration with experts**

- A **BCP plan** was initially drafted in 2008 and implemented in 2009 alongside in-house training with experts and practice drills to prepare for an emergency response.

- The BCP plan outlined **contracts with suppliers**, such as satellite phones that can be acquired in the event of a disaster.

**Impact | BCP planning helped the company resume communications and industrial activities within a week and recover all business operations within a month.**

- The company followed evacuation processes outlined in the plan, which included protocol to confirm the safety of employees, including those with customers.

- Pre-existing contracts enabled repairs to commence the day after the tsunami.

- Satellite phones outlined in BCP measures were used by the company to undertake restorative works for its customers and the wider municipality.

- Following the tsunami in 2011, the company **improved its BCP plan based on lessons learned** from its disaster response.

Source: UNDP (2013); Ballesteros, Marife M.; Domingo, Sonny N. (2015); ILO (2020)
Annex: Target groups
## Target Groups

<table>
<thead>
<tr>
<th>Stakeholder Group</th>
<th>Sub category</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Policymakers</td>
<td>International organisations</td>
<td>UNDRR, FAO, development agencies</td>
</tr>
<tr>
<td></td>
<td>Standards organisations</td>
<td>ISO, BSI</td>
</tr>
<tr>
<td></td>
<td>Governments and public bodies</td>
<td>National and regional authorities, ministries of trade, weather stations, local authorities</td>
</tr>
<tr>
<td></td>
<td>Non-profit organisations</td>
<td>NGOs (e.g. DRI International), academia (e.g. Centre for SME Development), practitioner groups (e.g. BCI)</td>
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<tr>
<td></td>
<td>Business chambers</td>
<td>CARICHAM, US Chamber of Commerce</td>
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<tr>
<td>Financiers</td>
<td>Insurers</td>
<td>AIG, Allianz</td>
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<tr>
<td></td>
<td>Donors</td>
<td>Countries and regional organisations (e.g. EU), international aid organisations (e.g. Red Cross)</td>
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<td></td>
<td>Lenders</td>
<td>Governments, banks, international institutes (e.g. EBRD)</td>
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<tr>
<td>Broader business community</td>
<td>Large corporations</td>
<td>UPS, Deloitte</td>
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<tr>
<td></td>
<td>Business consortiums</td>
<td>ARISE, local business forums</td>
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<tr>
<td></td>
<td>BCP vendors and providers</td>
<td>SM Group, PwC</td>
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</tbody>
</table>

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