

Small business in value chains

From Climate Risk To Resilience



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TRADE IMPACT
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Small business in value chains

From Climate Risk
To Resilience

About the guide

Managing risk and building climate resilience among small firms requires a team effort. Climate change is hitting SMEs hard, and supply chain disruptions have a domino effect. This guide explains how development cooperation agencies, business support organizations, policymakers, large corporations, financial institutions and technical suppliers can work together with small business to manage risk and boost their resilience.

The guide outlines a ten-step plan for small business climate resilience in value chains. It includes case studies from Morocco and Kenya to highlight how green partnerships and business ecosystems can support small firms to gain the skills and production improvements that make businesses more climate-resilient.

The plan builds shared risk awareness; makes the business case for adaptation; addresses skill gaps; and matches companies with financial and technical service providers. It stems from a collaboration between ITC and GIZ. This report is designed as a follow-up to the ITC report, *SME Competitiveness Outlook: Empowering the Green Recovery* to address small business needs in value chains.

Publisher: International Trade Centre

Title: From climate risk to resilience: Small business in value chains

Publication date and place: Geneva, July 2022

Page count: 28

Language(s): English

ITC Document Number: RSE-22-33.E

Citation: International Trade Centre (2022). From climate risk to resilience: Small business in value chains. International Trade Centre, Geneva, Switzerland.

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Foreword



Opportunities can spring from the darkest corners. The pandemic lockdown and the continued impact of climate change have severely tested the resilience of small businesses in value chains, as well as their families, local communities and national economies.

This makes it the right time to look at how we can create a positive domino effect for those families, communities, countries and consumers who produce and consume goods and services through international supply chains.

This guide offers a concrete way to strengthen ties in the value chains, empower communities, find green solutions and integrate environmental thinking in business problem-solving. It's proof that Sustainable Development Goals push international and national policies and partnerships. This is a tested approach to sustain businesses, livelihoods, nature and communities that are at the heart of value chains.

Small businesses are the backbone of our globalized economy. They have advantages over large firms, as they can swiftly respond to customer needs and embrace new opportunities. However, they often lack access to capital, technology, skills and knowledge – deficits that can undermine their resilience in the face of unforeseen shocks.

The COVID-19 pandemic has shown that resilience – the ability to survive and respond to disruption – matters. Our research demonstrates, there is a significant 'resilience divide' between small and large firms.¹ The resilience divide is deepest for small businesses in developing countries, partly because their governments don't have the financial means to keep private firms afloat in a crisis.

While the impact of measures to contain the pandemic has been massive, it is dwarfed by the threat from climate change. Heatwaves, floods and other extreme events are more frequent. Climate change is shifting temperatures and rainfall patterns in ways that pose existential risks to ecosystems, societies and economies – including small businesses.

¹ International Trade Centre. (2021). [SME Competitiveness Outlook 2021: Empowering the Green Recovery](#).



At the same time, the fight against climate change can also offer new opportunities for them. By adapting to climatic changes, small businesses can increase the resilience of their businesses, and venture in the development of new goods and services needed in the low-carbon transition.

This handbook outlines the climate challenge for firms, offers a 10-step plan to build climate resilience across the value chain, and provides concrete business cases that demonstrate the results of this approach.

Raising the climate resilience of small businesses is a central element of the ITC strategic plan, so that they can address the impact of shocks and disruptive change. This publication, in fact, is based on work of the ITC *GreenToCompete strategy*, and deepens the research published in the ITC *SME Competitiveness Outlook: Empowering the Green Recovery*.

Greater climate action is urgent, as indicated in the Intergovernmental Panel on Climate Change's Sixth Assessment Report, *Climate Change 2022*. Only through climate mitigation can we avoid the vicious circle of rising temperatures with further adaptation to even higher temperatures. Small businesses can contribute through direct mitigation and smart adaptation to improve company resilience and reduce or avoid greenhouse gas emissions at the same time.

If the future is written by businesses which meet the challenge of climate change and also seize its opportunities, this guide will have served its purpose. Small businesses are indeed the key to empowering a green recovery and helping their communities and countries to attain a more equitable, sustainable future.

Pamela Coke-Hamilton

Executive Director
International Trade Centre

Acknowledgements

This handbook builds on the lessons learned from ITC projects funded by German Federal Ministry for Economic Cooperation and Development (BMZ) through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Annegret Brauss, former coordinator of the ITC GreenToCompete strategy, directed preparation of the report. ITC colleagues who developed and implemented the plan and conducted research in developing countries include Ann-Kathrin Zotz, Annegret Brauss and Delphine Clement. The writing team included Natalie Domeisen, Stephen Graham, Angela Giannini, Sarah Nash and André Freire. Cherika Hardjakusumah coordinated the communications.

We thank ITC colleagues who provided comments and contributions to the report, in particular Sarah Mohan, Lorenzo Formenti, Alexander Kasterine and Petter Lydén.

Sarah Nash edited the report, under the guidance of Natalie Domeisen. Anne Griffin managed its production. Design Plus d.o.o. provided graphic services. Benedikt Roiger contributed graphic illustrations to the report. Printing support was provided by Serge Adeagbo.

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Acronyms and abbreviations

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tons are to metric tons.

BSO	Business support organization
BMZ	Federal Ministry for Economic Cooperation and Development, Germany
CERA	Climate and Environmental Risk Assessment
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
ITC	International Trade Centre
SME	Small and medium-sized enterprise



Executive Summary

If we are to empower a post-pandemic business recovery that meets the needs of small firms, we need to support an economic transition that is in tune with our environment.

This topic was explored in the recent ITC flagship publication, *SME Competitiveness Outlook 2021: Empowering the Green Recovery*.

To deepen the findings of that report, this handbook offers guidance on a critical challenge: enabling small firms to manage climate risk in international value chains. It explains a 10-step programme developed and tested by the International Trade Centre through several technical cooperation projects over the last few years. The programme integrates the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Climate Expert, an approach and working materials that help companies generate strong adaptation strategies.

National business support organizations and international and non-governmental organizations play a key role in supporting climate resilience of SMEs. Through their work, they support many others such as international buyers, finance and technology providers and national trade promotion organizations, who all want to see small firms adapt successfully to climate change and trade.

Climate change poses existential risks to small businesses. Small businesses ensure social cohesion and form the fabric of many economies, yet they are among the most vulnerable to the impacts of climate change. Resilient SMEs are more competitive, and this makes local communities stronger.

To manage risks and seize new opportunities, actors in the business ecosystem need to understand shared risks and work to overcome them. The 10-step programme is organized into three phases of action: mobilize, coach and implement.

- **Mobilize.** The mobilization phase identifies climate risks and opportunities in a value chain. Leads begin to engage stakeholders, identify coaches and select SMEs for the programme.
- **Coach.** In the coaching phase, SMEs develop business cases for adaptation measures jointly with an expert coach.
- **Implement.** During the implementation phase, SMEs apply the adaptation measures. Regular monitoring documents progress at the business level and at the programme level.

Tested and verified in different sectors and countries, this report showcases the application of the Climate Resilient SME Programme in two developing countries. In Kenya, the Ngorongo Tea Factory case study illustrates climate resiliency at the SME level. The Moroccan case study focuses on the effects of climate adaptations for business ecosystem players in clothing manufacturing.

CHAPTER 1

SMALL BUSINESS MUST ADAPT TO SURVIVE

Climate change is the defining challenge of our time. With changing weather patterns and extreme events, it poses existential risks to small businesses in international value chains. Small businesses are particularly vulnerable given the structural challenges they face and their critical roles in international value chains.

Actors in business ecosystems can support small businesses to overcome challenges and seize opportunities that a changing climate brings. SMEs form the foundation of many developing country economies and ensure social and economic cohesion. When small businesses are resilient to climate fluctuations, they strengthen themselves and the communities that depend on them. In turn, international value chains gain greater stability.

Policymakers, business support organizations, international buyers, financiers, technology suppliers and service providers are instrumental to support small businesses to become climate resilient.

Climate change hits SMEs hardest

Climate change threatens small businesses on multiple fronts. The world is more than 1°C warmer compared to preindustrial levels (and more than 1.5°C warmer over land) and on track to be at least 3°C warmer towards the end of this century.^{2,3} On all continents, people experience extreme weather events like cyclones, floods, heatwaves, droughts and wildfires as well as shifts in temperature, precipitation (whether rain or snow) and sea level that create lasting landscape changes. These changes degrade ecosystems, upend agriculture, overwhelm infrastructure, impact human health and threaten the economic, social and governmental structures on which people depend. Worldwide economic stress and damage from such events totaled \$165 billion in 2018 and is expected to grow as weather extremes intensify.⁴ By their nature, SMEs draw from local resources, workers and infrastructure, so any adverse effects to the locality affect small firms as well.

Developing countries are impacted to a greater degree than developed countries and have less capacity to manage the consequences of climate change. Heat stress, for instance, is projected to reduce labour productivity by 3% in South and South-East Asia and in West and Central Africa by the end of this decade.⁵ Over 100 million people worldwide could be pushed into poverty by 2030.⁶

SMEs in developing countries are doubly vulnerable to climate change. Many SMEs are highly dependent on commodities, exposing them to climate-induced shortages and price fluctuations. Small businesses often lack diversification in end-markets, product offerings and suppliers. The human, financial and technological resources in small firms are often inadequate to make operations more resilient. Developing countries with poor infrastructure and limited government capacity add to the further exposure of SMEs to climate risks.

2 IPCC. (2021). *Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, United Kingdom.

3 United Nations Environment Programme. (2020). *The Emissions Gap Report 2020*, Nairobi, Kenya.

4 World Economic Forum. (2020). *The Global Risks Report 2020 - 15th edition*. Geneva, Switzerland.

5 International Labour Organization. (2019). *Working on a warmer planet: The impact of heat stress on labour productivity and decent work*. Geneva, Switzerland.

6 World Bank. (2016). *Shock Waves: Managing the Impacts of Climate Change on Poverty*. Washington D.C., United States of America.

If SMEs fail, big businesses will follow

In our globalized economies, small companies are essential to complex value chains. Small firms make up over 95% of all firms worldwide, account for approximately 50% of GDP and 60–70% of total employment.⁷ Many value chains encompass multiple countries across several regions, an extensive logistics and transport network, a significant number of stakeholders and a large, combined workforce. As the foundations of international value chains, the stability of these small firms is paramount to the health of the entire value chain.

Small businesses in particular face numerous risks if they are unable to deliver because of climate shocks. Interruptions to production directly threaten their workers' livelihoods. If buyers shift to new suppliers while SMEs are incapacitated this can cause extensive damage to their reputations and business stability.

The risk of a domino effect in supply chains is high, as supply shortages have shown during the COVID-19 pandemic. The destabilizing effect of disruptions to the supply chain is unlikely to occur in isolation. If any actor along the chain fails, the others are equally exposed to risk to not be able to deliver in time at adequate quantity or quality. The cumulative damage can be vast and affect whole sectors and economies.

Private sector faces severe impacts

Like all parts of society, the private sector faces significant impacts from both underlying climate change and the extreme weather it brings. For instance, after the 2011 floods in Thailand, approximately 90% of the \$45.7 billion in damages was borne by private companies.⁸ This cost on private industry creates ripples of impact on individual companies, the region and throughout their value chains.

The cost to the world economy is no less daunting. In 2020 alone, global economic losses from natural catastrophes totalled \$190 billion.⁹ Under the current trajectory, the world economy may be 18% smaller by 2050 than in a stable climate.¹⁰ The cumulative weight of these costs to all businesses clearly requires action.

Taking no adaptive measures against climate change is not a choice. Globally, over 200 of the world's largest firms estimated that climate change would cost them a combined total of nearly \$1 trillion in case of non-action.¹¹ Clearly the risk of inaction has its costs. However, not all countries or companies perceive the risk of climate change in the same way.

Climate risk perceptions vary by region

Companies in developing countries increasingly recognize the link between climate risks and business survival. In a recent ITC survey of 1,360 SMEs in Sub-Saharan Africa, 68% acknowledged environmental risks as significant for their operations.¹² As discussed previously, this view is not surprising considering the vulnerability of developing country SMEs to climate change.

Yet there are differences between the views of firms in developed and developing countries. Just 54% of companies interviewed in developed countries said climate change posed short-term risks.¹³ In developing and emerging countries the percentage is considerably higher, ranging between 68% and 83%.¹⁴ Firms in developing countries undoubtedly feel the connection between climate change and business risk.

Companies that export are more likely to invest in climate adaptation. In the survey of SMEs in Sub-Saharan Africa, 48% of exporters were investing in flood prevention systems and other adaptation measures, compared to just 39% of non-exporters.¹⁵ This shows how SME involvement in international value chains can help increase climate resilience.

7 International Trade Centre. (2015). *SME Competitiveness Outlook 2015*. Geneva, Switzerland.

8 Ministry of Finance, Royal Thai Government and The World Bank. (2012). *Thailand Flooding 2554: Rapid Assessment for Resilient Recovery and Reconstruction Planning*. Bangkok, Thailand.

9 Swiss Re Institute. (2021). *Sigma No. 1/2021*. Zurich, Switzerland.

10 Swiss Re Institute. (2021). *The economics of climate change: no action not an option*. Zurich, Switzerland.

11 World Economic Forum. (2020). *The Global Risks Report 2020 - 15th edition*. Geneva, Switzerland.

12 International Trade Centre. (2020). *SME Competitiveness Outlook 2020*. Geneva, Switzerland.

13 AXA Group and UNEP. (2015). *Business Unusual: Why the climate is changing the rules for our cities and SMEs*. Paris, France.

14 International Trade Centre. (2020). *SME Competitiveness Outlook 2020*. Geneva, Switzerland; AXA Group and UNEP. (2015). *Business Unusual: Why the climate is changing the rules for our cities and SMEs*. Paris, France.

15 International Trade Centre. (2021). *SME Competitiveness Outlook 2021*. Geneva, Switzerland.

Figure 1 Exporting SMEs invest more in adaptation



Adaptation creates opportunities

The COVID-19 crisis has illustrated that resilience matters. Specifically, company resilience is based on the strength of its business processes, its internal and external connections, and its ability to pivot when crisis strikes for a better chance of long-term success. For example, during the pandemic only 16% of resilient companies reported laying off employees compared with 76% of companies with a lower index of resilience.¹⁶ Retaining the workforce is key to sustaining continuous and long-term performance.

Now is the time for businesses to translate their growing awareness of climate change into actions that improve their resilience to current and future impacts. The deepening impacts of climate change mean that many businesses need to adapt before effects hit to reduce risk and seize opportunities to cut costs and develop their business.¹⁷ These efforts carry costs, however, the costs of inaction are often higher. SMEs who fail to adapt to climate change could face many difficulties and miss the benefits from taking action (see table below).

Table 1 Building resilience to climate change: Avoiding risks, gaining benefits

 Business area	 Risks of inaction	 Benefits of action
Operations	Business interruptions from input or labour shortages, damage to equipment, blocked access, severed transport links, power outages; stiffer competition from firms with more resilient processes and products	Business continuity even in times of environmental stress and more efficient production; development of innovative products and services answering to climate risks
Materials	Rising raw material prices; loss of production inputs, raw materials or products destroyed by extreme weather; damage to property, high insurance premiums	Lower material losses and insurance costs for extreme weather events
Employees	Risks to the health and safety of staff, suppliers and customers	A secure working and business environment that builds confidence and satisfaction among staff, suppliers and customers
Finance	Higher financing costs, as investors are starting to demand transparency about the climate-related physical risks in companies' operations and supply chains	Enhanced access to lower-cost financing and green finance products
Compliance	Higher costs of compliance with new social and environmental regulations; customer requirements in working conditions, waste, emissions, and recyclability of products	Lower compliance costs through the anticipation of new regulations and the ethical requirements of domestic and export customers
Reputation	Reputational damage in case of delayed deliveries, which could turn off customers and exclude SMEs from international value chains	A positive corporate image that helps sell products and services, cements relationships in international value chains

¹⁶ International Trade Centre. (2021). *SME Competitiveness Outlook 2021*. Geneva, Switzerland.

¹⁷ UNDRR. (2020). *Reducing Risk & Building Resilience of SMEs to Disasters*. Geneva, Switzerland.



SMEs have an important part to play in the low-carbon transition, like any other actor in society. Government regulators, community advocacy groups and customers expect greater compliance with environmental practices. And there is support available through green financing to SMEs that embrace sustainability.¹⁸ Climate action, whether reducing or avoiding greenhouse gas emissions or adapting to the impacts of global warming, is a crucial component of the responsible business practices that are taking root in all countries.

Adaptation measures

Adaptation strategies must match the specific needs and capacities of each firm as well as the local context in which they operate. Examples include the use of water-efficient technologies such as drip irrigation in agriculture, flood- or heat-resilient materials in factories and offices, and flood protection for company premises, such as flood gates. Among SMEs what climate adaptation looks like in practice varies widely in response to many factors including local climatic conditions, the industry sector and the regulatory environment.

Investments can deliver significant benefits. For example, installing solar panels, using geothermal power and upgrading electrical equipment can enable a company to keep operating when severe weather brings down power grids. These types of renewable technologies supply the energy needs of the company while reducing greenhouse gas emissions and taking pressure off the local energy grid. These are significant benefits for the company and the community at large and can contribute to reducing or avoiding emissions of greenhouse gases at the same time.

A support community builds climate-resilient SMEs

Many small businesses face the same structural issues such as access to finance, skilled workers and technology. While small businesses are investing more in general risk reduction,¹⁹ these same local structural challenges make it hard for them to build climate resilience on their own. Solving some of these structural challenges in the business ecosystem will allow SMEs to be more adaptable and strengthen the value chains in turn.

Small businesses need a support community to implement viable climate adaptation strategies. Partners such as business support organizations, government agencies, non-governmental organizations and corporations further up the value chain can play crucial roles as enablers. For example, SMEs often lack the ability to identify environmental threats and to assess adaptation options, including new resilience-building services and technology. They may also lack the means to devise and implement adaptation plans. Business support organizations can draw on this handbook to help SMEs close these gaps and recognize the business advantages of adaptation.

¹⁸ Schaer, C., & Kuruppu, N. D. (2018). Private-sector action in adaptation: Perspectives on the role of micro, small and medium size enterprises. UNEP DTU Partnership.

¹⁹ International Trade Centre in collaboration with CPCAF. (2020). *Promoting SME Competitiveness in Francophone Africa*. Geneva, Switzerland.



CHAPTER 2

THE CLIMATE RESILIENT SME PROGRAMME

ITC developed a Climate Resilient SME Programme to improve adaptability in small businesses in international value chains. Business support organizations (BSOs), international organizations and nongovernmental organizations who support SMEs to become climate-resilient can apply the lessons from this flexible programme to different industries and contexts.

Built upon the innovative Climate Expert approach devised by GIZ,²⁰ it guides companies in identifying climate risks and opportunities, as well as measures and strategies to boost resilience. The programme was tried and tested and further enhanced through different interventions in developing countries. Based on the lessons learned, this publication aims to disseminate this approach to enable ongoing learning toward climate change adaptation in the developing world.

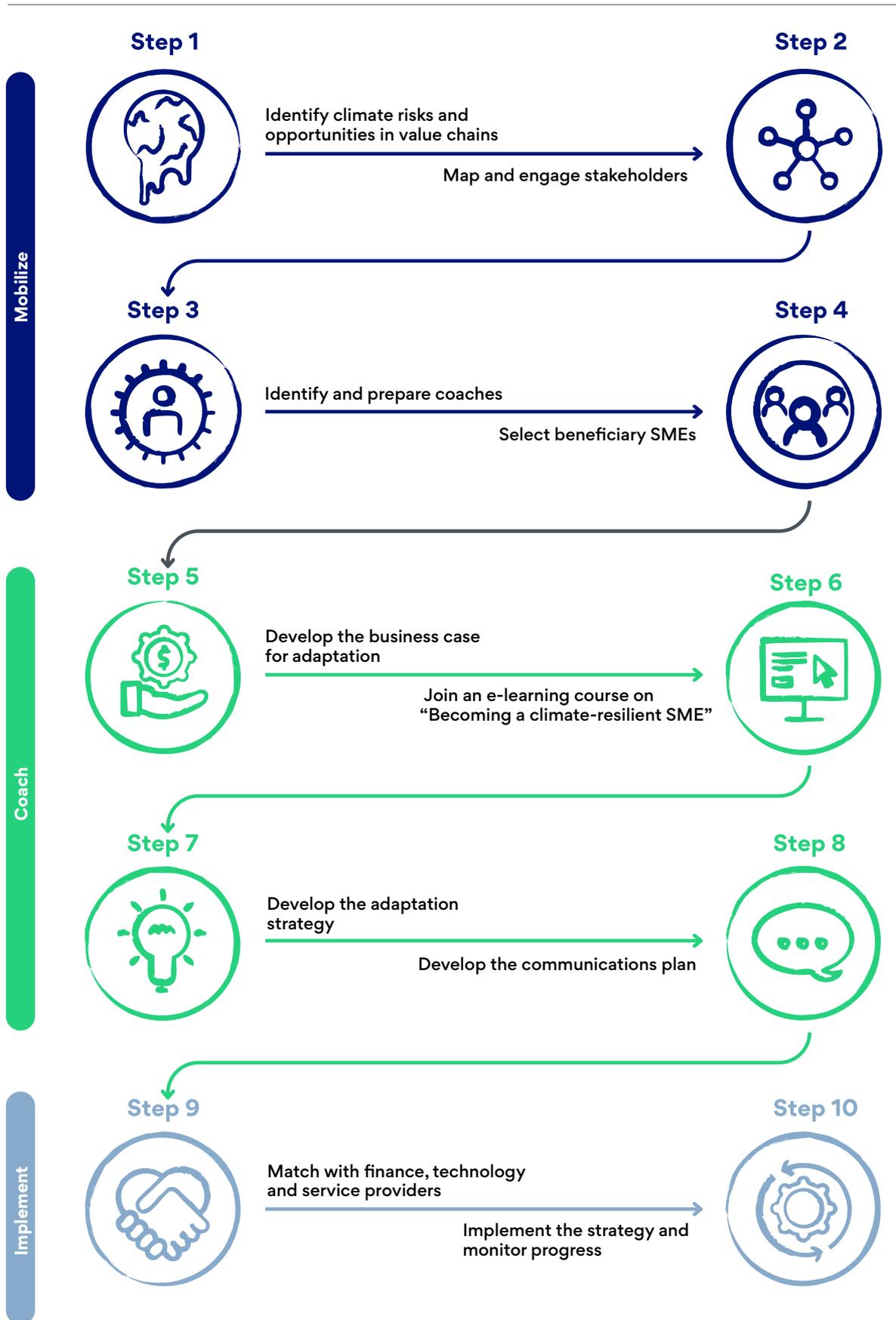
The Climate Resilient SME Programme produces strong engagement with the wider business ecosystem in these efforts to improve the resilience of small business. Actors in the business ecosystem include business support organizations, policymakers, buyers in international value chains, financial partners and technology providers. It emphasizes company support to implement measures and strategies that they have selected.

Development organizations can apply the programme across sectors and value chains. Chambers of commerce, industry associations, multinational corporations, government or non-governmental organizations can use it to extend climate resilience benefits to as many businesses as possible. These organizations play a central coordinating role throughout the climate resilience technical assistance programme as it is envisaged in this document.

The following figure provides an overview of the Climate Resilient SME Programme along its three phases to mobilize, coach and implement.

20 GIZ Climate Expert Approach (<https://www.climate-expert.org/en/home/>)

Figure 2 The 10 steps of the Climate Resilient SME Programme



Mobilize: Gather a team to support SME adaptation



Step 1: Identify climate risks and opportunities in value chains

Understanding the climate risks and opportunities facing the selected value chain is key (see examples in table 1). Partners implementing the programme can use this information to design the project interventions.

The first task is to map out the value chain. The value chain map consists of the actors and activities involved in producing and delivering products, and how they are linked.

This analysis reveals existing connections and makes identifying systemic interventions easier. It may be necessary to recruit expert consultants to assist with mapping and assessment exercises.

Second, value chains should be analysed against climate data that show changes in variables such as temperature and rainfall. If available, use relevant, up-to-date climate data. Both historical and future projections are needed. The analysis must take into account where value chain actors are located, as well as their assets and operations. This information determines the scale of likely impacts.

Third, conducting interviews with a representative group of SMEs and other value chain actors will provide a clearer picture of their current state of preparedness for ongoing and projected climate impacts. Records of their experience with climate change can bring to light unaddressed vulnerabilities and target areas for opportunities.

An exploration of these findings can pinpoint the actors and activities most threatened by climate change. Alternatively, it also identifies those with the most potential to gain from actions to improve resilience. The CCAT (Climate Competitiveness Assessment Tool) approach developed by ITC is a useful tool for carrying out this analysis (see the following box).

Box 1 ITC Climate Competitiveness Assessment Tool

The low carbon transition and the physical impacts of climate change are presenting firms in developing countries with new climate competitiveness challenges. Both the physical risks of climate change and transition risks pose significant threats to businesses. In many cases, particularly in developing countries, the extent of these risks (and opportunities) remains unclear or unknown due to lack of awareness or access to information.

Information and technical assistance are therefore urgently required to support companies and trade policy makers to build their climate resilience and competitiveness and so successfully navigate the low carbon transition.

The Climate Competitiveness Assessment Tool (CCAT) is a methodology for the analysis of climate-related risks and opportunities in agricultural value chains. It supports policy and investor decision making on building climate resilience and competitiveness.

Benefits for the user

1. Menu of priority actions for policy makers to mitigate exposure of agricultural exports to climate risk and exploit emerging opportunities
2. Overview of emerging climate-related opportunities for exporters of agriculture and forest products.
3. Pathway of climate mainstreaming actions for project managers planning agriculture value chain projects

Sources:

ITC report of climate risks and opportunities in Iraqi agrifood value chains:

<https://iraq.un.org/index.php/en/130256-climate-change-risks-and-opportunities-iraqi-agrifood-value-chains-itc>



Step 2: Map and engage stakeholders

Involving stakeholders from across the value chain and the wider business ecosystem is key to generate sustained engagement from SMEs. Engaging stakeholders builds local and international networks and alliances which can last far beyond the duration of the project. With enough momentum, a resilience initiative can evolve into a comprehensive, multi-stakeholder platform on climate change that could trigger further innovation and adaptation within and beyond the target sector.

A mapping of the stakeholder landscape before the start of project activities should include representatives from the target sector, green and sustainable finance providers, traditional development partners and other related actors. Once the stakeholder mapping is complete, a sensitization workshop with broad involvement from key national and international stakeholders can help lay strong foundations for the initiative and provide a platform for its launch.

Important elements to illustrate during the mapping are the green finance products available to SMEs. These products should include grants and loans, any associated interest rates or other costs, and qualifying conditions. A workshop to provide an overview of the financial landscape can be held during the coaching phase of the programme.

'Strong partnerships between suppliers and international buyers are the key to respond to climate risks. We encourage buyers in the textile value chain to understand their suppliers' climate risks by providing a space for informal conversations and mutual listening.'

*Carole Hommey, Coordinator,
Initiative for Compliance and
Sustainability*

Box 2 Key ecosystem stakeholders in a climate resilience project

International buyers

International buyers are often multinational corporations sourcing materials or products from developing countries. Some international buyers have their own in-country operations. Other entities may work through local partners or in association with similar companies engaged in initiatives to promote sustainable business practices.

The involvement of international buyers in a resilience initiative strengthens the commercial argument for SMEs to engage. A commitment to climate action is something that international buyers increasingly insist upon from their suppliers. Boosting resilience can help SMEs to meet those requirements while also strengthening their own competitiveness and protecting their business against environmental risks.²¹

Generating active dialogue between international buyers and their suppliers during the project helps create an appreciation of mutual climate risks. With broader experiences, the buyer can share expertise or help to access finance. Exchanges around potential adaptation measures can spur joint climate action.

International buyers stand to benefit a great deal from inclusion in a sustainability project. From improved environmental durability in their supply chains, reduced risk of climate-induced disruptions, deeper relationships with suppliers, and the opportunity to spread knowledge gained to suppliers in other sourcing countries, the value is far-reaching. This is especially true in light of the supply chain due diligence laws introduced recently in consumer countries such as Germany and France.

Financial institutions

Green finance is investment in sustainable development policies, products and initiatives, including efforts to advance climate adaptation and resilience. Billions of dollars are expected to flow into adaptation efforts in developing countries in the decades to come. About 10% or fewer of the actors targeted or addressed by adaptation efforts in recent years are SMEs.²² However, efforts to increase financial support for the private sector are growing.²³

21 International Trade Centre. (2020). *SME Competitiveness Outlook 2020*. Geneva, Switzerland.

22 United Nations Environment Programme. (2021). *Adaptation Gap Report 2020*. Nairobi. Figure 5.5, p. 38.

23 World Bank Group. (2021). *Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development*. World Bank, Washington, DC.

To help businesses get financial support for adaptation, it is important to engage the financial sector at the outset of a resilience initiative and map the products and services that financial players can offer. Commercial and development banks, traditional and impact investors, and climate insurance providers can all be invited to take part (see Step 9 in the programme). SMEs who develop viable plans to boost their resilience and competitiveness can make attractive clients for financial service providers.

Business support organizations

Business support organizations (BSOs) include trade promotion organizations, chambers of commerce, sector associations and incubators or accelerators of small start-ups. In some cases, a BSO may be the leader of a resilience initiative, in others one or more BSOs may be among the stakeholders providing support.

BSOs have been less focused on sustainability and climate change than on traditional business needs, such as establishing buyer linkages and representing a sector. However, climate risks are increasing; changing the needs of BSOs' constituents. Along international value chains, SMEs receive stricter sustainability requirements by international buyers. Many BSOs have started to adapt their offerings accordingly.

Given the role and networks of BSOs, they can both benefit from and contribute to a resilience initiative. For example, they can provide expertise on environmental and climate change issues or mobilize industry and value chain stakeholders to join forces. BSOs can also act as multipliers of resilience services for SMEs by leading training and advisory services themselves. For example, ITC has established a network of BSOs that are supporting their constituents in the implementation of environmentally friendly business practices.²⁴

Technology and service providers

Climate adaptation measures often include upgrading machinery or technology as well as accessing external technical skills and services. Mapping and engaging relevant technology and service providers early in the programme opens channels for dialogue, collaboration and new business relationships that advance resilience. For instance, in both the mobilization and coaching phases of the programme, educational and technical institutes with expertise in industrial assessments or environmental audits can provide coaching activities (see Step 3). In the implementation phase, workshops can create and deepen links between SMEs and technical solution providers that can help implement adaptation plans on either a commercial or non-commercial basis.

Policymakers

Mobilizing policymakers, in particular local government representatives, around a resilience project is important because not all climate risks can be managed by the private sector alone. Adapting to some aspects of climate change requires public interventions. For example, improvements in infrastructure provides better roads in flood-prone areas to ensure the movement of goods and materials. Policymakers and the private sector can work together to promote larger investments in risk reduction.

Engaging with policymakers raises their awareness of how companies are affected by climate change and the issues they face to adapt. Policymakers may also see more clearly the risks and opportunities that climate change and successful adaptation represent for communities and economies. As a result, they may recognize what is needed to create an enabling environment for SMEs' own adaptation efforts, including supportive policies and finance.²⁵

24 For more information on ITC GreenToCompete Hubs, visit: <https://greentocompete.org/hubs/>

25 Please refer to the "Green action plan for policy makers" as part of International Trade Centre. (2020). *SME Competitiveness Outlook 2020*. Geneva, Switzerland.



Step 3: Identify and prepare coaches

A central figure in the programme is the coach, the expert engaging directly with companies to develop and implement an adaptation strategy. The coach must be able to fill several roles: climate specialist, value chain/industry sector expert, and skilled diplomat. The coach will need all these abilities to build the trust of the managers and employees of a participating SME, guide them through the process and secure a positive outcome.

The duties of the coach include collecting the data needed to evaluate potential adaptation options, including their financial feasibility, and developing adaptation strategies with the SME. The coach will also link with local solutions providers (such as providers of technologies or finance) and support the implementation of the selected measures. The following box outlines criteria to identify suitable coaches.

Coaches can be prepared for their work with the companies through a Training of Trainers workshop. During the workshop, coaches should learn about the structure of an adaptation programme (such as the 10-step programme outline in this document and the Climate Expert approach) and the tools available to support their work. Building a pool of skilled local coaches can help maintain and spread climate adaptation knowledge and skills in the target country long after the programme's conclusion.

Box 3 Selection criteria for climate resilience coaches

A coach can bring unique experience and expertise depending on the company's needs. Some have a scientific or engineering background, while others have a business-oriented skillset. General requirements for adaptation coaches include:

- Educational background in economics, business administration, geography, environmental engineering, corporate sustainability or a related field;
- Excellent knowledge of the relevant economic sector;
- Experience in coaching SMEs (for example, background in auditing and management consulting firms, experience assisting companies to obtain certifications) and undertaking environmental assessments;
- Wide-ranging skillset needed to build and maintain strong partnerships and working relations with SMEs, including the ability to persuade, motivate and manage people in diverse roles, and to gather, analyse and communicate information;
- Experience in conducting cost-benefit analyses and net present value calculations for project evaluations.



Step 4: Select beneficiary SMEs

The final step in the mobilization phase is selecting the businesses that will take part. Candidate SMEs can be identified by inviting expressions of interest through different networks, including those of partner organizations, BSOs and international buyers.

Depending on the target country and sector, the call for expressions of interest can set criteria for qualifying companies. SME information such as the nature and location of their activities, number of employees, volume of sales and exports, climate impacts already experienced, previous adaptation measures implemented and buy-in from company management all are useful for evaluating candidates.

Preference can be given to cooperatives or social enterprises. Such companies are often run by women or youth or located in regions which traditionally receive less assistance. Participation in this programme is more impactful to social enterprises given the additional sustainability impacts they create in the community. Prioritizing companies in this way helps identify those for whom the programme is most promising, as well as those most likely to successfully implement the climate adaptation strategy.

Holding a short workshop for all stakeholders is useful to gauge interest from companies to join the programme. The organization leading the programme can present the rationale behind the programme objectives and methods, gather feedback from companies, and share knowledge and experiences.

Coach: Build a plan toward climate resiliency



Step 5: Develop the business case for adaptation

SME self-assessment

Before face-to-face coaching begins, managers of participating SMEs should provide information about the climate risks they are facing as well as their preparedness for climate change through a structured questionnaire. This self-assessment provides important background for the coaches to prepare for their first meeting with the company. The questions focus on the climate change impacts that companies have already experienced, how they responded to them, and the challenges and opportunities that they see arising from climate change adaptation.

Face-to-face coaching

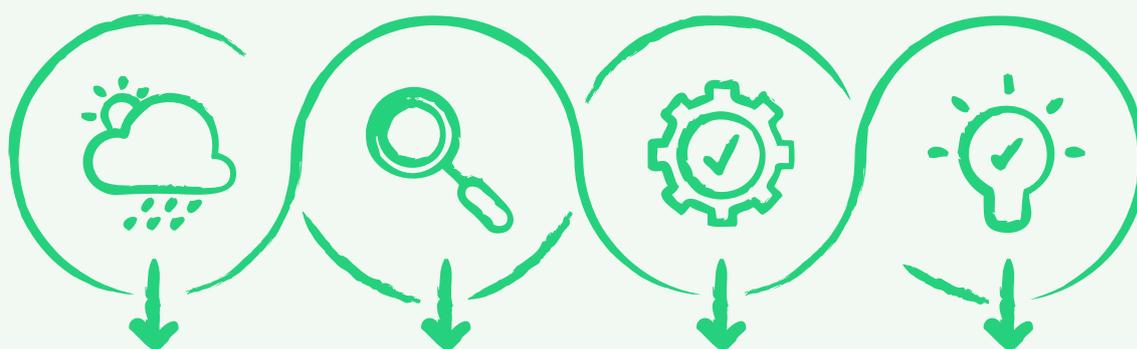
The coach meets with company representatives to develop an adaptation strategy including a set of bankable adaptation measures. Over three or four face-to-face meetings, the coach and managers will acquire a clear picture of the company’s operations, understand past and current climate change impacts, develop potential adaptation measures, and agree on a strategy for implementation.

During the visits, the coach will also collect data for cost-benefit calculations of different adaptation measures. The coach can assess the financial viability of the measures by analysing metrics such as the net present value, return on investment and payback time. These metrics are crucial quantitative inputs to decide if adaptation measures make sense purely from a financial perspective.

The Climate Expert approach is a tool that can guide the coaches and company managers from assessment to the identification of the most appropriate adaptation measures. The following box describes each step of the Climate Expert approach and details how the business case is derived.

Box 4 The Climate Expert assessment tool

To develop an effective adaptation strategy, coaches and companies can use the Climate Expert assessment tool.



Climate Change Impacts

- Identify climate phenomena
- Analyse impacts on environment, economy and society
- Sketch risks, opportunities and measures

Risks & Opportunities

- Assess and prioritize climate risks
- Analyse climate change opportunities

Adaptation Measures

- Identify and prioritize measures
- Evaluate each measure in regard to feasibility, effectiveness, efficiency and side effects
- Conduct a detailed cost-benefit analysis

Adaptation Strategy

- Develop an adaptation strategy
- Identify stakeholders to involve
- Identify communication measures

Climate change impacts starts with an analysis of past and likely future effects of climate on a company, including impacts on its infrastructure and operations, stakeholders, finances and markets. This assessment will be based on the data gathered in step 1 of the Climate Resilient SME Programme, while additional localized data should be derived.

Gaining access to localized climate data can be vital for accurately estimating impacts and finding effective adaptation measures. Local weather stations or national weather agencies can be key data suppliers. Companies should also record details of any disruptions they suffer from climate change or extreme weather events. Local and indigenous knowledge of climate and ecosystems can provide additional insights.

During the risks and opportunities step, the coach and company managers can then perform a risk assessment, combining the magnitude and probability of different risks in order to identify those that need to be prioritized. Equal attention is paid to business opportunities arising from climate change, including from changes in production conditions (for example, in agriculture) and markets.

During the adaptation measures step, managers and the coach shortlist potential adaptation measures by assessing their effectiveness, feasibility and effects on all aspects of the business, from operating costs and staff skills to climate mitigation and regulatory compliance.

Shortlisted measures are compared through a cost-benefit analysis to estimate the likely return on investment and payback time. This enables managers to see whether the resilience project is feasible and financially viable, and which measures are the most attractive. The cost-benefit analysis comprises an assessment of the costs of an adaptation measure, including both the initial investment as well as the operating cost in the coming 10 years. In addition, it also comprises an assessment of the 'avoided cost', meaning the costs or losses that the company would incur if it did not take any measures to address the risk (for example, revenue lost due to interruption of operations caused by climate impacts). Using a cost-benefit analysis thus helps to prioritize measures, quantify climate impacts and highlight the financial benefits of climate resilience.

The final step involves drawing up an adaptation strategy. This includes sketching the timeframe to implement different measures, when to expect challenges and indicators that can help measure success. It also includes the development of a communications plan for reaching out to stakeholders inside and outside of the company's value chain. This creates understanding and dialogue that can help actors build mutual climate resilience while strengthening businesses and communities.

Source: ITC project experience; GIZ, www.climate-expert.org



Step 6: Join an e-learning course on “Becoming a climate-resilient SME”

At the same time as the face-to-face work with a coach, SMEs can further their understanding of climate change and adaptation through online training. International Trade Centre developed an e-learning course to guide companies through the process of developing an effective adaptation strategy. To our best knowledge, this is the only course specifically developed for SMEs in developing countries, which is currently available.

The ITC e-learning course, *Becoming a climate-resilient SME*, has five modules:

- Climate change and its impact on companies
- How can your company respond to climate change impacts?
- Developing and communicating a climate resilience strategy
- Accessing green finance
- Case study: applying the Climate Expert approach

The second and third modules provide step-by-step guidance on how to use worksheets included in the Climate Expert assessment tool. These modules are a key resource for coaches assisting individual SMEs. The ITC online course is available for free on the SME Trade Academy portal.²⁶ For users without a reliable internet connection, the lectures can be downloaded in PDF format for offline use.

²⁶ <https://learning.intracen.org/course/info.php?id=326>



Step 7: Develop the adaptation strategy

Coaches and managers can use the different steps of the Climate Expert approach to develop an adaptation strategy. The strategy includes all adaptation measures deemed financially viable and shortlisted by beneficiary companies – those that generate the win-win effect of strengthening climate resilience and gaining financial benefits. The strategy is structured according to the timeframe for implementation: short-term (to be implemented immediately), medium-term (to be implemented within the next two to three years), and long-term (to be implemented within the next four to eight years).

For each measure, coaches and managers should list potential barriers to implementation, ideas for overcoming these challenges and whether measures can be integrated into other company strategies. A market expansion strategy or an operational efficiency drive are examples of company action plans that may be able to absorb new measures.

'We rely on environmental sustainability specialists to identify adequate measures to save costs and become more climate resilient. We also count on the development community and sector associations to support us to access funding to operationalize such actions and on governments to finance replanting programmes for moribund tea farms, thus cushioning us against income loss.'

*George Omuga, General Manager,
Ngorongo Tea Factory Limited*



Step 8: Develop the communications plan

Once an SME has finalized its climate adaptation strategy, the key points should be communicated to both internal and external stakeholders. These key messages should be put across with the help of a communications plan.

Important internal stakeholders include managers and staff responsible for processes impacted by the planned adaptation measures. Key external stakeholders include suppliers, local and international buyers, industry associations and groups, policymakers, commercial and development banks, media organizations, and local communities.

It is important to take sufficient time to design a clear, detailed communications plan. Effective communication captures stakeholder attention, helps employees and partners appreciate the advantages of the adaptation strategy, and – most importantly – can unlock financial support for the implementation of measures to improve resilience.

Different options for outreach communication can engage different target groups. Informational meetings, brochures and social media campaigns are examples of possible communication products. The communications plan should establish the frequency and duration of the outreach activities and identify a focal point in the company for their execution.

Implement: Adopt the plan and monitor results



Step 9: Match with finance, technology and service providers

SMEs often find it difficult to access finance, including for adaptation measures. A workshop bringing together SMEs and finance providers can help to address this challenge. Finance providers include those offering traditional finance as well as those offering green financial products and services.

In addition to helping SMEs secure support for their resilience initiatives, a workshop can benefit finance providers. A workshop can help financiers appreciate how SMEs that protect themselves from climate shocks become more creditworthy customers. Finance providers can also use the information gathered to tailor products and services to the growing demand for green finance. Finally, they can identify bankable adaptation projects to finance.

Box 5 Workshop to introduce the finance landscape

As part of the coaching phase, a one-day workshop to support companies to access green finance can explore the following themes:

- Overview of the financial landscape in the country. Examples include commercial banks, national and international development banks, traditional investors, impact investors and BSO financial support schemes.
- Overview of financial instruments that can support SME resilience initiatives. These include grants, loans, equity investments and subsidies.
- Loan or investment application processes and requirements. For instance, describe key information and documentation, timelines and terms of disbursement and repayment.
- Best practices for approaching finance providers. Some suggestions are preparation for key questions about the company and the adaptation project and materials to have at hand.

To prepare the workshop, a mapping of the finance landscape in the specific country will be useful. This SME financial map should include information on the financial products available (for example, type of product, target group, interest rates, collateral requirements). The findings can be shared with all the SMEs taking part in a project in advance of the workshop.

Moreover, technological innovation and solutions are key for rolling out climate adaptation projects. Providers can be innovative start-ups or companies offering more established solutions. Examples range from solar panels to drought-resistant seedlings and sustainable ventilation systems. Coaches should facilitate contacts between technology and service providers and SMEs seeking cost-effective solutions to implement the measures in their adaptation strategy.

Workshops can be organized to bring together groups of SMEs seeking to implement similar adaptation measures with relevant solutions providers. For example, SMEs seeking to cut their dependency on electricity grids could benefit from a discussion with providers of photovoltaic solar panels and biodiesel generators.

'In my experience as a clean technology financier, I witnessed how companies have limited resources to tackle climate change and strengthen their resilience.'

The availability of public money, grants and concessional loans for the early development of business adaptation measures is the rule of success.'

*Erick Yong, CEO,
GreenTec Capital Partners*



Step 10: Implement the strategy and monitor progress

With the strategy developed, performance indicators designed and responsibilities assigned, the key to becoming a climate-resilient small business is the actual adoption and implementation of the plan. In this phase, it is important that senior management of the company are showing full support for the proposed actions and encouraging their workforce to take the next steps. Senior management can act as a steering committee throughout the implementation process and request regular updates.

Regular progress meetings can ensure that all stakeholders involved in implementation are working in a well-coordinated manner and that potential challenges are addressed. During the meetings, progress can be tracked using the indicators set. Stakeholders can raise potential issues and initiate measures to address them. Moreover, regular meetings will also help maintain the team spirit among the stakeholders involved throughout the design and implementation of the strategy, as many of them may not usually work together as part of their day-to-day jobs.

During the implementation phase, it is crucial to ensure regular follow up by the implementor of the Climate Resilient SME Programme. The network established during the design phase will offer inputs during implementation, especially if potential roadblocks arise in relation to technical or financial questions. The expert coaches should continue to provide inputs to the companies, guide them on solving any challenges that arise and make linkages to external stakeholders that can offer solutions.

Finally, the partner leading the implementation of a Climate Resilient SME Programme will set up a monitoring plan to ensure the smooth rollout of the identified measures. It should be adapted to reflect new risks and opportunities that may arise in the course of implementation and the SME evolution in the value chain. The adaptation strategy is a living tool, not a static plan, which requires updates based on feedback loops. To this end, it is important to inform the coaches who advise the companies on how to reflect potential changes in their adaptation strategy.

CHAPTER 3

RESILIENCE IN PRACTICE

Kenya: Tea factory increases resilience to climate change



Ngorongo Tea Factory invested in sustainable processing methods and introduced drought- and frost-resistant cultivars to adapt to climate variability. Partnering with stakeholders was a key to better efficiency and quality.

Weather unpredictability is a big challenge for Ngorongo Tea Factory in Kenya. Drought has become more frequent and difficult to forecast. Heavy and prolonged rains fall outside the expected period (March–May), leading to power outages. Rising temperatures and erratic rainfall expose tea plants to more pests and diseases, decreasing the quantity and quality of production. In response, Ngorongo Tea Factory worked with ITC to improve production and resilience.

Mobilize: Experts increased company understanding of climate risks and opportunities.

- ✓ **Joining a climate resilience project connected Ngorongo to experts.** Ngorongo connected with climate experts to develop an adaptation plan to support their own plantations and smallholder farmers.

Coach: Ngorongo discovered sustainable solutions to boost factory resilience.

- ✓ **Customized training addressed company challenges.** Company staff received specialized training to manage the challenges of a changing climate and operationalize adaptation and mitigation measures.
- ✓ **Adaptation opportunities identified.** Analysis of climate risks revealed potential adaptation measures along with opportunities (see table 2).

Implement: Joint implementation of adaptation measures enhanced company performance.

- ✓ **Discovered immediate benefits.** The company financed two firewood shades, which increased the consistency and quality of the finished tea products and improved returns.
- ✓ **Creative and long-term thinking brings solutions to improve quality.** Introducing vehicle covers kept tea leaves drier, reducing energy costs during processing. Planting shade trees will increase tea plant growth in the medium-term by enhancing the microclimate within the plantation.
- ✓ **Partnering with new technology for greater energy independence and efficiency.** Swedish company Absolicon customized solar energy solutions. Together they have piloted steam concentrators and solar energy to reduce Ngorongo's reliance on the electricity grid. In addition, a pilot initiative developed in the adaptation plan was started to replace old, inefficient equipment. The initiative will enable significant savings in energy costs.
- ✓ **Key partnerships established** such as with the Tea Research Institute of Kenya introduced climate-resilient cultivars to Ngorongo plantations to resist drought and freezing temperatures.



These measures were identified throughout the company's participation in the ITC Strengthening Competitiveness Through Climate Resilience in International Value Chains project in Kenya. The following table provides an overview of the climate impacts and proposed adaptation measures.

Table 2 Climate risks and adaptation measures for Ngorongo Tea Factory

Climate Phenomena	Associated Risks	Proposed Adaptation Measures
 <p>Heavy and prolonged rainfall</p>	<ul style="list-style-type: none"> → Soil deterioration and slow bush growth; → Damaged infrastructure leading to delays in production and higher costs; → Firewood gets wet, leading to more wood being used for tea drying process. 	<ul style="list-style-type: none"> → Soil conservation measures (e.g. training farmers on erosion control); → Covering transport vehicles to prevent further surface moisture addition on tea leaves in transit to factory; → Shading of firewood yard to protect it from water exposure.
 <p>Prolonged droughts</p>	<ul style="list-style-type: none"> → Higher evapotranspiration of tea plants; → Power outages leading to higher costs due to excessive use of the diesel generator. 	<ul style="list-style-type: none"> → Introduction of drought and frost resistant cultivars. → Planting shade trees in tea farms to provide shade during dry seasons; → Water conservation systems, solar panels and steam concentrators for more efficient use of resources.
 <p>Frostbite and prolonged cold seasons</p>	<ul style="list-style-type: none"> → Destroyed tea plants decrease production and increase costs due to replanting; → Slow growth of tea plants; → Delay due to lower volume of raw materials received at the factory. 	<ul style="list-style-type: none"> → Introduction of drought and frost resistant cultivars which are also high yielding with fast maturity; → Planting shade trees in tea farms to provide further protection for plants during cold seasons.
 <p>Unreliability, unpredictability, and poor distribution of annual rainfall</p>	<ul style="list-style-type: none"> → All farm activities are time-bound. Erratic weather patterns create challenges for planning the various operations in the farms and factory, which in turns affects production and the entire tea value chain. Erratic weather patterns have been magnified by reduced forest cover. 	<ul style="list-style-type: none"> → Support for reforestation and conservation efforts at the local level (e.g. distribution of tree seeds and training smallholder farmers on tree nursery management).
 <p>Increasing temperatures</p>	<ul style="list-style-type: none"> → Lower tea production and lower quality products; → Emergence of new pests and diseases due to changing climate conditions. 	<ul style="list-style-type: none"> → Diversification into specialty teas (e.g. purple, white, green orthodox/CTC) to adapt product line to changing climate conditions.

Morocco: Shared understanding fortifies clothing value chain



Climate risk dialogue in the value chain allowed small firms to build resilience to rising flood risks and heat waves.

Morocco, like many other countries, faces changing weather patterns and more extreme weather events. Small firms, for example in the textiles and clothing hub around Casablanca, face increased likelihood of flooding on their premises, related power outages and heat stress on workers during heat waves.

The International Trade Centre applied the Climate Resilient SME Programme to build resilient SMEs. Those participating were small Moroccan firms; the Initiative for Compliance & Sustainability, a buyer association; around 10 international fashion brands which belonged to the association; business organizations in Morocco; and service and technology providers.

The improved dialogue along the value chain following the implementation of the programme led to greater awareness between buyers and suppliers, new services for companies from their local business support organizations, and better opportunities for companies to adapt to the changing climate.

Mobilize: Buyers and suppliers opened up new dialogue, bringing greater awareness.

- ✓ **Joint participation in coaching sessions** helped local producers understand how climate adaptation can increase their competitiveness. This is important in an environment where buyers consolidate their supply base.
- ✓ **Sensitization of international buyers** brought greater dialogue between international brands and local suppliers. Buyers became aware of pressures on suppliers and increased the dialogue between their local offices and suppliers.
- ✓ **Shift in buyer perspective on adaptation.** While before the project international buyers mainly focused their efforts on climate change mitigation, the project helped them to increase the focus of their work on environmental sustainability and on climate risks in their value chains.
- ✓ **Strategic thinking on environmental risk** among business partners, buyers and suppliers emerged on common issues such as the environmental impact of production processes and working conditions of employees in factories – going beyond traditional client-vendor relations.



Coach: Business support organizations offered better climate risk adaptation services.

- ✓ **Training.** The Moroccan enterprise association supported their member firms by incorporating a training curriculum on climate adaptation into their services offering.
- ✓ **Finance.** The project connected textile and garment producers to financial offerings of local associations. For example, three companies coordinated with Maroc PME, the national agency supporting SME growth and competitiveness, to access innovative funding to apply adaptation measures.

Implement: Small firms improved climate resilience working with local services and technology providers.

- ✓ **Factory improvements.** SMEs, together with local service and technology providers, implemented adaptation measures such as the installation of flood gates or improved air conditioning. At the same time, they also implemented climate mitigation measures, replaced existing lamps with LED lamps, and initiated fabric waste recycling and reuse of waste water from the textiles washing process.



The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.