



HOW THE PRIVATE SECTOR CAN SUPPORT LLA

KEY MESSAGES

- Climate change poses an existential threat to smallholder farmers—and to global giants that rely on them through value chains. In 2024 alone, companies reported revenue exposure of US\$ 1.16 trillion to physical climate-related risks.
- The resilience of private sector actors depends heavily on the health of the socioecological systems in which they operate. Strategies that discount these systemic interdependencies ultimately undermine long-term financial resilience.
- Emerging frameworks defining resilience alignment call for private sector action that goes beyond managing internal risks to also strengthening socioecological systems. Aligning with national plans while avoiding activities that undermine resilience is increasingly understood to be a key component of responsible business activities and investments.
- The private sector could help meet up to a third of developing countries' adaptation needs. However, long-term, systemic, and public good measures that best embody locally led adaptation are typically not financed by the private sector due to low or no revenue generation potential. Public policy and finance play catalytic roles in unlocking private capital towards Locally Led Adaptation (LLA).
- Despite these challenges, private sector actors can embed the LLA Principles into their activities. They can strengthen community engagement within their risk assessment and management approaches, including through participation in multi-stakeholder initiatives, and ensure that adaptation products and services are shaped by local realities and aligned with national transition processes.

Devolving Decision Making

Building Understanding

Flexible Programming and Learning

Transparency and Accountability

Collaborative Action and Investment

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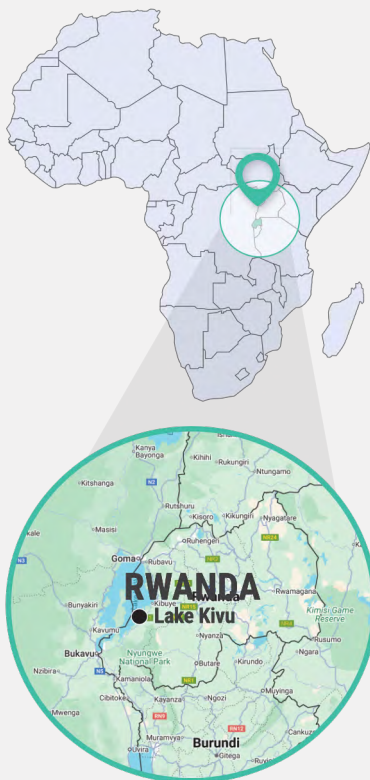
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I have big hopes that, thanks to coffee, I will be able to pay for my children's education until they all finish their studies.

Dorotee Uwimbabazi,
Coffee farmer from Kiguri,
Rwanda



A COFFEE COLLABORATION

Coffee is one of the world's most traded commodities, with an estimated 25 million smallholder farmers in 50 developing countries reliant on wealthy consumer markets such as the United States, the European Union, and Japan.¹³²

This includes millions of farmers like Dorotee Uwimbabazi, a coffee farmer in Kiguri, a village in the mountains near Lake Kivu, Rwanda. Smallholder farmers like her produce around 70-80% of the world's coffee, typically on farms smaller than five hectares, but receive a very small share of the final retail price (sometimes less than 10 cents from a US\$ 3 cup of coffee).¹³³ Many face challenges such as volatile market prices, limited access to credit, outdated farming practices—and now, climate change.

Rising temperatures, erratic rainfall, prolonged droughts, and increased incidence of pests and diseases (such as coffee leaf rust) are already affecting yields and reducing the quality of coffee beans, especially in regions that grow Arabica, the more climate-sensitive species. Many traditional coffee-growing areas are becoming less suitable for cultivation, forcing farmers to either move to higher altitudes or switch crops altogether. It is estimated that up to 50% of current coffee-growing land could become unsuitable by 2050 if climate change goes unchecked.¹³⁴

This poses an existential threat to smallholder farmers like Dorotee, but also to global giants like Nestlé, which controls over a third of the global instant coffee retail market, and generated CHF 23.7 billion (about €25 billion) from coffee sales in 2023.¹³⁵

Recognizing the common threat, Nescafé (a brand of Nestlé) launched a multiyear **Nescafé Plan 2030** in 2022, committing CHF 1 billion (approximately €1 billion, or 4% of their annual profit in 2023) partly to help smallholder coffee farmers build resilience. Key interventions under the Plan include:

- **Regenerative Agriculture Practices:** The Plan supports the scale-up of practices such as cover cropping, optimized fertilization, mulching, composting, agroforestry, and soil-conserving techniques. These are designed to improve soil health, reduce vulnerability to droughts and heavy rain, and help sequester carbon.



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Smallholder farmers produce 70-80% of the world's coffee, but receive a small fraction of the profits of this billion-dollar industry.

- **Financial Incentives and Risk Mitigation:** To help farmers bear the short-term costs of transitioning to more climate-resilient methods, Nestlé is piloting conditional cash incentives for adopting regenerative practices, improving access to credit, and exploring insurance tools to buffer the impact of climate shocks.
- **Capacity-Building and Agronomic Support:** The company invests in training programs for smallholders: teaching good agricultural practices, farm planning, business skills, and an understanding of global market trends..
- **Project Coffee++:** Nestlé, in partnership with German Development Cooperation (GIZ), expanded Project Coffee+ into Project Coffee++, to support smallholder farmers in the Philippines, Indonesia, and other countries.

By 2024, 200,000 coffee farmers were trained under the [initiative](#) by over 1,400 agronomists across 16 countries, and regenerative practices were adopted in over 400,000 hectares of farmland.

In Rwanda, for instance, Dorotee benefited from Nestlé's Farmer Training Program, delivered in partnership with the Kahawatu Foundation. She received training in good agricultural practices—such as pruning, mulching, and harvesting—and in financial literacy and understanding global coffee prices. "Before working with Kahawatu, I was producing 500 kilograms or less from 700 coffee trees," she says. "Now I'm expecting to produce around 600 kilograms." The training also helped Dorotee invest in the sustainability of her farm through careful planning and reinvestment.

The most important results for Dorotee, however, are personal. "The Kahawatu Foundation is helping to make us better farmers. But the real benefits of partnering with them is that it has enabled me to take care of my children's wellbeing," she says. "I've been able to buy them school uniforms and pay for them to go to school. I have big hopes that, thanks to coffee, I will be able to pay for their education until they all finish their studies. I am a happy woman in a happy home because of coffee."



Nestlé's Nescafé Plan 2030 combines regenerative farming, financial incentives, and farmer training to help smallholders build resilience to climate shocks.

The Plan enabled Nescafé to source 32% of its coffee from farmers implementing regenerative agriculture practices in 2024, surpassing its earlier target of 20%. In the Philippines, many farmers have seen income increases and poverty thresholds being surpassed, thanks to yield improvements and diversified farming approaches supported by Coffee++. In Bukidnon in the Philippines, for example, yields have increased from about 235 kilograms per hectare in 2018 to roughly 886 kilograms per hectare in 2023 among participating farmers. A weather index insurance scheme that provides compensation based on rainfall patterns measured via satellite was piloted in Indonesia, benefiting around 800 farmers.

However, challenges remain. Transitioning to regenerative systems often requires upfront labor and investment, with returns that may take years to materialize. Farmers remain exposed to global market volatility, which can offset gains made through adaptation practices. Financial incentives and insurance schemes are still at pilot stage, raising questions about long-term sustainability if external support is phased out. Robust monitoring to verify adoption and outcomes is also resource-intensive, and practices need to be adapted to local ecological and social contexts to avoid one-size-fits-all solutions.

CONFRONTING A COMMON THREAT

Climate change is already affecting businesses of all sizes—from micro, small, and medium enterprises (MSMEs) to large multinational corporations (MNCs).¹³⁶ A 2024 survey by CDP, a global nonprofit that provides a platform for environmental disclosures, found that 67% of nearly 25,000 reporting organizations, including small and medium enterprises (SMEs), identified climate and nature-related risks with significant financial impacts.

Among the top risks cited were acute physical risks such as extreme weather events (19%) and chronic physical risks like sea level rise (14%). In 2024 alone, companies reported trillions



in revenue exposure to physical risks—US\$ 1.16 trillion to climate-related, US\$ 182 billion to forest-related, and US\$395 billion to water-related risks.¹³⁷

These risks are increasingly seen as financially material by regulatory bodies such as the UK's Financial Conduct Authority¹³⁸ and the Network for Greening the Financial System, a coalition of central banks and financial supervisors.¹³⁹ Governments are also moving to treat environmental performance and climate risk management as core financial information.¹⁴⁰ More than 30 jurisdictions have either adopted or are in the process of adopting sustainability-related disclosure standards developed by the International Sustainability Standards Board.

Corporate reporting is beginning to reflect this shift. Data from the London Stock Exchange Group shows that 34% of companies in the FTSE All-World Index now reference climate adaptation in their disclosures.¹⁴¹ Similarly, under the new European Sustainability Reporting Standards, 67% of 363 reporting companies and 85% of 94 financial institutions identified climate change adaptation as a material issue.¹⁴²

While risk avoidance remains a key motivator, a growing body of analysis points to climate adaptation as a major market opportunity. Companies are increasingly recognizing both the risks of ignoring adaptation and the benefits of investing in it, with Standard Chartered estimating that every dollar spent on adaptation could generate up to US\$ 12 in economic benefits.¹⁴³ Some experts suggest that adaptation could become the next trillion-dollar market, driven by demand for goods, services, and solutions that help businesses and communities adapt to a changing climate.¹⁴⁴

Private sector actors, which include SMEs, MNCs, private financial institutions, and private investors, could therefore play multiple roles in climate adaptation, which can be broadly grouped into three categories that often interact with each other:¹⁴⁵

- **Adapt to manage own risk**, adapting assets, activities, and supply chains to climate change.
- **Finance adaptation**, including public sector adaptation (for instance, through government-issue sovereign green bonds) and private sector adaptation (for instance, through loans, equity, and private bonds).
- **Provide adaptation goods and services** through the expanding market for such goods and services and through public-private partnerships to deliver adaptation outcomes (for instance, through government procurement for seawalls).

Most private sector adaptation efforts currently focus on protecting internal assets, operations, and supply chains from the physical impacts of climate change. While such measures can incidentally benefit ecosystems or communities, they are rarely designed with broader ecological or social resilience in mind. In some cases, they may lead to maladaptation—for instance, seawalls that shield urban infrastructure can exacerbate flooding in poorer downstream areas, or large-scale irrigation may reduce drought risk while depleting groundwater reserves.

There is growing recognition, however, that financial, ecological, and social resilience are deeply interconnected. The Taskforce on Nature-Related Financial Disclosures (TNFD) defines “systemic risks” as those arising from the collapse of an entire system,

rather than the failure of individual components.¹⁴⁶ To manage these risks, adaptation must support systemic resilience—the capacity of integrated socio-ecological systems to absorb shocks and avoid cascading failures over time.¹⁴⁷

Adaptation strategies that focus only on individual entities without considering systemic interdependencies may ultimately undermine the long-term financial resilience of those very entities, as businesses rely on healthy communities, functioning ecosystems, and stable governance systems.¹⁴⁸



The future sustainability of businesses relies on financial, ecological, and social resilience.

PRIVATE SECTOR FRAMEWORKS THAT CAN SUPPORT LLA

There is an urgent need for clearer definitions of climate resilience-aligned activities and investments—those that not only build financial resilience of individual entities but also adopt a longer term perspective by supporting the policy goal of building climate-resilient economies and societies.¹⁴⁹ This means aligning innovation and investment towards increasing adaptive capacity, but also away from actions that erode resilience.

While there is no universally agreed standard for defining what qualifies as a resilience-aligned activity, several frameworks offer guiding principles, including:

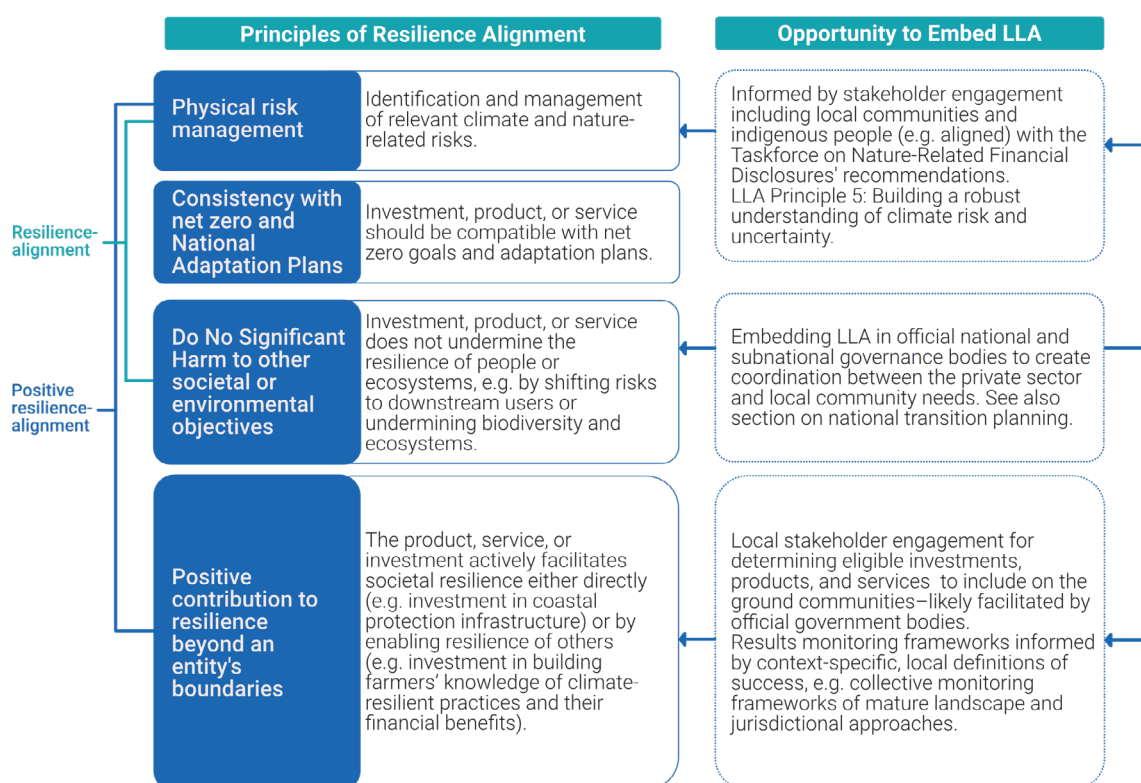
- The [Sustainable Finance Taxonomy](#) developed by the European Union.



- The blueprint for a [climate resilience classification framework](#) by the UN Office for Disaster Risk Reduction (UNDRR) and the Climate Bonds Initiative (CBI), which includes [core resilience principles](#) developed by CBI.
- The [framework for defining positive resilience alignment](#) by the Organisation for Economic Co-operation and Development (OECD) and the University of Oxford.

Integrating relevant principles of Locally Led Adaptation (LLA) into some of these existing frameworks can facilitate the contribution of private sector adaptation activities towards systemic resilience. However, the private sector often depends on local and national public institutions to implement adaptation actions on the ground. As such, existing power dynamics, inequalities, and governance challenges may limit the effectiveness and equity of private sector-led adaptation. Figure 1 highlights pathways to embed LLA within private sector adaptation action, building on OECD's framework for resilience alignment.

FIGURE 1. Opportunities to Embed the LLA Principles in Principles for Assessing Resilience Alignment of Investments



Source: Adapted from Mullan, M. & Ranger, N. (2022). *Climate-resilient Finance and Investment Framing Paper*. Organization for Economic Co-operation and Development and University of Oxford.

The opportunities to align with the LLA Principles lie in community engagement in risk assessments; adaptation design and delivery; and definitions of success.

Community Engagement in Risk Assessment

The TNFD framework offers private sector actors a pathway for embedding community engagement throughout risk assessment, strategy development, and resource allocation. Organizations claiming alignment must disclose how they include Indigenous Peoples, local communities, and other stakeholders in identifying nature-related risks and impacts.¹⁵⁰

The Taskforce's [guidance](#) on engaging communities draws upon international standards—including the UN Guiding Principles on Business and Human Rights, the UN Declaration on the Rights of Indigenous Peoples, and the OECD Guidelines for Multinational Enterprises—creating a foundation for LLA Principle 5, which emphasizes understanding climate risk and dealing with uncertainty. Engagement doesn't always lead to local leadership, but it is a necessary step.

Community Engagement in Adaptation Design and Delivery

Frameworks such as the OECD's, CBI Climate Resilience Principles, and the [Guide for Adaptation and Resilience Finance](#) from Standard Chartered, KPMG, and UNDRR all emphasize that selecting suitable resilience investments requires understanding local climate risk contexts. These resources argue for engagement with local stakeholders to identify priorities and align with national adaptation strategies. However, "local" in many of these frameworks tends to mean subnational governments or other administrative bodies—not always directly the communities themselves. Incorporating local community voices into formal governance structures is essential to ensure their perspectives shape adaptation planning.



Collaboration with communities helps ensure monitoring frameworks capture what is locally relevant.



Local Definitions of Success for Results Monitoring Frameworks

Metrics and targets for adaptation are evolving. Output and outcome metrics, needed to understand effectiveness, are difficult to standardize because what constitutes “success” can vary greatly by context. Local actors can play a critical role in determining which outcomes matter, and in improving data collection and reporting. Collaboration with communities helps ensure monitoring frameworks capture what is locally relevant.

PRIVATE SECTOR MECHANISMS TO SUPPORT LLA

In practice, private sector actors can support implementation of LLA through the design and delivery set-up of their adaptation activities (for instance, through participation in multi-stakeholder approaches for adaptation) or through aligning their adaptation investments and products to local realities as part of a nationally led transition.

Landscape and Jurisdictional Approaches

Landscape and jurisdictional (LA/JA) initiatives, examples of multi-stakeholder approaches, are on-the-ground collaborative programs to take collective action for improving social, environmental, and economic outcomes while reconciling different interests. In the 2024 CDP disclosures, 235 companies reported participating in 309 LA/JA initiatives across 70 countries—up from just 27 companies in 2020, showing growing private sector interest.¹⁵¹

The core criteria for a mature landscape initiative are complementary to the LLA Principles:¹⁵²

- **Scale:** Working at ecological or jurisdictional scale ensures interventions strengthen resilience on a systemic scale, not just individual sites, making the interventions much more likely to support the LLA Principles.
- **Multi-stakeholder governance:** Shared decision-making supports LLA Principle 1 (devolve decision-making to the lowest appropriate level) by embedding local actors in governance and giving them real influence over priorities and outcomes.
- **Collective goals and actions:** These are informed through context analysis of current landscape conditions and stakeholder needs, supporting LLA Principle 5 (build local understanding).
- **Collective monitoring:** Participatory monitoring and feedback mechanisms advance LLA Principle 7 (ensure transparency and accountability) by enabling shared learning and adaptive management rooted in local experience. This also includes regular review and revision of goals to reflect changing context, which supports LLA Principle 6 (flexible programming and learning).

The increase in private sector interest in these approaches and their complementarity with LLA is an encouraging signal of the possibility for corporations to address root causes of nature loss; drive context-based and sustained collaboration and investments; and drive socio-ecological resilience by aligning plans and investments with community needs. However, only 50% of the 309 LA/JA engagements reported in 2023 met the core criteria, highlighting that more work is needed to guide these approaches toward effectively addressing local challenges and strengthening systemic resilience.

BOX 1: MUSIM MAS'S LANDSCAPE SCALE ACTION

The palm oil industry is both a major source of emissions and highly exposed to climate risks, such as drought, erratic rainfall, and soil degradation. In Indonesia, the sector supports 16.2 million jobs and 4.5% of the nation's GDP. Meeting global demand for vegetable oils sustainably requires a shift to deforestation-free, climate-resilient practices. With 42–43% of production coming from smallholders, who often lack the resources to adapt, supporting them to implement sustainable and resilient practices is essential to ensure a successful transition while safeguarding their livelihoods.

Musim Mas, one of the world's largest integrated palm oil companies, recognizes the need to support smallholder farmers and small plantation companies in transforming land use practices and improving producer livelihoods. The Group has developed a comprehensive [landscape strategy](#) that serves as a declaration to convene and collaborate with local communities, businesses, NGOs, and governments to achieve its No Deforestation, No Peat and No Exploitation (NDPE) commitment through inclusive landscape management. The strategy outlines an integrated approach for addressing environmental and social outcomes in key sourcing areas, including particularly smallholder farmers' livelihoods.

The Group has implemented various programs to integrate independent smallholders into the palm oil supply chain. These programs cover agronomic training, access to financial support and global markets as well as education on legal requirements. In 2021, Musim Mas launched the Biodiverse and Inclusive Palm Oil Supply Chain (BIPOSC) project in Labuhanbatu, North Sumatra, partnering with the Livelihoods Funds, SNV, and a consortium of other brand partners. The project works with 2,900 smallholders across 13 villages to strengthen knowledge of regenerative agriculture. Village facilitators trained under BIPOSC provide peer-to-peer learning, while demonstration plots in seven villages act as hands-on hubs where farmers can test and adapt new practices before scaling them. Practices such as mulching, cover cropping, and bio-inputs improve soil health, reduce erosion, and increase resilience to drought and heavy rainfall. As part of the Regenerative Agriculture implementation, the program also supports smallholders in adopting an agroforestry model, which has been implemented by 91 farmers covering a total of 130 hectares, helping them diversify their income through additional crops and livestock.

While not designed primarily as a climate adaptation initiative, BIPOSC shows how private sector investment can empower smallholders, strengthen local institutions, and embed sustainable practices that build climate resilience. It illustrates how a corporation can support adaptation that is locally grounded.



Smallholder palm oil farmers in Indonesia are supported by Musim Mas to improve sustainability.



Transition Planning

CDP defines transition plans as time-bound action plans that communicate how organizations adjust their business models and investments to align with science-based environmental goals.¹⁵³ They are a strategic tool to turn targets into action, and to align finance flows with transition goals to give investors the confidence to commit capital.¹⁵⁴

The adoption of transition plans is becoming mainstream, particularly among private sector actors. The UK Government's ongoing consultation on transition plans for corporates and financial institutions underscores their growing importance. In 2023, CDP reported a nearly 50% year-on-year increase in the number of companies disclosing that they have a 1.5°C-aligned transition plan. Originally developed for mitigation, these plans are now evolving to integrate adaptation objectives, reflecting the need for private sector strategies to identify and manage material physical climate risks. As private sector entities broaden their transition plans to include adaptation, more data will become available on the sector's adaptation contributions and alignment with National Adaptation Plans.¹⁵⁵

Building on the private sector transition plan framework developed by the Transition Plan Taskforce, the Centre for Economic Transition and Expertise (CETEx) has developed a framework outlining how national and private sector transition planning can be aligned. The CETEx framework proposes approaches to ensure national transition planning is informed by local communities through approaches such as participatory budgeting, citizens' assemblies, and place-based community-owned and community-led initiatives.¹⁵⁶ It suggests that national transition planning can function as a coordination mechanism between state and non-state actors, including local stakeholders. In other words, it can serve as a tool for public policy leadership, sending the signals needed to catalyze private sector action and direct adaptation efforts toward solutions that are better aligned with local realities.

The degree to which these approaches are utilized and successful depends on national contexts though an assessment by UNEP indicates that most countries are still in the early stages.¹⁵⁷ Governments will need to prioritize local leadership and guide the private sector towards investing in locally led adaptation.

HOW MUCH CAN THE PRIVATE SECTOR CONTRIBUTE TO SYSTEMIC RESILIENCE?

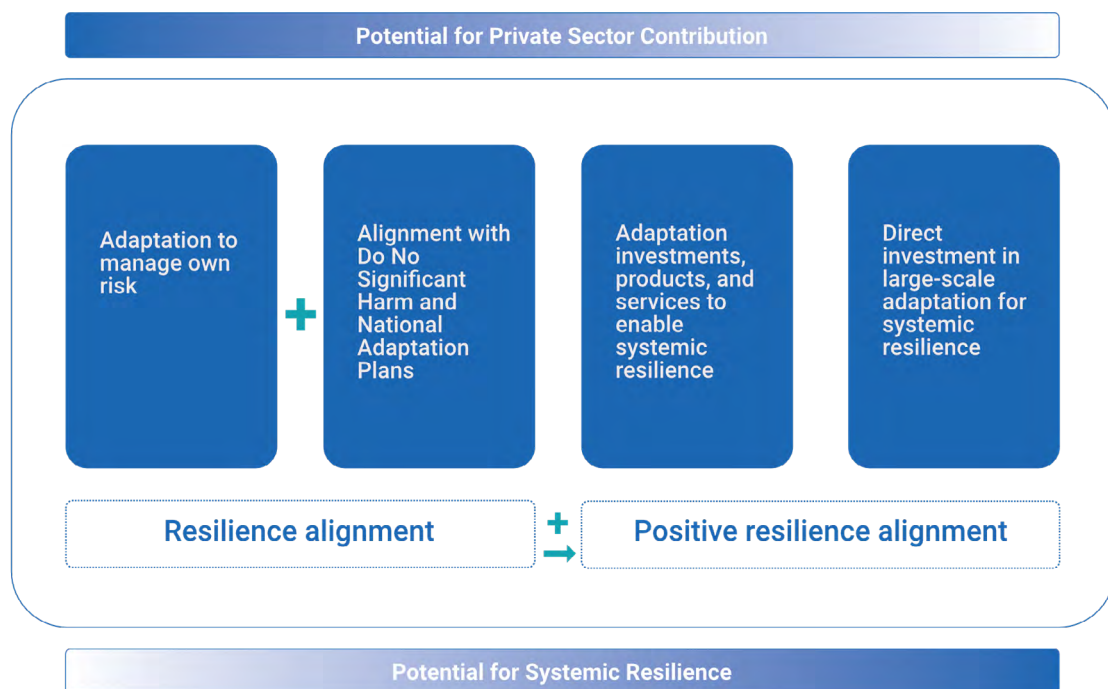
Analyses by the [Zurich Climate Resilience Alliance](#) and the [UN Environment Programme](#) show that two-thirds of adaptation finance needs in developing countries are for public or quasi-public goods (such as coastal and river protection, roads, and adaptive social protection) which need public funding because they lack direct financial returns.¹⁵⁸ About a third of adaptation needs are in areas where private investment has potential (such as climate-smart agriculture or climate-resilient infrastructure) although, even in these areas, public finance is typically needed to de-risk private investment.

The Zurich Climate Resilience Alliance further estimates that under current policies only about 15% of adaptation needs in developing countries can be realistically met by the private sector, though this varies by country. The distinction between financing (upfront capital) and funding (covering long-term costs) is important—the potential for private sector financing is

higher when accounting for private financing of public investment (government budget debt financing) which is ultimately paid for by domestic public budgets. Beyond this 15% potential, private sector contributions can also play a role through public procurement of adaptation goods and services.

LLA focuses on transformational change: anticipating climate impacts, prioritizing the most vulnerable, and acting at system level, which is critical for meeting the scale of the climate crisis.¹⁵⁹ Interventions with such characteristics are difficult for private sector actors to contribute to because revenue generation may be limited, benefit quantification is tough, and interventions must be highly adapted to local conditions. The private sector does have a role to play in enabling systemic resilience through upfront financing and provision of products and services (see Figure 2) and some principles of LLA can be embedded within the decision-making and progress-tracking frameworks. However, this contribution will largely be towards actions where a financial case can be made. Ultimately, strong leadership from governments and public policy is needed to unlock a bigger role of the private sector for context-specific and systemic resilience, with newer narratives for value creation. For systemic interventions, strong government leadership and public policy are needed, with newer narratives for value creation.¹⁶⁰

FIGURE 2. Private Sector Potential to Support Systemic Resilience



Conclusion

The resilience of private sector actors depends heavily on the health of the socio-ecological systems in which they operate. Aligning adaptation efforts so that they strengthen these systems is more than just risk management; it is a source of opportunity, unlocking new markets and innovation. That said, the kinds of systemic, transformational adaptation that embody the principles of LLA are often the hardest for private capital to fund due to low returns, complexity, and greater risk. Despite these challenges, private sector actors can still implement LLA. By engaging communities meaningfully in risk assessments, participating in multistakeholder processes, and aligning products, services, and investment with local realities—supported by strong policy leadership and public finance—companies can embed LLA approaches while also securing their own resilience.



CHAPTER

11

