Returns on Resilience:

Investing in Adaptation to Drive Prosperity, Growth and Competitiveness

A collaborative report by

In partnership with

Endorsements

Resilience is about protecting people and their livelihoods in the face of storms, heatwaves, and floods. However, it is also an urgent economic imperative: building resilience is critical to ensure that hard-won development gains and economic growth are not washed away. This report demonstrates with compelling evidence that investing in climate adaptation delivers real returns - strengthening communities, stabilising economies, and creating opportunities for societies and businesses. It is a call to action for world leaders to make resilience and adaptation the investment agenda of our time.

Ban Ki-moon
Eighth Secretary-General of the United Nations and Co-chair of the Ban Ki-moon Centre for Global Citizens

This report reframes resilience not as a sunk cost, but as a strategic investment in long-term prosperity. It shows how adaptation protects the most vulnerable, strengthens supply chains, and prevents the erosion of value before it happens. That's a critical insight for any company striving to be Net Positive and support the systems it depends on to thrive. Resilience is the connective tissue: it protects people and planet, stabilises economies, and unlocks opportunity. Leaders who embed it into core strategy will be the ones who thrive.

Paul Polman
Business leader, investor, philanthropist

Everyone should have the opportunity to live a healthy, productive life, yet for too many, droughts, floods, and extreme heat are putting that goal further out of reach. This report reaffirms that investing in climate resilience - especially with proven interventions that protect progress in health, agriculture and economic opportunity - is one of the smartest ways to future-proof development investments and help more people thrive.

Mark Suzman
CEO, Gates Foundation

For emerging markets and developing economies, closing the financing gap for adaptation and resilience is not optional—it's survival. These countries have already proved their toughness in the face of climate impacts, but growth without resilience is nothing more than a house of cards, collapsing under the weight of debt and repeated shocks. As this report makes clear, resilience is not charity, it is insurance—an investment that strengthens self-sufficiency and protects hard-won development gains. Framing it as a moral duty is fine, but let's be blunt: it's also the smartest economic bet anyone can make.

Professor Carlos Lopes
Chair of the African Climate Foundation Board and COP30 Special Envoy for Africa

Investing in resilience is not only about managing risks. It is an opportunity to transform our economies. As this report shows, resilience drives sustainable growth, creates jobs, and improves long-term debt prospects. It provides vital evidence and a clear action agenda for financial and economic decision makers, showing that resilience is one of the most strategic investments we can make to secure prosperity today and for generations to come.

Dr Vera Songwe
Chair and Founder, Liquidity and Sustainability Facility, and Non Resident Senior Fellow, Global Economy and Development, Brookings Institution

Nature sustains life - it underpins our economies, our communities, and our common future. The report demonstrates with clarity that ecosystem health, community well-being and economic prosperity are inseparable from building resilience, and that protecting natural capital, is essential for long term sustainability. Its message and recommendations are urgent for decision makers, not only of vulnerable communities but for every region where climate risk threatens both nature and livelihoods

Virgilio Viana
General Director, Foundation for Amazon Sustainability (FAS)

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About This Report

This report assesses the returns on resilience investments for communities, companies and countries, analysing a large volume of data and case studies from different regions of the world.

It finds that resilience investment has become a core pillar of growth and stability, especially as climate impacts intensify.

The report documents the evidence base around the returns on resilience investment, as well as outlines how decision-makers can take action to reap these benefits. It draws on insights and contributions from individuals associated with over 120 organisations, 70 publications, and ten consultations at international forums to produce three main deliverables:

A shared narrative

Communicating the centrality of climate and nature resilience to human development, economic growth and business strategy, in terms and metrics that meet demand from economic and financial decision-makers.

A strong evidence base

Synthesising data, insights and case studies on the costs of inaction, returns on resilience interventions, and financing needs, to provide decision-makers with the information and tools to assess and prioritise finance and policy. Based on this research, the report finds evidence that investing in resilience can deliver strong returns for human health, livelihoods, gross domestic product (GDP) growth and jobs, and that markets for resilient solutions are likely to see rapid and robust growth. There is also a strong evidence base for private investments in adaptation, although the potential differs between sectors and countries.

Clarity on breakthrough actions

Identifying high-impact actions that address systemic barriers to resilience investment, where there is momentum for scaling at COP30 and beyond. New analysis identifies specific investment areas with the potential to maximise these gains in low- and middle-income countries (LMICs), drawing on analysis of countries' National Adaptation Plans and Technology Needs Assessments, and consultations with over 50 climate and development experts from governments, funders, NGOs and the private sector.

The report is an invitation to action. COP30 is a critical opportunity to reframe resilience as a central part of the investment agenda of the 21st century. 'Temperature overshoot' beyond the goals of the Paris Agreement is now locked in at least temporarily, and achievement of the Sustainable Development Goals by 2030 is widely considered a stretch, with both parameters prompting reflection on levers to course correct. This report seeks to provide clarity on the economic and financial dimensions of resilience, as well as options that decision-makers are using and can use to embed resilience into growth and development strategies.

It is hoped that this report can be an input for climate and development finance providers as they prioritise policies and allocations, and for the broader public as they shape the narrative around climate and nature.

To translate this ambition into impact will require concerted action and collaboration. We hope to work with many of you going forward to deliver this agenda in the coming years.

Foreword

It is clearer now than ever that we need to act decisively in the face of climate urgency. I have seen the cost of inaction rising. In the past year alone, Brazil has faced unprecedented floods in the south, droughts in the Amazon, and heatwaves in our cities.

These are not isolated events. They are part of a deeper shift, where climate and nature shocks are colliding with economic fragility and social inequality. Events in Porto Alegre in 2024 showed with painful clarity how adaptation policies, if embedded earlier in infrastructure planning, could have made a real difference.

When we first began talking about adaptation and resilience, many believed that focusing on it meant surrendering on mitigation. That belief is fading. Extreme events are getting closer, harder to ignore, and more deeply felt. Adaptation is no longer an afterthought. It is a condition for stability.

That is why I have made adaptation and resilience central to COP30 in Belém. Our ambition is clear: to shift from negotiation to implementation, and to elevate climate solutions, especially those that protect lives, preserve capital, and promote equity.

We must also be honest: adaptation is different. It is deeply local, tied to specific geographies, communities, and governance systems. That makes it harder to finance through traditional mechanisms.

Yet this very local nature is also its strength. Around the world, communities are rethinking how investing in infrastructure, finance, and nature can work together to build more resilient futures. Their experience must shape - not follow - the global agenda.

Adaptation is also a global challenge and responsibility: natural disasters have social and economic impacts on large parts of the world; with ripple effects extending across value-chains and communities in an interdependent global economy.

In Belém, we are building a **mutirão**, a collective effort that brings together finance ministries, city governments, investors, scientists, Indigenous peoples, and community leaders. This report is a first step on that path. By clarifying the case for action, it helps move us from concepts to commitments, from diagnosis to delivery.

At COP30, we will bring together the evidence, crowd in local and global voices and help turn these insights into breakthrough actions. There is no time to waste. Investing in resilience is not only wise, it is essential. Let Belém be the moment we move from awareness to alignment, and from ambition to action.

Ambassador André Aranha Corrêa do Lago
COP30 President-Designate

Table of contents

Executive Summary

The Case for Investments in Resilience

In the face of mounting climate and nature impacts, building resilience is imperative. For decades, the world has pursued economic development and growth with the assumption of a relatively stable environment.

That assumption no longer holds. The impacts of climate change and nature loss are now part of the 'standard operating environment' for ever-larger numbers of households, businesses and economies. They are experiencing both immediate and long-term costs, especially in lower-income countries. The ability to respond to and manage shifting risks is now essential to unlocking opportunity, in addition to safeguarding business and development gains.

A remarkable body of evidence from the efforts of countries, companies and communities has emerged in recent years, showing that resilience investments are the surest way to drive growth, stability and competitiveness. The results from these investments undermine the historical narrative that spending on resilience is 'charity' and 'economically unproductive.' In fact, the analysis of this report - which has been compiled with support from a consortium of partners - finds that resilience investments are a boon for both economies and human development. They offer concrete returns that include job creation, macroeconomic stability, growth and commerciality in addition to the most obviously significant benefit: lives saved. They also reinforce and supplement the longstanding frame of equity, justice and solidarity. The economic benefits furthermore stand in sharp contrast to the alternative: ruinously expensive inaction.

Among the report's key findings on resilience investments are their contributions to building stronger communities, companies and countries.

- **For communities[1]:** Resilience investments could generate 280 million jobs in emerging markets and developing economies (EMDEs) over the next decade.[2] They could also limit the 1 to 2 million additional deaths expected annually by 2050 without action.[3] Achieving resilient water, sanitation and hygiene (WASH) services alone could prevent 173,000 deaths annually until 2030.[4]
- **For companies:** The global adaptation and resilience market could reach $500 billion to $1.3 trillion by 2030.[5] Firms report high benefit-cost ratios: 7:1 in healthcare, biotech and pharmaceutical sectors[6], and 4-5 :1 across sectors for climate-proofing transport, energy and water infrastructure.[7]
- **For countries:** Adaptation interventions could generate a wide range of GDP gains versus current policies, but could be as high as 15 percentage point GDP by 2050 in certain countries highly vulnerable to climate and nature impacts, versus current policies.[8] Improved resilience also lowers borrowing costs: a 10-point improvement in a country's Notre Dame Global Adaptation Initiative (ND-GAIN) score (the difference between Haiti and the Dominican Republic; or between Zambia and Morocco), is associated with a 37.5 basis point drop in sovereign bond spreads.[9]

Across sectors, a synthesis of available benefit cost ratios (BCRs) by the Grantham Research Institute (GRI) suggests that **investments in adaptation deliver a median of 4 times more benefits than costs.** Available evidence also confirms a **median economic internal rate of return (EIRR) of 25%.**[10] This reinforces findings from the World Resources Institute (WRI) that every $1 invested in climate adaptation yields over $10 in benefits, with average economic annual returns of 20% to 27% - reaching 79% in health services and 27% in agriculture.[11] Investments in nature deliver particularly strong returns for communities, companies and countries, with 40% average economic annual returns for forestry and nature investments.[12]

1 For the purposes of this report, we use communities to refer to subnational groups of individuals and households - for example rural villages, towns and cities.
2 Systemiq analysis. See Technical Annex for further detail. Analysis is ongoing to inform the forthcoming flagship report Steer et al. (forthcoming), Jobs and Skills for the New Economy: An Action Agenda for a People-Centered Climate Transition, to be launched ahead of COP30. There may be minor adjustments to analysis. This initiative is funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the Ares Foundation and NDC Partnership, and prepared by the World Resources Institute and Systemiq, with the contribution of several other partners including EDC, ADB, World Business Council for Sustainable Development (WBCSD) and LinkedIn.
3 Ibid.
4 WHO, *COP29 Special Report on Climate Change and Health: Health is the Argument for Climate Action* (2024).
5 BCG and *Temasek, The Private Equity Opportunity in Climate Adaptation and Resilience* (2025).
6 *CDP, Unlocking the Disclosure Dividend* (2025).
7 *CDP, Unlocking the Disclosure Dividend* (2025).
8 World Bank, People in a Changing Climate: From Vulnerability to Action-Insights from World Bank Group Country Climate and Development Reports Covering 72 Economies (Washington, DC: World Bank, 2024).
9 Cevik, Serhan and João Tovar Jalles, *Why Climate Change Vulnerability Is Bad for Sovereign Credit Ratings* (IMF Blog, 2021). Based on Cevik, Serhan and João Tovar Jalles, *Feeling the Heat: Climate Shocks and Credit Ratings, IMF Working Paper No. 2020/286* (Washington DC:International Monetary Fund, 2020).
10 Grantham Research Institute preliminary analysis of 75 studies – *The Macroeconomic Case for Adaptation Investment* (2025, forthcoming)
11 WRI, *Strengthening the Investment Case for Climate Adaptation: A Triple Dividend Approach* (2025).
12 Ibid.

What is Resilience?

At the core, resilience[13] is the capacity of households, communities, businesses and economies to adapt and thrive in a changing world, to absorb and to quickly recover from shocks and to reduce the suffering and loss of life and belongings that result from climate change and nature loss. Resilience is the intended outcome of adaptation. It requires continuous efforts to build strength in a changing world that is more prone to shocks.

Climate and nature hazards are no longer future risks - they are today's reality. Resilience is today's imperative.

Impacts are hitting at much greater frequency and intensity than anticipated when the Paris Agreement was signed in 2015. Acute shocks, like floods and wildfires, and slow-onset changes,[14] such as temperature rise, water stress and soil degradation, are disrupting people's lives, threatening business continuity and eroding the foundations of strong economies. Between 2000 and 2020, drought events increased by one-third, extreme temperature events more than tripled,[15] and billion-dollar weather disasters now strike every three weeks - compared to every four months forty years ago.[16]

Communities, companies and countries are experiencing material impacts. At least 20 million people are displaced annually by climate shocks.[17] Companies face mounting losses from damaged assets, disrupted supply chains and rising input costs. Emerging markets and developing economies have already lost more than $525 billion over the past two decades due to climate change[18]. The least developed countries are already an estimated 10% poorer today than they would have been without climate change, according to recent GRI analysis.[19]

These impacts are not inevitable. They underline the critical need for greater efforts to reduce emissions and nature loss. But unless investment in resilience scales alongside mitigation, the cost of inaction will grow, and the choices available will narrow, as outlined in Chapter 1.

Risks and losses fall disproportionately on lower-income countries. EMDEs suffer more than 10 times more economic damage than higher-income countries in the face of extreme weather disasters, recover four times more slowly and endure deeper human development losses due to higher exposure and weaker fiscal capacity.[20, 21]

Investments in resilience and emission reductions are synergistic and must be pursued together. This underscores the urgent need to double down on decarbonising the global economy.[22] Not all the costs can be adapted to easily.[23] There is no excuse for delay. And mitigation measures themselves must be resilient to remain effective over the long-term.[24] Fortunately, there are many opportunities for investments which help us to adapt, reduce emissions and support development at the same time. This has to be the core strategy which will ultimately boost overall economic resilience.

13 Rockstrom et al, 'Shaping a resilient future in response to COVID-19'. *Nature Sustainability* **6**, (2023):897–907. Definition of resilience: 'resilience as the capacity to live and develop with change and uncertainty, which is well beyond just the ability to 'bounce back' to the status quo. It involves the capacity to absorb shocks, avoid tipping points, navigate surprise and keep options alive, and the ability to innovate and transform in the face of crises and traps'. The IPCC defines resilience as: 'a system's ability to anticipate, reduce, accommodate, and recover from disruptions in a timely, efficient, and fair manner'.

14 The gradual changes that may be imperceptible day-to-day but drive large changes over several years; Park, J. Slow Burn: The Hidden Costs of a Warming World (Princeton University Press, 2024).

15 UNDRR, *Human Cost of Disaster: An Overview of the Last 20 Years 2000-2019* (2020).

16 Economist Impact, *Climate Change's Disruptive Impact on Global Supply Chains and the Urgent Call for Resilience* (2025).

17 Viviane Clement, et al. *Groundswell Part 2* (Washington DC: World Bank;13 September 2021).

18 *V20, Climate Vulnerable Economies Loss Report*, (2022).

19 Grantham Research Institute analyses 85 econometric models from 15 macroeconomic studies, which describe the reductions in GDP explained by temperature shocks and sea level rise. According to a synthesis of these models, least developed countries are estimated to already be 10% poorer today in terms of GDP per capita than they would have been without climate change. 'The Macroeconomic Case for Adaptation Investment' (2025, forthcoming)

20 Emerging markets and developing economies (EMDEs) are disproportionately affected by climate-related disasters. Over the past two decades, EMDEs have incurred over $525 billion in direct losses from extreme weather events alone - representing about 20% of their collective GDP, compared to less than 1% for high-income countries (World Bank, 2022; IMF, 2023).

21 Recovery from these shocks is also slower: according to IMF research, countries with lower adaptive capacity can take up to four times longer to return to pre-shock economic trajectories than high-income peers. Gigineishvili, Nikoloz, et al. 'Climate Change and Long-Term Growth'. IMF, Departmental Papers 2023, 004 (2023): A003.; Hallegatte et al., *SHOCK WAVES - Managing the Impacts of Climate Change on Poverty* (World Bank, 2016).

22 IPCC *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report* (Cambridge: Cambridge University Press, 2022).

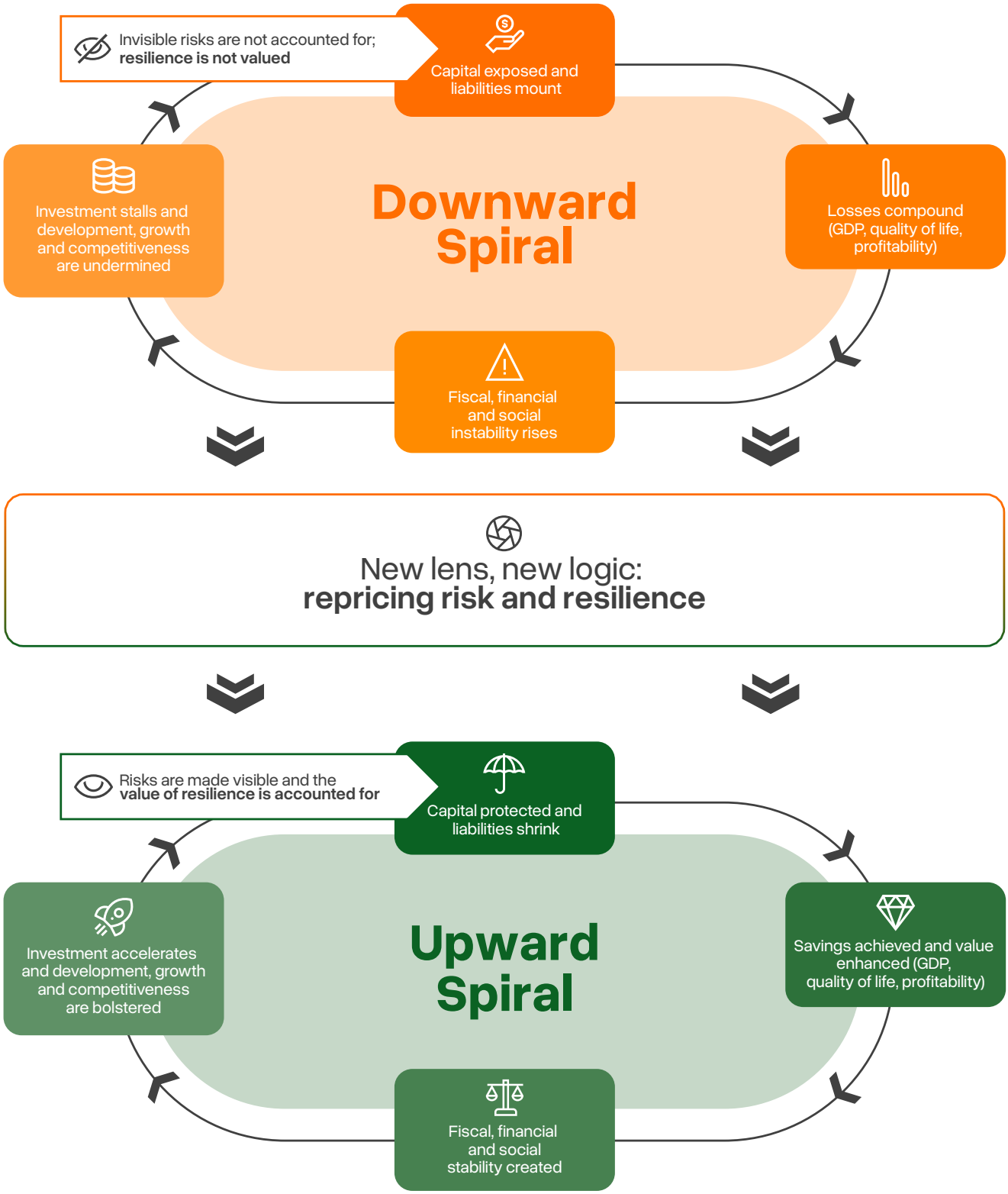
23 IIGCC, *Physical Climate Risk Appraisal Methodology (PCRAM) 2.0* (June 2025).

24 World Bank, *Rising to the Challenge: Success Stories and Strategies for Achieving Climate Adaptation and Resilience* (Washington, DC: World Bank, 2024).

Despite the profound threats and opportunities for building resilience, our economic and financial systems do not fully account for the impacts of climate change and nature loss.

The costs remain invisible in investment decisions, balance sheets and planning frameworks; the value of resilience interventions is not recognised. As outlined in Chapter 2, this risks setting a downward spiral of compounding costs in motion. See Exhibit 1 taken from Chapter 2.

Exhibit 1 From Risk to Resilience: Downward Spiral versus Upward Spiral



First, capital is exposed and liabilities mount. For every $1 spent on climate-resilient infrastructure right now, $87 is spent on infrastructure lacking resilience considerations.[25]

Only 30% of the world's largest 5,800 companies have quantified their exposure to climate and nature risks.[26] The result is a build-up of hidden liabilities: future costs that will eventually surface as reconstruction bills, uninsurable assets, defaults, and write-downs.

Second, losses compound, including:

- **For communities,** an additional 1 to 2 million deaths per year in EMDEs,[27] and 40 million more people experiencing extreme poverty by 2050.[28] These impacts will increase inequality: climate-related income losses are 70% greater for the poorest 40% of populations.[29]
- **For companies,** $885 billion losses by the 2030s, rising to $1.2 trillion by the 2050s for the world's largest companies.[30] Labour productivity losses equivalent to 80 million jobs are likely by 2030 globally.[31] Supply-chain disruptions could also cause $25 trillion in net-losses by the middle of the century, as droughts, floods, storms and heatwaves cause widespread supply-chain failures and production halts.[32]
- **For countries,** an 18 to 23% decline in GDP by 2050 globally due to slow-onset and acute climate impacts under a current policy scenario.[33, 34] This may not properly capture a further 7 to 10% GDP decline from nature impacts by 2030 (estimates for 2050 are not available).[35]

  Losses are especially severe in lower-income countries, many of which depend heavily on climate- and nature-sensitive sectors like agriculture for jobs and incomes.

Third, financial and fiscal instability rises as asset values and productivity fall. Properties exposed to flooding, wildfires or coastal erosion lose value as insurers withdraw and mortgages default. In the US, home insurers declined 37% of claims in 2023, up from 25% 20 years earlier[36]. As traditional risk-pooling breaks down, households, businesses and lenders are left unprotected.

Fiscal stability erodes as disruptions drive output volatility, inflation and debt stress. Rising emergency spending costs and lower earnings (due to productivity losses) reduce fiscal space and constrain monetary flexibility, limiting the tools available for macroeconomic management.

Finally, investment stalls not just in resilience interventions, but also in wider productivity-enhancing areas - as mounting damage makes these too risky. Weakened economies have less capacity to invest in resilience to protect and expand capital, becoming trapped in a cycle of escalating risk.

Recognising the reality of climate and nature impacts and revaluing resilience can reverse the cycle. By protecting and expanding productive capital, communities, companies and countries can withstand disruptions, expand opportunities, take 'productive risks' rather than suffer from imposed risks, unlock value and build long-term prosperity.[37] **This unlocks an upward spiral of escalating benefits of action, in which stability and investment reinforce one another, economies grow more robust, and resilience is strengthened.**

25 Climate Policy Initiative, *Tracking Investments in Climate Resilience Infrastructure* (2022)
26 Clarity AI, STUDY: *Only 30% of Global Companies Adequately Assess Physical Climate Risks* (September 25 2025).
27 Systemiq analysis 2025. See Technical Annex for further detail. This is likely an estimate as it does not account for other important climate-linked diseases such as salmonella and rabies, nor the wider nutrition impacts beyond stunting.
28 Moyer, J.D., Pirzadeh, A., Irfan, M. et al. 'How Many People Will Live in Poverty Because of Climate Change? A Macro-Level Projection Analysis to 2070'. *Climatic Change* **176**, 137 (2023).; Gilli et al. 'Climate Change Impacts on the Within-Country Income Distributions'. *Journal of Environmental Economics and Management,* **Volume 127,** (2024): 103012.
29 World Bank, *Rising to the Challenge: Success Stories and Strategies for Achieving Climate Adaptation and Resilience* (Washington, DC: World Bank, 2024).
30 BCG and Temasek, *The Private Equity Opportunity in Climate Adaptation and Resilience* (2025).
31 International Labour Organization (ILO), *Working on a Warmer Planet: The Impact of Heat Stress on Labour Productivity and Decent Work* (Geneva: International Labour Office, 2019).
32 Willner, S. N., Otto, C., Levermann, A., & Schewe, J. 'Global Supply Chains Increasingly at Risk from Climate Shocks'. *Nature*, **622,** 7982 (2023): 97–103.
33 NGFS, *NGFS Climate Scenarios for central banks and supervisors - Phase V* (NGFS, 2025).
34 An 18 - 23% GDP loss range by 2050 aligns with recent analysis by Grantham Research Institute, 'The Macroeconomic Case for Adaptation Investment' (2025, forthcoming), which finds GDP losses in the range of 15-20% on average for different groups of EMDEs by 2075 and potentially much higher, based on analysis of 85 econometric models from 15 macroeconomic studies, which describe the reductions in GDP explained by temperature shocks and sea level rise alone. Estimates do not account for non-market welfare losses, such as impacts on health and the biosphere, which are expected to be large, nor do they cover impacts that are not strongly driven by temperature shocks, such as slow-onset effects, water supply and demand impacts, and other extreme events, such as surface and river floods, droughts, and wildfires. Regional-scale tipping points such as AMOC and sea-level rise tipping points are not considered.
35 NGFS, *The Green Scorpion: the MacroCriticality of Nature for Finance* (2023).; World Bank Group, *The Economic Case for Nature - A global Earth-Economy Model to Assess Development Policy Pathways* (2021).
36 Insurance Information Institute, *Home Insurance Claim Trends in the U.S.* (2024).
37 As per the World Bank's World Development Report 2014: Risk and Opportunity, when people feel protected against imposed risks (such as storms, disasters, or disease), they are more likely to take 'productive risks' - investing in education, improving housing, or starting a business - which drive long-term growth and development.

The Resilience Investment Agenda

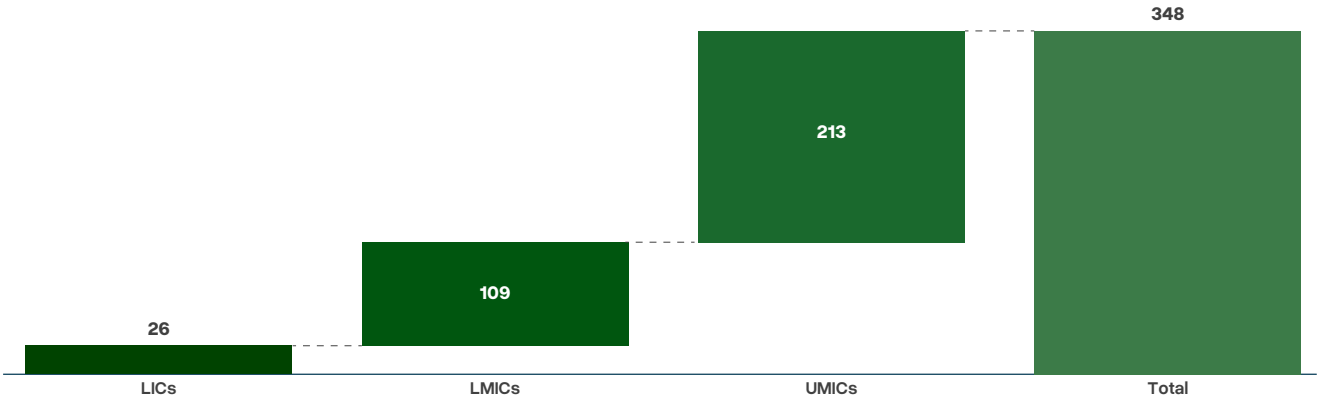
It is no surprise that the cost of inaction is far greater than the cost of action. Only an estimated $350 billion – equivalent to 0.5% of EMDEs' GDP in 2035[38] – is needed per year to build resilience in EMDEs by 2035.[39]

See Exhibit 2 taken from Chapter 3. **Investing a portion of the $350 billion in four key sectors alone could help to avoid up to $690 – $850 billion in socioeconomic losses per year by 2050** in health, agriculture, infrastructure, and water sanitation and hygiene (WASH).[40] Yet resilience investments do not flow at the scale needed. The inability in most cases to monetise avoided losses has long been at the crux of this paradox. However, this report highlights not just the avoided losses, but the value creation opportunities that resilience investments offer. Investing $350 billion per year can benefit: **i) communities** – by enhancing incomes and strengthening social institutions; **ii) companies** – by boosting agricultural yields and opening up new market opportunities; and **iii) countries** – by generating strong economic multipliers for growth, jobs and sectoral development, among other benefits.[41]

Building resilience requires that all investments become resilient and invest in new approaches to tackle new risks. This begins with redirecting and scaling existing investments to ensure they are resilient. For example, when building a new road, that investment should factor in financing to ensure the road is resilient to slow-onset and acute climate impacts. Second, there is a need for new investments that tackle specific climate and nature risks, such as a new sea wall, or new cooling facilities. Where possible, investments that boost resilience and reduce emissions at the same time can maximise returns. Chapter 6 identifies 15 impactful 'A&R Best Buys' comprising adaptation and resilience opportunities across sectors, including crop resilience, resilient health systems, and terrestrial protection and rehabilitation.

Exhibit 2 The Additional Resilience Investment Need by 2035 in Emerging Markets and Developing Economies(1)

Developing countries investment needed[1] ($ billion by 2035, US$2023 prices)
Estimates draw largely from 2025 UNEP Adaptation Gap Report (Forthcoming) (2)



(1) The values shown are for the non-annex 1 countries as defined by the UNFCCC, focusing only on LICs, LMICs and UMICs. (2) UNEP AGR (Forthcoming), covering adaptation estimates for agri-food, disaster risk reduction, health, fisheries and marine, energy and transport infrastructure, coastal protection and river flood protection. These sector results are only presented as aggregate numbers for country income groups. Systemiq conducted analysis to expand UNEP AGR (forthcoming) estimates for certain sectors, drawing on sources including Carapella et al. (2023), Aggarwal et al. (2024) and World Bank/UNESCO data on capital expenditure for education, Waldron et al. (2022)[42]. See Technical Annex for further detail. Note the figure captures public focused interventions, as well as interventions that have both public and private costs and benefits, for example climate-smart agriculture. It does not include interventions by private companies that are confined to their own assets or operations. The numbers are expressed in constant 2023 USD.

38 $350 billion is 0.05% projected GDP of EMDEs in 2035. Based on IMF (2024) GDP projections until 2030 in current prices for each country income group, deflated to USD2023 prices

39 The investment needs figure draws on the updated UNEP Adaptation Gap Report (forthcoming) Adaptation Gap Report 2025, complemented with Systemiq analysis (education, water and sanitation, nature) and UNEP AGR 2025 (other sectors). This is a recurring investment need. It captures public focused interventions -such as major flood protection investment or adaptive social protection -as well as interventions that typically have both public and private costs and benefits, for example climate-smart agriculture. This estimate does not include interventions confined to private company or household assets or operations, which UNEP AGR (forthcoming) estimates will be several hundred billion dollars per year by 2035. Nor does this figure include funding for losses and damages. See Technical Annex for further detail.

40 Indicative estimate only. Estimate applies damage reduction rates per sector from preliminary analysis by Grantham Research Institute – Grantham Research Institute, 'The Macroeconomic Case for Adaptation Investment' (2025, forthcoming) – to economic costs of inaction for the four listed sectors, calculated by Systemiq. The scope of sectors and hazards examined in each analysis do not align fully. See Technical Annex for further detail.

41 Systemiq analysis. See Technical Annex for further detail.

42 Waldron et al., *Global Landscape of Climate Finance 2024* (Climate Policy Initiative, 2024).

Policy is critical to mobilise private investment and redirect investment flows towards resilience. Governments can set a clear vision and integrate resilience into policymaking to ensure that economic growth and development are built to last. By setting the right frameworks and incentives, policymakers can shape markets to align capital with long-term stability and shared prosperity. And by establishing effective regulation, standards and innovation support, they can guide investment towards robust assets. Importantly, policy fosters inclusion and equity by establishing social protections and public safety nets that ensure vulnerable households are not left unable to afford the costs of climate and nature impacts, preventing inequality from deepening.

Today, resilience investment flows fall far short of needs. Only about $54 billion flows annually into climate resilience in EMDEs - roughly one-seventh of the $350 billion needed.[43] Chapter 4 outlines the main sources of finance that can close the resilience finance gap.

Private finance

Roughly 25% of the resilience investment needed in EMDEs - or $90 billion - lies in sectors that could generate predictable savings (including avoided losses or efficiency measures) or revenues that can be captured by the private sector.[44] Commercial agriculture, water management and real estate are prime examples. Private sector opportunities are stronger in mature and stable markets; in fragile states, achieving 25% private investment is estimated not to be possible currently, as a range of barriers mean revenue models do not work. Just $4 billion flows from private sources into publicly oriented resilience in EMDEs today, leaving a $85 billion financing gap.[45]

BOX A

Estimating the Private Finance Potential

The United Nations Environment Programme Adaptation Report (UNEP AGR) estimates the realistic private sector potential for publicly-oriented national adaptation funding at 15% to 20% by 2035.[46] This varies by country grouping - with higher numbers in upper middle-income countries and lower in low-income countries. The Returns on Resilience report takes a maximalist approach, using a 25/75 public versus private sector split for national adaptation funding. This assumes that all theoretical private sector potential is realised, in all countries and sectors, reflecting an aspirational view of what could be achieved under improved policy and market conditions, and increased use of public finance to catalyse private investment, even if not yet present in EMDEs.

BOX B

Households

Households play a critical role in financing resilience.[47] Individuals are already spending significant amounts of their own resources on adaptation.[48] These flows are not included in our analysis, due to methodological challenges, as highlighted by Climate Policy Initiative (CPI) and others, since much of this spending is diffuse and not systematically reported. Increased investment by households is needed by 2035, with support needed to ensure those from low-income households have access to solutions like increased air conditioning coverage.[49]

43 Systemiq synthesis, drawing on previously referenced Climate Policy Initiative (2024) and Waldron et al (2024). See Technical Annex for further detail.
44 Systemiq analysis. Investment needs in USD are estimated based on a range of sources, drawing primarily on the UNEP Adaptation Gap Report 2025 (forthcoming). Priority interventions are identified, and their capacity to attract private investment is assessed, based on a range of sources, including: BCG, *The Private Equity Opportunity in Climate Adaptation and Resilience* (2025).; CPI, *Adaptation Tracking Taxonomy* (2024); TNA (2024) Taxonomy of Climate Change Adaptation Technology; UNEP AGR, *Adaptation Gap Report 2023* (2023).; *IFPRI, Global Food Policy Report* (2021).; European Commissions, EU Taxonomy (2020).; Tailwind Futures, Tailwind Taxonomy for Adaptation and Resilience Investments, May 2024, among others. See Technical Annex for further detail.
45 Systemiq analysis. See Technical Annex for further detail.
46 UNEP AGR, *Adaptation Gap Report 2025* (forthcoming).
47 Key categories include air conditioning (both a response to rising temperatures and a determinant of future resilience), rainwater harvesting and retrofitting roofs and walls against storms.
48 Climate Policy Initiative, *Global Landscape of Climate Finance 2024* (2024).
49 Climate Resilience Alliance, *Adaptation Finance and the Private Sector: Opportunities and Challenges for Developing Countries* (2025).

Public finance

Approximately 75% of resilience investments - $260 billion - are best suited to public funding. These are investments that generate significant public goods or where the returns are hard to monetise. Yet just $50 billion flows from public sources (domestic and international) into resilience interventions in EMDEs today, leaving a $210 billion financing gap.[50] Public finance sources include:

- **International public finance:** an estimated $30 billion of international public finance flows into resilience investment in EMDEs, far below what is needed – and what has been committed through international negotiations.[51] Deployment of scarce concessional finance – in the form of grants, first-loss capital and ultra-cheap loans – is widely viewed as a priority for countries that are both physically and financially vulnerable.
- **Domestic public finance:** An estimated $20 billion flows into resilience investments from public EMDE sources each year.[52] The amount flowing into proactive investment pales in comparison to reactive expenditure, with many African countries diverting up to 10% of their budgets in order to respond to climate extremes.[53] Examples of proactive investments include health systems prepared for heatwaves or malaria outbreaks, and ecosystem protection. In countries facing high debt burdens and limited fiscal space, major public domestic investments are unlikely without external support.

If the returns on resilience are so strong, why is investment not flowing at the scale it is needed?

A set of barriers make it difficult for economic and financial decision-makers to fully understand or act on the investment opportunity, often owing to policy gaps. Challenges include:

- **Mispriced risks and returns:** The economic value of investments in resilience is still poorly measured and rarely reported. Associated spending is perceived as a cost, not an investment that generates returns.
- **Fragmented and underdeveloped markets:** Resilience investments are diffuse, spanning many sectors or business units. Clear 'resilience offerings' are only starting to be defined and there remains a lack of clarity about investable project opportunities. Innovation in resilience solutions remains under-funded.
- **Externalities and misaligned incentives:** Many resilience investments have strong public good characteristics, meaning that without supporting policies they are underprovided by the private sector. Yet rather than aligning private sector incentives with the need to invest in resilience, existing subsidies, price signals and regulations often encourage behaviour that undermines resilience.
- **Tragedy of the horizon:** Governments, businesses and financial institutions tend to prioritise short-term returns and electoral or market cycles, rather than long-term risks. Because the most severe consequences of climate change and nature loss will materialise beyond these decision-makers' immediate timeframes, there is little incentive to allocate capital today towards resilience measures.
- **High cost of capital:** Many countries and communities that are most affected by climate change and nature loss are poor and face high cost of capital. Public budgets are stretched, and private investors demand returns that these countries cannot meet without support.
- **Weak capacity and information gaps:** Ministries, local and national municipalities, and firms often lack the tools, skills and institutions needed to plan and deliver resilience investment. Reliable risk data is patchy; technical expertise is limited; institutions are overstretched.

Economic and financial decision-makers can pull a series of levers to address these barriers and mobilise investment.

50 Naran et al, *Global Landscape of Climate Finance 2024: Insights for COP29* (CPI, 2024).; Waldron et al., *Global Landscape of Climate Finance 2024* (Climate Policy Initiative, 2024).
51 OECD, *Scaling Finance and Investment for Climate Adaptation: Input paper for the G20 Sustainable Finance Working Group* (OECD, 2025)
52 CPI, *Global Landscape of Climate Finance 2024: Insights for COP29* (October 2024).;Waldron et al., *Global Landscape of Climate Finance 2024* (Climate Policy Initiative, 2024).; *CPI, IDFC Green Finance Mapping Report 2024* (2024).
53 WMO, *State of the Climate in Africa 2023* (2024).

Call to action

The case for strengthening resilience is clear. We largely know what we need to do - and how to do it.

By embedding resilience into investment decisions, economic and financial decision-makers can scale investment in resilience to drive better outcomes for communities, companies and countries.

Chapters 5 and 6 outline key areas for action. Chapter 5 identifies the areas where momentum is building for finance ministers, central banks, private finance, businesses, development finance institutions, donors and philanthropies to drive action through COP30. Chapter 6 drills down into 15 impactful 'A&R Best Buys' in low- and middle-income countries that can be implemented now.[54]

COP30 offers a critical opportunity to pivot from raising awareness to implementation - the moment when the world aligns around resilience as the shared investment agenda. The Brazilian Presidency has placed unprecedented political focus on adaptation and resilience, providing much-needed space for a reimagining of priorities and next steps, alongside mitigation efforts. Building on existing coordination mechanisms like the Race to Resilience and Sharm El Sheikh Adaptation Agenda, hundreds of stakeholders are working with the Brazilian Presidency and High-Level Champions to spotlight a number of global initiatives that can serve as vehicles to address risks and opportunities identified in this report. They are importantly taking a multi-year frame, looking to 2028 when the United Nations' next 'Global Stocktake' takes place to assess progress on the Paris Agreement and set corresponding ambition. Among categories of action that stakeholders have identified to enhance the returns on resilience are:

Delivering on country priorities:

- **Turn National Adaptation Plans (NAPs) into investable resilience strategies.** This means credible, costed investment pathways and aligned project pipelines at the heart of national planning and budgeting processes that identify priority resilience investments, clarify investment needs and financing sources, and plot the policies and financing mechanisms needed to get finance flowing.
- **Scaling Country Platforms can play a valuable role in** supporting the development of resilience investment strategies and facilitating collaboration across actors and sectors. Multiple countries are exploring options to launch country platforms for this purpose. In addition, A&R Best Buys (Chapter 6) represent high-impact solution areas that can generate socioeconomic returns and help countries achieve NAP priorities. They also offer opportunities for financing across diverse funder types.

Embedding resilience into all economic and financial decision-making:

- A growing number of economic and financial decision-makers - in government, business and finance - are starting to embed resilience into policies, strategies and markets. COP30 offers a platform to showcase progress, share lessons and accelerate high-impact actions. Table 1 outlines key opportunities for action, where momentum is emerging.
  - **As part of these efforts, increasing provision of insurance and pre-arranged financing have a particularly important role to play.** They provide liquidity when shocks occur, reduce fiscal disruption, and lower the long-term costs of disasters. And with insurers collectively managing about one-third of global assets, the sector has the potential to mobilise long-term capital for resilient infrastructure. Yet in many climate-vulnerable countries, most households, small businesses, and even governments are uninsured; in low-income settings, more than 90% of disaster losses go uncovered, compared to around 50% on average in higher-income economies.[55] Expected losses from natural disasters have also risen steadily, increasing by roughly 6% per year in real terms since 1994.[56] By 2024, this amounted to an estimated $35 billion in uninsured losses across EMDEs. Addressing the protection gap is therefore a critical priority for decision-makers seeking to embed resilience into decision-making.

54 The Adaptation & Resilience Best Buys have been developed by BCG based on i) analysis of countries' NAPs and Technology Needs Assessments; ii) consultations with over 50 climate and development experts across governments, funders, NGOs, and the private sector, and iii) an extensive literature review. They represent critical, high-impact, cost-effective solutions that offer investment-ready opportunities to achieve resilience and development goals, particularly in low- and middle-income countries.

55 Insurance Development Forum and Bridgetown Initiative *From Risk to Resilience: How Insurance Can Mobilise Disaster Risk Finance and Climate Investment in Vulnerable Economies*, (2025).

56 Banerjee et al, *Natural Catastrophes in 2023: Gearing Up for Today's and Tomorrow's Weather Risks* (Swiss Re sigma, 2024).

Getting key enablers in place:

- Turning the resilience opportunity into reality requires a set of enabling actions that no single actor can deliver alone. These are the shared foundations - the data, tools, and frameworks - that allow decision-makers to measure what matters, align on goals and track progress. Based on discussions to inform this report, momentum and collaboration are growing in the following areas, with the potential to enable resilience investment at scale.
    - **Pricing resilience risks and returns:** Developing frameworks and tools for finance ministries and Central Banks to better understand the fiscal impact not just of climate and nature shocks, but also the quantified positive impacts of and co-benefits unlocked by resilience investments; for CEOs and CFOs to quantify resilience-adjusted profitability under different scenarios; and for investors to improve risk models and benchmarks to assess opportunities.
    - **Developing a shared risk typology across systems:** Coalescing around a common framework for how climate and nature risks accumulate across physical, natural, human and social capital, to create a shared language across sectors, reducing fragmentation and enabling alignment on systemic exposure.
    - **Improving access to physical risk data:** Leaders from the insurance, technology and data sectors coming together with potential users of physical risk data to create a shared baseline of exposure, enabling better fiscal planning, investment choices and insurance pricing.
    - **Tracking progress and positive outcomes of resilience investments:** As the delivery of resilience investments scales up, there is a need to converge around a coherent set of metrics to track progress and positive impacts for communities, companies and countries. This can help to inform approaches with best practice examples, avoid maladaptation, and strengthen the investment case. The Global Goal on Adaptation represents an important step towards developing the metrics to understand, monitor and assess resilience-building efforts and their impact.

The combination of these enablers ultimately drives transformation. Decision-makers can form partnerships to align strategies, pool resources, and drive systemic change at scale.

Table 1 Embedding Resilience into Investment Decisions – Priority Actions and Emerging Momentum

Decision-Maker	Key Opportunities for Action:
Finance Ministries	• Embed the benefits of resilience into macroeconomic forecasts and fiscal policy; • Prioritise investments that protect and grow productive capital; • Engage across ministries to reform subsidies, rules and regulations to incentivise investment in resilience.
Planning and coordination ministries	• Use spatial risk maps and climate-nature risk data to guide land use, infrastructure and sectoral investment decisions.
Central Banks and Regulators	• Integrate resilience into monetary policy, prudential supervision and financial stability frameworks.
Credit rating agencies	• Integrate resilience into sovereign ratings to better capture fiscal capacity, vulnerability and creditworthiness.
Business CEOs and CFOs	• Acknowledge that physical climate and nature risks impact your business, and develop resilience strategies and investments across core functions to reduce physical risk exposure;[57]
Insurance and reinsurance companies	• Develop tools and markets that reward resilience and reduce systemic exposure.
Private finance institutions; Asset owners and managers	• Embed climate risk and resilience assessments in disclosure, risk-return assessments, and portfolio decisions.
IMF	• Embed resilience in growth and debt models to support fiscal stability and poverty reduction.
Multilateral Development Banks and Development Finance Institutions	• Tie concessional finance and guarantees to resilience metrics so that countries can both attract more investment and count on predictable fiscal space when shocks hit.
National Development Banks	• Embed resilience into core investment criteria, including pricing climate and nature risks in lending; • Provide support to grow resilience market, including pipeline development and project preparation.
Donor governments	• Increase the provision of adaptation finance; • Scale the use of mechanisms that direct concessional finance to fill critical gaps in countries that are highly financially and physically vulnerable to climate and nature impacts, and for urgent repair and recovery costs.
Philanthropies	• Meet countries where they are at; supporting the implementation of resilience investment strategies that are aligned with national priorities; • Provide catalytic funding and technical support to build market solutions, including early-stage innovation and solutions that generate maximum socioeconomic returns.

57 WBCSD, *Physical Risk and Resilience in Value Chains: CEO Handbook on Executive Engagement* (2025).

Adaptation and Resilience (A&R) Best Buys

The risks and opportunities around adaptation and resilience are especially pronounced in low- and middle-income countries (LMICs), given their high exposure to climate hazards alongside typically limited adaptive capacity and financing. Declining aid flows and increasingly scarce grant finance are compounding existing challenges around investment opportunities that meet financiers' data and risk thresholds.

Yet there are already significant entry points for every funder – public, private and philanthropic – to finance adaptation and resilience in LMICs in ways aligned with their mandates and risk-return profiles.

To this end, the A&R Best Buys (see Chapter 6) identify 15 high-impact solution areas that can already generate strong socioeconomic returns (see Exhibit 3). These are drawn from analysis by BCG of countries' NAPs and Technology Needs Assessments, consultations with over 50 climate and development experts across governments, funders, NGOs and the private sector, and an extensive literature review. Chapter 6 outlines the rationale for each best buy and showcases exemplar solutions that are innovative, scalable and ready for investment. The Best Buys are critical options for LMICs facing diverse climate hazards, and simultaneously enhance climate resilience and deliver development outcomes aligned with the SDGs.

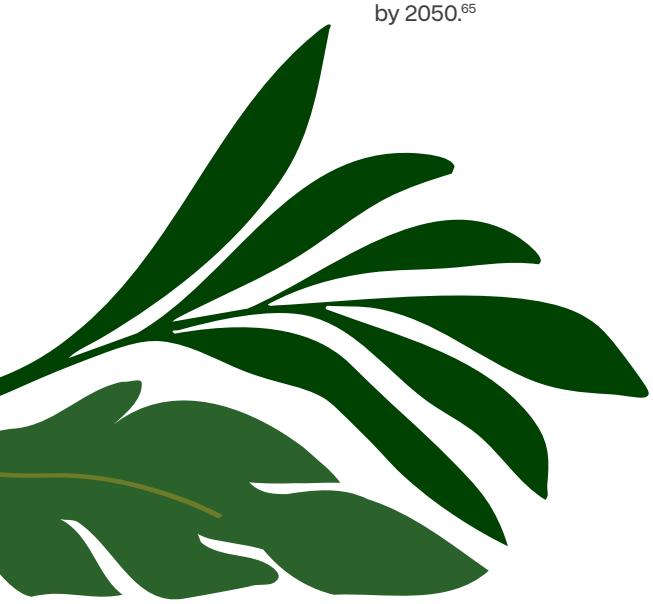
They unlock the 'triple dividend' of avoided losses, induced economic returns, and wider social and environmental benefits – such as reducing mortality and morbidity from climate-sensitive diseases, strengthening food security, and bolstering GDP growth, jobs and incomes.

The A&R Best Buys span six impact sectors broadly aligned with sectors prioritised by the Global Goal on Adaptation. These are broadly aligned with sectors prioritised by the Global Goal on Adaptation and include i) food; ii) water; iii) health; iv) infrastructure; v) community and business; and vi) nature, ecosystems and biodiversity. The A&R Best Buys also include cross-cutting enablers such as information, technology and planning that support and amplify impact across sectors. Among these, food and health are especially emphasised, as they are critical sectors that underpin human wellbeing and economic stability, jobs and growth. Food systems are central to food security and livelihoods in LMICs, where agriculture represents a large share of GDP and employment and is particularly climate-sensitive, while health systems are the frontline for protecting lives under rising climate risks. Both sectors are foundational to resilient economies and societies more broadly in LMICs.

Example A&R Best Buys include

- **Crop resilience:** Climate change is projected to have a staggering impact on global crops, cutting yields by up to 12% by 2050[58]; impacts in Africa could be especially severe, with crop yields projected to drop 18% by 2050.[59] This is on top of the more than 30% decline in agricultural productivity growth due to climate change since 1961 - the steepest decline of any region worldwide.[60] The agriculture sector is already absorbing 26% of the economic impact of climate disasters – increasing to 83% for drought in developing countries.[61] Crop resilience is vital for boosting productivity, strengthening food security, raising farmer incomes, and supporting economic stability, jobs and GDP growth - especially in LMICs.[62] Investments are needed in solutions such as climate-resilient crop varieties and agricultural practices, and innovations such as AI-enabled guidance and improved weather and seasonal forecasts.[63]
- **Resilient health systems:** Climate change is amplifying health threats at a scale that could overwhelm already strained health systems. For example, climate change is projected to cause more than 550,000 additional malaria deaths between 2030 and 2049. Of these, 92% are predicted to arise due to extreme weather events driven by the disruptions they cause to malaria protection and treatment.[64] Without action, climate-related health risks could drive at least $21 trillion in economic costs in LMICs by 2050.[65] Resilient health systems reduce morbidity and mortality, increase access to essential services during climate disruptions, and safeguard lives and jobs. Key investments include reducing dependence on facilities that may be inaccessible or non-functional during extreme weather events and strengthening health product supply chains through cold chain resilience and local pre-positioning of health commodities closer to communities.
- **Terrestrial protection and rehabilitation:** Climate change is disrupting more than 80% of ecological processes, degrading ecosystems, and driving biodiversity loss. The economic cost of nature decline could cut global GDP by $10 trillion by 2050 if the climate and nature emergency is not addressed, undermining livelihoods and economies that depend on nature.[66, 67] Conservation, restoration and sustainable management of forests, rangelands, and other terrestrial ecosystems can reduce climate vulnerability by preventing erosion, restoring soil fertility, retaining water and lowering risk from floods and landslides. Investments are needed in reforestation, assisted natural regeneration and wildfire prevention.

The A&R Best Buys are not a prescriptive list but a starting point to guide discussion and inform country- and locally-led adaptation planning, pointing to critical investments that can shift outcomes at scale. There are multiple considerations that advocates, funders and policymakers should keep in mind when assessing A&R Best Buys and broader A&R funding opportunities, which are explored in Chapter 6.



58 Sue, W; De Cian, E; N. Ministry, M. 'Global vulnerability of crop yields to climate change.' *Journal of Environmental Economics and Management* **109** (2021).
59 Philip Kofi Adom, *The Socioeconomic Impact of Climate Change in Developing Countries in the Next Decades* (Center for Global Development, 2024).
60 World Meteorological Organization (WMO), *State of the Climate in Africa* (2022).
61 FAO, *FAO's Work on Climate Change* (2019).
62 Food and Land Use Coalition, *Aligning Regenerative Agricultural Practices with Outcomes to Deliver for People, Nature and Climate* (2023).
63 World Bank Group, *Climate Smart Agriculture: From Knowledge to Implementation Results Briefs* (2024).
64 BCG & Malaria Atlas Project, *Climate Impacts on Malaria in Africa* (2024).
65 World Bank, *The Cost of Inaction: Quantifying the Impact of Climate Change on Health in Low- and Middle-Income Countries* (2024).
66 IUCN, *Climate Change Impacts on Nature* (2025).
67 Johnson et al. *Global Futures: Modelling the Global Economic Impacts of Environmental Change to Support Policy-Making* (WWF, 2020).

Exhibit 3 The Adaptation and Resilience (A&R) Best Buys

Resilience sector		Best Buy	Description	Exemplar solutions	Primary impacts
Food	1	**Crop resilience**	Inputs, tools and practices that help farms withstand climate shifts (e.g. drought) that affect crop yields and increase productivity	Climate-resilient/hybrid varieties, irrigation systems, biofertilisers	Increased productivity, which enhances farmer incomes and livelihoods, improves food security and diet quality and drives environmental co-benefits, economic stability and growth including GDP and job creation
	2	**Livestock, fisheries and aquaculture resilience**	Improved breeds, feeds, animal health, and pasture/pond management practices that increase productivity	Alternative feed innovations, animal disease management, fish and livestock breeds better suited to the environment	
Water	3	**Water collection and storage**	Nature-based or grey solutions to capture and manage water resources	Rainwater harvesting systems, watershed restoration	Increased water security including quantity and quality, which improves health outcomes and economic stability and growth
Health	4	**Prevention and control of climate-sensitive diseases**	Approaches that reduce burden and accelerate eradication of climate-sensitive diseases (e.g. malaria driven by increased flooding)	Disease surveillance systems, vaccines for climate-sensitive diseases, vector control measures	Reduced disease burden, morbidity and mortality; increased access to essential healthcare services including maternal, newborn and child health services due to fewer closures or interruptions in fixed health facilities, which protect lives and livelihoods and drive economic stability and growth
	5	**Improving nutrition**	Measures to protect nutrition and child growth amid rising climate risks	Food fortification, multiple micronutrient supplementation	
	6	**Health systems resilience**	Strengthened health facilities or mobile care for increased access, supply chains, and workforce capacity	Reduced facility dependence, strengthening health product supply chains	
	7	**Heat mitigation**	Strategies to reduce extreme heat-related deaths, illness, and system strain including for maternal, newborn, and child health	Heat action plans, passive cooling infrastructure, early warning systems for heatwaves	
Infra-structure	8	**Energy infrastructure resilience**	Resilient power systems that sustain communities and critical services amid climate disasters	Solar microgrids, battery storage	Minimised service disruptions and damages, keeping essential services and economies running amid climate events
	9	**Coastal and riverine infrastructure resilience**	Engineered or nature-based defenses to minimise impacts from coast and river floods	Mangrove protection and restoration, urban drainage and stormwater management	
Community and business	10	**Early warning systems**	Monitoring and communication tools to alert communities to prepare before disasters strike	Disaster risk early warning system, agriculture early warning system	Faster recovery and financial protection for households and SMEs, reducing poverty
	11	**Financial inclusion, insurance and social protection**	Financial tools and safety nets for preparedness and disaster recovery	Adaptive social protection, index-based insurance, financial innovation	
Nature, ecosystems and biodiversity	12	**Terrestrial protection and rehabilitation**	Healthy land ecosystems to ensure continued resilient resources, ecosystem services	Reforestation, assisted natural regeneration, wildfire prevention	Preserved biodiversity and natural buffers against climate risks; continued access to ecosystem services
Cross-sector enablers	13	**Climate information systems**	Access and availability of integrated weather- and climate-data systems for decision-making	Spatial data collection tools, improved weather data availability and seasonal forecasts	Adaptation solutions and emergency response measures reach and are co-created with vulnerable populations – quickly, reliably and securely to enable communities to build back in a more resilient way
	14	**Planning, preparation and response**	Informed planning, readiness, and response to reduce losses and speed recovery	Anticipatory action plans, national and sectoral adaptation plans	
	15	**Digital public infrastructure**	Digital systems and services to help climate solutions scale	Digital identity systems, inclusive digital payment platforms	

At COP30, governments, civil society, businesses, investors and financiers will gather to push resilience higher up the economic and political agenda. The challenge is not new plans, but delivery.

Resilience is no longer a side-agenda - it is the foundation of growth and stability.

If governments, businesses, investors and civil society act together, they can reverse the spiral from escalating costs to rising returns. The choice is clear: delay and face mounting losses, or act now to secure stronger, safer, more competitive economies that deliver for all.