

In collaboration with
Mercer Marsh Benefits



Workforce Health Across the Value Chain: Organizational Insights to Mitigate Risk and Create Sustainable Growth

INSIGHT REPORT
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Foreword



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How resilient can a system be if its workers remain vulnerable? This question is at the heart of a new moment of convergence. Global health inequity, climate volatility and geopolitical instability all suggest the same conclusion: operational resilience starts with people. While organizations are reassessing supply-chain strategies through diversification and reshoring, the health and well-being of the workers who keep these systems running remain overlooked. This represents not just a people risk, but a business one. Heat stress alone costs \$100 billion annually, a figure projected to quintuple by 2050.¹

This report explores how proactive investment in labour health and climate adaptation can strengthen supply-chain resilience and business outcomes. It builds upon discussions from the 2025 World Economic Forum's Annual Meeting in Davos and more than 60 hours of in-depth interviews with leaders in industry, finance, policy and civil society.

Momentum is building. Across sectors and geographies, leading organizations are reframing worker health as essential to continuity, competitiveness and long-term value creation. It is also increasingly seen as an organizational asset – one that is exposed to the same climate volatility and systemic shocks as physical infrastructure.

As highlighted during a Mercer-hosted session at the World Economic Forum Annual Meeting 2025 in Davos titled “Mitigating Climate-Driven Health Risks Through Innovation”, climate impacts on worker health directly affect labour productivity, supply reliability and long-term growth.² This report provides a framework for shared action by companies, governments and communities to strengthen population health and create more equitable access, resilient workforces and sustainable growth. It highlights the insights and innovations already emerging from global businesses responding to these converging risks.

The findings are clear: addressing labour health, especially in areas prone to climate risk, is no longer a niche concern; it is a strategic imperative. Resilience is strengthened through more comprehensive risk management that spans a company's entire value chain. Organizations that invest now will not just future-proof operations; they will help build a more resilient society and a stable, equitable global economy.

Executive summary

Resilient supply chains require healthy workers. Leaders reveal key barriers – and how companies are closing the gaps.

This report explores the critical link between worker health and supply-chain resilience. As companies navigate public health gaps, the rising pressures of climate volatility and global instability, investing in the health of workers throughout value chains meets both a public health and economic imperative. The report explores collective action and invites organizations to expand health access and investments beyond their direct workforce, charting a course from adaptation to resilience.

In nearly 60 interviews, leaders highlighted how worker health directly affects productivity, operational stability and long-term economic growth. Interviewees represented a globally diverse cohort spanning all major regions, including C-suite executives, founders, policy-makers, academic researchers, risk and supply-chain specialists, labour leaders and civil society advocates. Insights from these discussions underscore four key findings:

1. The business case is clear – but often stops at the enterprise

Investment in worker health yields measurable returns: improved productivity, reduced absenteeism and stronger retention. Yet protections rarely extend beyond direct employees. Leaders frequently described worker health and resilience, particularly in the context of climate exposure, as a “blind spot” in procurement and risk planning.

2. Climate acts as a force multiplier, deepening health risks and exposing structural gaps

Participants emphasized that rising temperatures, water scarcity and vector-borne disease are already degrading worker health and productivity. These risks are most acute in geographies where health systems and labour protections are weakest. Organizations with localized visibility and tailored responses will be better positioned to adapt.

3. Governance is both a foundation and a friction point

Regulation was broadly seen as necessary for setting accountability baselines. Yet fragmented standards, limited enforcement and internal misalignment continue to stall progress. Participants emphasized the need for clearer alignment across jurisdictions and coordination across procurement, sustainability and operational teams.

4. Momentum is building – but must move from pilots to scale

Companies are already developing innovative approaches: from community-based health partnerships to parametric insurance and shared supplier standards for workforce health and safety.³ However, it is difficult to achieve scale with isolated efforts. Multistakeholder coordination, pooled capital and scalable delivery models that are rooted in community-led delivery and social innovation are needed to shift from fragmented initiatives to systemic resilience.

These findings reinforce a central message: as workers are increasingly exposed to health risks, organizations must move beyond reactive compliance and embed health into core operational strategy. This report highlights the perspectives of leaders who are confronting these converging risks and advancing new solutions. Their insights illuminate practical pathways to transform risk into resilience, through co-creation, sustained investment and adaptive workforce strategies.

Introduction

Worker health is critical to supply-chain strategy. Leaders report growing momentum – and protection gaps.

This report is the product of a year-long research collaboration between Mercer and the World Economic Forum's Healthy Workforces initiative. To better understand how both climate-related risks and systemic gaps in access to healthcare affect supply-chain resilience, the research team conducted in-depth, semi-structured interviews with nearly 60 experts across industry, policy, finance and civil society.

Participants reflected a deliberately balanced mix of perspectives, with the majority (just over half) drawn from private-sector enterprises and multinational corporations. These were complemented by voices from civil society, labour organizations and non-profit organizations, intergovernmental bodies, government agencies and academia – capturing both headquarters-level strategic insight and the grounded experience of those implementing policy, programmes and advocacy in diverse local contexts. These conversations – totalling more than 60 hours – were transcribed, thematically coded and triangulated with supporting literature to reveal patterns in how leaders are navigating these interdependent challenges. Further details on the methodology and participant profiles can be found in the Appendix.

Across the interviews, certain consistent themes emerged. There was broad consensus across 79% of interviewees that supply-chain labour health and safety gaps were a source of business disruption and reputational risk. One-third of participants spoke about the “orphaned” nature of understanding supply-chain labour, remarking that it is often isolated within risk or compliance teams rather than considered a core business concern.

At the same time, participants held nuanced and at times divergent views on how progress should be driven. Some emphasized regulation as essential for setting baselines and enabling long-term planning. One-third pointed to its role in levelling the playing field and inspiring strategy shifts – especially when backed by meaningful enforcement. But others voiced scepticism: 62.5% cited the complexity, fragmentation and compliance burden of current frameworks as obstacles to action. A smaller subset described poorly enforced mandates as counterproductive or symbolic.

A second area of divergence emerged around private-sector responsibility. Nearly 90% of interviewees addressed the need for corporate

leadership in workforce health and resilience – most viewing proactive investment as a competitive advantage. But barriers remain. Roughly a third cited short-termism and the challenge of quantifying return on investment. Nearly a quarter pointed to internal silos, limited visibility beyond Tier 1 suppliers and lack of coordination with public institutions as persistent constraints.⁴

The report structure reflects these complexities and builds on prior work at the Forum, including the Climate and Health Initiative,⁵ a publication on the role of insurers in navigating extreme heat,⁶ and a report on the economic cost of climate-health affects developed in collaboration with Oliver Wyman.⁷ The following sections trace the arc from shared recognition of health as a business asset through growing awareness of climate-related labour risks to emerging models of investment and collaboration:

- **Section 1** examines how organizations increasingly view worker health and well-being as a business asset – but protections often stop at direct employees.
- **Section 2** explores how climate volatility exacerbates health risks and exposes blind spots in labour protection and health systems capacity, particularly in vulnerable geographies.
- **Section 3** focuses on governance, emphasizing that alignment, accountability and internal clarity are essential to move from awareness to action.
- **Section 4** highlights promising models – from parametric insurance to co-financing – that strengthen labour resilience alongside societal health and well-being through proactive investment.
- **Section 5** looks beyond individual firms, spotlighting how collaboration with communities and across industries drives more durable and equitable supply-chain resilience.

Taken together, these insights reflect a growing recognition: resilience strategies that overlook labour health are incomplete. But attention alone is not enough. This report surfaces the testimony of leaders grappling with these converging pressures – offering grounded, practical insights on where the conversation, and investment, is going next.

1

Health is good for the whole business

Healthy workers power healthy businesses. It is time to extend that logic to supply-chain and contract labour.



Worker health is often treated as a regulatory necessity or social obligation rather than a business imperative. Yet research shows that protecting and investing in workforce well-being is not just responsible – it is commercially sound.⁸ The business case for worker health and safety has been studied, measured and proven.^{9,10,11} Strong evidence shows that improving job quality – through fair wages, safe working conditions, health support and job security – drives gains in productivity, worker retention and even product quality. This applies across sectors and geographies.

Critically, these benefits are not limited to knowledge economies. In low-wage, high-exposure sectors such as agriculture and garment manufacturing, even modest investments in health and safety, such as hydration, heat stress mitigation or sanitation, yield commercial returns.^{12,13} Enhanced working conditions have been linked to throughput gains, fewer defects and lower rework rates.¹⁴



Workforce health is directly tied to productivity – when health improves, so does economic output.

George Wharton, Associate Professor (Education), Department of Health Policy, London School of Economics and Political Science

Today, most employers recognize the economic, reputational and ethical importance – and legal requirement – of safeguarding the health and well-being of their employees. Some 64% of US organizations enhanced their health and well-being offerings in 2024.¹⁵

Recent work conducted by SHINE¹⁶ and Better Work¹⁷ have documented these outcomes. For example, after four years of assessment in

Vietnamese garment factories, Better Work's training and improvements to working conditions were linked to an average increase in profitability of 25%.¹⁸ SHINE's research has similarly shown that improvements in workplace well-being are directly correlated with gains in productivity, retention and resilience.¹⁹ This data confirms what many companies have long intuited: health is a driver of business performance.



If we make an impact on the top line and not just the bottom line, we can actually help drive business growth. And that's where you get the arguments around sales, where you get arguments around profitability. And that's when you get the finance director to wake up.

Paul Litchfield, Chief Medical Adviser, Compass Group

A quarter of experts, all with professional backgrounds in clinical care, health or health and safety, echoed this view. In interviews, they often cited evidence from their own experience to illustrate the direct link between workforce well-being and organizational performance. The business case for the “duty of care” with the direct workforce has thus been well established.^{20,21} If health is a multiplier for productivity and essential for resilience, would its value not then apply throughout the supply chain? If so, the next frontier is to extend this logic to supplier and contract labour and to the

communities on which supply-chain labour depend. Most corporate investments in workforce health coverage and well-being focus narrowly on directly employed workers. In many global supply chains, a substantial share of labour, including contractors, outsourced personnel and informal workers, lies beyond the corporate payroll and oversight. And yet workers in global supply chains often operate in environments without access to basic healthcare, clean water, adequate sanitation and consistent wages.²²



No one should die or get injured when they go to work – that's the moral argument. What needs to work along with it is the economic one. Sometimes we treat them as though there's a trade-off. In reality, they go together.

Sandro Pettineo, Senior Programme Officer, Employers' Activities, International Training Centre of the International Labour Organization

COVID-19 underscored the risks of poor health access and poor health conditions in this critical workforce. Illness and absenteeism in front-line and production roles created significant operational disruptions.²³ The pandemic revealed a crucial weakness in how global supply chains operate and reinforced that the health and safety of supply-chain workers are fundamental to enterprise risk management and operational continuity.^{24,25}

Thus, organizational health and safety strategies will need to evolve to match the realities of modern supply chains. In this context, worker well-being – whether in a factory, farm or freight corridor – is no longer peripheral. It is core to operational continuity. Businesses that fail to account for the health of their full labour ecosystem risk underestimating vulnerabilities and missing opportunities to strengthen performance.

Forward-looking companies are beginning to recognize that safeguarding worker health beyond direct employees is an operational differentiator. Firms that invest in the health of their workforce report tangible business returns.

Levi Strauss & Co.'s Worker Well-being initiative – active in more than 100 factories across 14 countries – has documented improvements in worker retention and productivity.²⁶ The programme supports factory-led interventions in health, financial literacy and gender equity, and has shown that suppliers who co-funded programmes saw up to a fourfold return on investment.²⁷ An independent evaluation by SHINE further found correlations between factory-level well-being investments and measurable gains in output, engagement and satisfaction.²⁸

Companies such as Apple and Lululemon have also expanded health and well-being programmes among indirect workers. Apple's Supplier Employee Development Fund has reached more than 8 million workers, offering training on health, leadership and rights awareness. Health education programming includes content on nutrition, mental health, reproductive health and early disease prevention, tailored to local needs and developed with input from both suppliers and workers.^{29,30} Lululemon, meanwhile, has introduced on-site wellness and mental health resources across select sourcing sites.³¹

The commercial logic holds: healthy and secure workers, whether on the payroll or in the supply chain, lead to more consistent productivity, fewer disruptions and a stronger capacity to adapt to changing market conditions. These benefits are not just internal to a firm – they cascade through vertical relationships, multiplying the impact.³² By integrating health considerations into supply-chain strategies, companies can mitigate risks, enhance resilience and lay the foundation for sustainable growth in an uncertain and rapidly changing world.



Climate volatility amplifies gaps

Climate risks threaten workforce health and supply chains; assessing these risks requires attention to people as well as assets.

Climate volatility presents a chronic and compounding risk to worker health. The impacts are already being felt globally. Recent research from the World Economic Forum estimates the combined global impact of climate health effects across the food and agriculture, built environment, and health and healthcare sectors could amount to at least \$1.5 trillion in lost productivity by 2050. In 2021 heat stress caused the loss of 2.5 billion hours of labour in the US, a 36% increase from the 1990-1999 average.³³ Some 70.8% of cities surveyed in 2024 reported climate-related economic losses due to reduced labour capacity, including significant productivity losses linked to extreme heat.³⁴ Moreover, climate risks worsen pre-existing health conditions; extreme heat exacerbates non-communicable diseases (NCDs)

such as cardiovascular disease and asthma, thereby amplifying the overall health burden.³⁵

Rising temperatures, extreme weather events and shifting disease patterns are not abstract risks. They are tangible disruptions that erode workforce stability and business continuity, particularly in regions already vulnerable due to economic, structural or governance constraints.^{36,37} In geographies vital to supply-chain operations, the economic impact of climate disruptions is projected to be substantial. For example, it is estimated that Bangladesh will lose 21.95% of its apparel export earnings by 2030 and 68.51% by 2050 due to high temperatures and flooding, with similar significant losses projected for Cambodia, Pakistan and Viet Nam.³⁸



In recent years, dengue has become an increasingly urgent issue in Bangladesh. We're already seeing the health impacts of climate change, compounded by flooding. The real opportunity lies in moving away from reacting to emergencies and instead investing in prevention — through strong primary care systems and clinics that can anticipate risks, allocate resources and support patients before a crisis strikes.

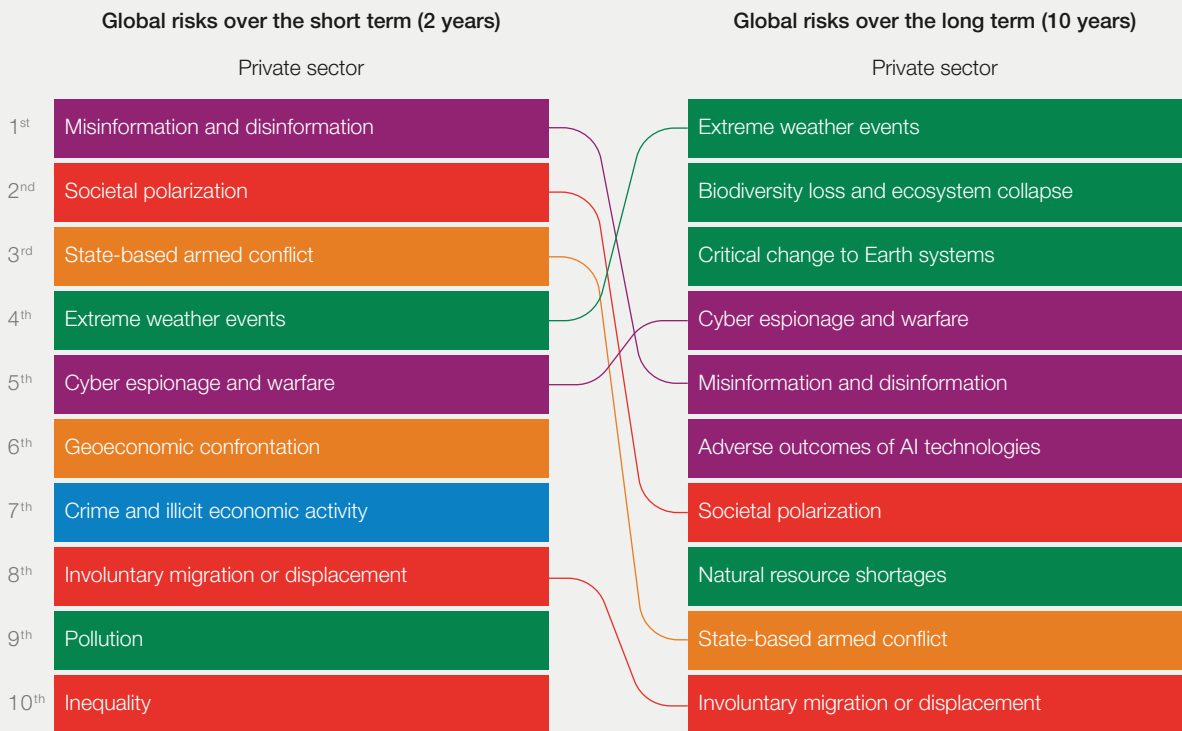
Sylvana Quader Sinha, Founder, Chair and Chief Executive Officer, Praava Health

These conditions intersect to create a high degree of risk. Despite clear indicators of future disruption, companies are slow to respond. As of 2023, about a third of surveyed firms in the European Union had taken action to build resilience against physical climate risks, despite more than 60% recognizing their exposure.³⁹ The World Economic Forum's *Global Risks Report 2025* similarly reveals that, while private-sector stakeholders regard environmental crises as the most severe risks on a 10-year outlook, they are ranked lower as near-term business priorities (Figure 1).⁴⁰

The impact of climate events on workforce health is not a distant concern — climate is already contributing to supply-chain disruption, labour productivity loss and rising health-related costs.^{41,42}

A stark example of cascading supply-chain disruption occurred when Hurricane Maria struck Puerto Rico in 2017, devastating infrastructure and knocking out power to healthcare company Baxter's critical manufacturing facilities for intravenous (IV) saline bags, which supplied nearly 50% of the US hospital market.^{43,44} Limited operations resumed within a week, but full production was delayed until early 2018, when grid stability was restored. Although generators kept the lights on, workers faced challenges commuting, economic loss and limited access to food, water and other essentials.⁴⁵ The broader healthcare delivery system was also strained: three months after the storm, over a third of Puerto Rico's hospitals and many community health centres still lacked regular electricity or clean water, severely hampering care delivery.⁴⁶

FIGURE 1 | Business priorities for private-sector business leaders



Source: World Economic Forum. *World Economic Forum global risks report 2025*. <https://www.weforum.org/publications/global-risks-report-2025/>

In 2024, Hurricane Helene damaged Baxter’s North Carolina factory, again triggering a nationwide IV bag shortage.^{47,48} While these examples highlight the dangers of supply-chain concentration, they also point to an important link between worker well-being, community capacity and operational continuity. Even robust corporate contingency

plans cannot fully offset prolonged community infrastructure collapse. They suggest that understanding and investing in resilient local systems – including healthcare infrastructure – can significantly shorten operational disruptions and should be integral to supply-chain risk management.

“Businesses broadly underestimate the risks posed by climate change to both their supply chain and their workforce. We find they don’t necessarily understand that the areas in which they operate or have elements of their supply chain are susceptible to climate-driven risks, or they have not realized that these risks are growing. Which is why the diagnostic models we are building are so popular. For instance, 28% of employees now report having trouble sleeping at night due to how hot it is. Many businesses have not considered that as a risk, for example. So I don’t think the broader understanding is quite there yet of all the new and growing areas of health-driven risk across FTEs, contractors and supply chains.

David Leathers, Program Director, National Commission on Climate and Workforce Health



Certain regions of the world are particularly vulnerable to severe weather or other types of climate impacts. And business will be looking at how they can ensure the resilience of their operations. That is, the physical infrastructure but also the local supply of labour. How will that be impacted – either through an immediate crisis or, in the medium to longer term, ensuring the viability of their enterprise? Because without workers there is no possibility of running a hotel.

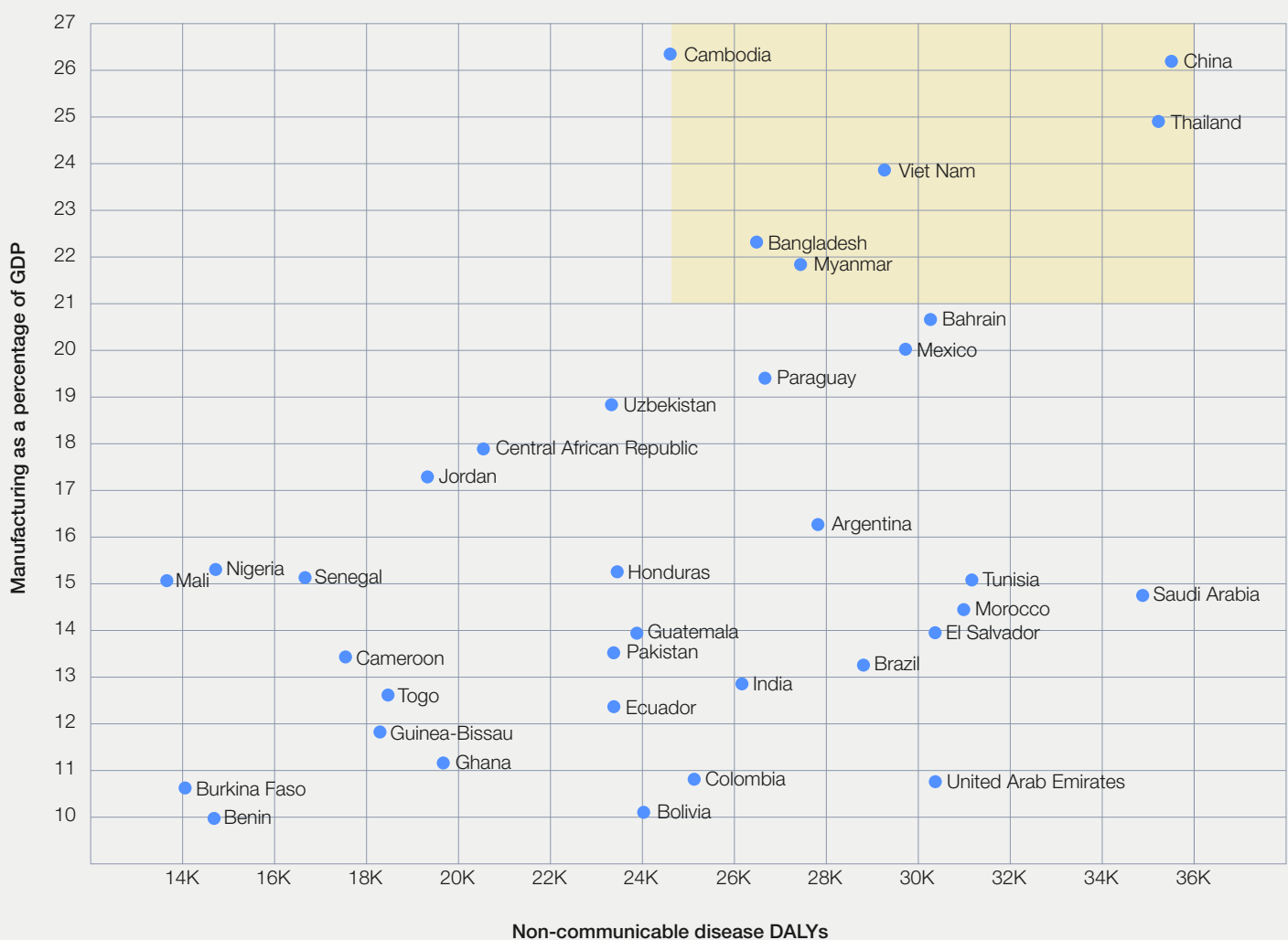
Peter Andrews, Director of Programmes and Chief of Staff,
World Sustainable Hospitality Alliance

The global scale and frequency of climate impacts on people risk is increasingly daunting: the International Labour Organization estimates that more than 2.4 billion workers (nearly 70% of the global workforce) are now likely to be directly affected by climate-related hazards such as heatwaves, flooding and air pollution.⁴⁹

Effectively managing these risks requires visibility into who is exposed, what vulnerabilities exist and where they are most acute. Interviewees consistently emphasized the lack of transparency

into local, on-the-ground realities – especially in supplier geographies – as a critical barrier. Two-thirds of participants highlighted this opacity as a major constraint to anticipating compounding risks. The intersection of extreme climate hazards with health burdens and economic dependencies can amplify disparities, creating hotspots of risk. Figure 2 illustrates this convergence, mapping manufacturing-reliant nations facing both severe heat risk and rising burdens of non-communicable disease – conditions that could significantly undermine workforce resilience in key supply locations.

FIGURE 2 Mapping manufacturing-dependent countries by health and climate risk factors



Note: Countries were included if they met three criteria: a 2025 extreme heat hazard level of 4 (very high), a manufacturing sector contributing more than 10% of GDP in 2023 and projected 2050 disability-adjusted life years (DALYs) due to non-communicable diseases (NCDs) above the median. NCD DALYs were selected to reflect long-term health burdens, while extreme heat represents a key climate stressor for labour-intensive manufacturing. As shown, top manufacturing-reliant countries with both high heat and NCD risks include many equatorial nations across South-East Asia and Central/South America.

Source: World Bank;⁵⁰ World Bank;⁵¹ Institute for Health Metrics and Evaluation (IHME)⁵²

Disparities create material business risks. Supply disruptions, worker attrition and reputational damage are increasingly tied to climate-exacerbated labour vulnerabilities. While NCDs may not pose immediate disruption risks, they contribute to long-term declines in worker productivity and health system burdens – factors that can erode manufacturing efficiency and increase costs over time.⁵³

Interviews with experts reinforced the concern that climate risk modelling often remains narrowly focused on commitments to assets or operations – but misses consideration of the labour required to maintain them. Half of interviewees in risk-related roles or functions acknowledged this oversight, explicitly noting that current risk assessments and adaptation frameworks insufficiently address climate-related impacts on the workforce.

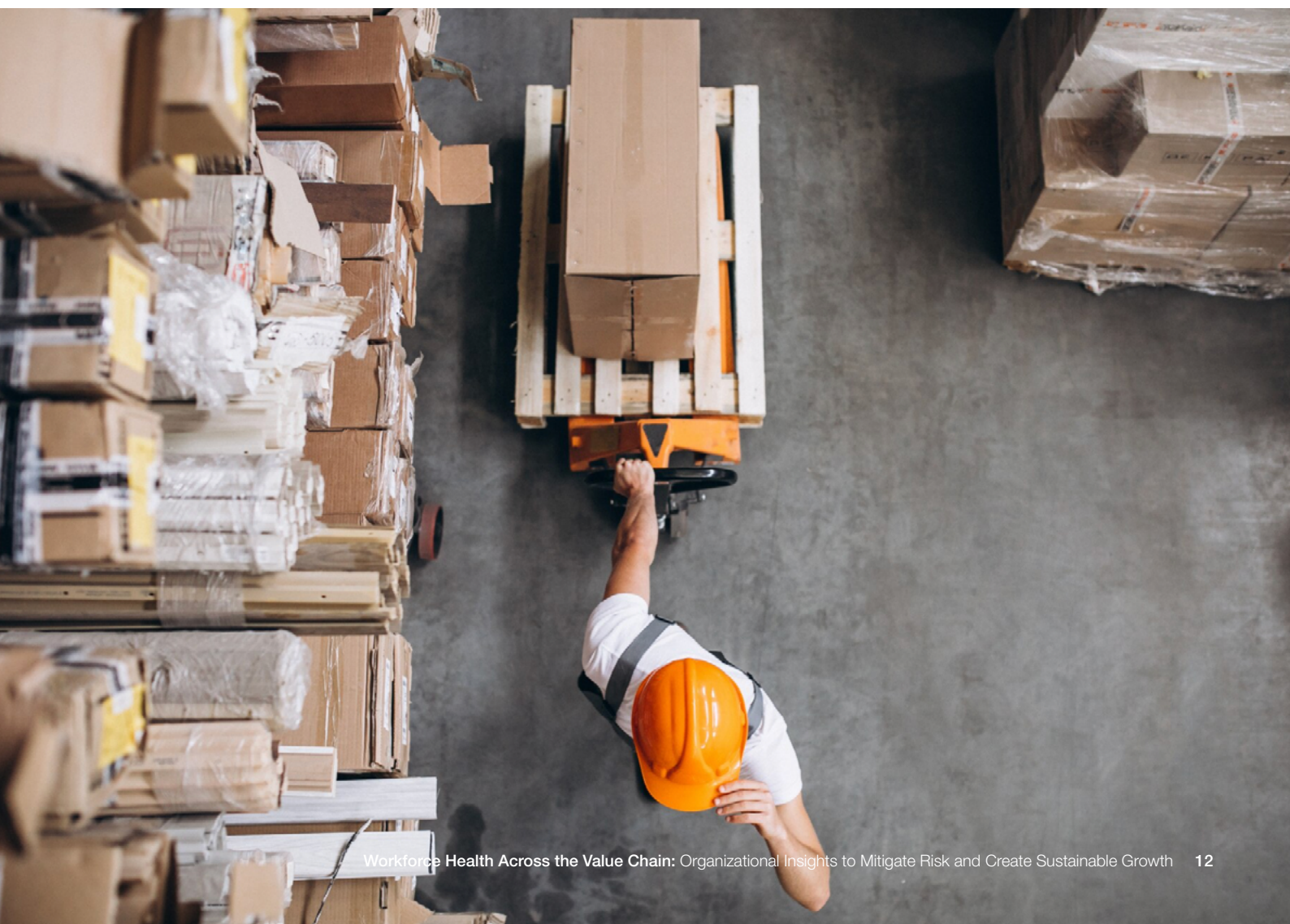
Risk assessments may include sea-level rise or storm damage to infrastructure but are underdeveloped in considering impacts on workers. And because these labour segments are essential to production, distribution and logistics, the costs of inaction are borne not only by workers but also by the companies and economies that rely on them. Disruptions caused by climate can cause unexpected ripple effects across global supply chains.

The impact of downtime in terms of production, damaged infrastructure and poorer health conditions are felt not only in local economies but also by the numerous businesses that depend on them across the world. Interconnected supply chains help propagate the impact downstream, through multiple tiers of firms, greatly increasing the number of affected entities globally.



Any supply chain could be overexposed to climate change, and the more extended and global, the more complex the exposure, so you need to start to understand it. It's almost human nature to not worry until we have a shock. I think we underestimate the potential impact on the people in impacted communities i.e. your workforce and their families. It's not even the direct impact on labour for example if it's too hot to work, it could be an indirect impact if schools are closed, or if the elderly are suffering, or if workers can't access the job site.

Gabrielle Durisch, Chief Sustainability Officer, Allianz Commercial



Analysis by Sentrisk, Marsh's new supply-chain risk management platform, shows the degree of impact for two major industries

South-East Asia is especially prone to hazards such as flooding, which could interrupt operations for months, and extreme heat, which diminishes productivity and erodes worker health. The region hosts growing production of electronic integrated circuits and related components and disruption to these would affect a wide variety of companies across the globe. Insights for flooding and heat risks are presented below for the technology and automotive industries.

Technology

For a sample of a dozen global technology firms, none with significant direct operations in South-East Asia, nearly 15,000 locations of upstream suppliers (predominantly Tiers 2 and 3) were identified in Thailand, Malaysia and Viet Nam. Of these, around 7,000 sites are at a elevated risk of river flooding and around 1,000 are at elevated risk of coastal flooding. Severe flood instances could lead to between five and seven weeks of downtime to operations and

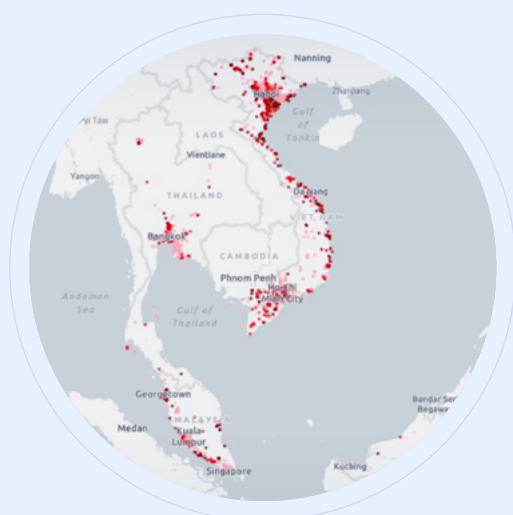
as many months for high-severity coastal flooding. Indirect impacts resulting from the disruption – on worker health, infrastructure or local services – could further amplify the number of lost production days.

In the maps the darker the dot the higher the risk of flooding or extreme heat. Risk encompasses both the likelihood of peril occurring and the severity of occurrence.

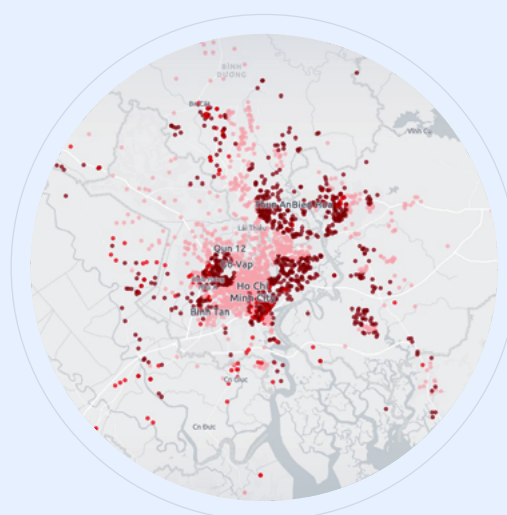
River flooding in South-East Asia

Total: **15,000** supplier sites

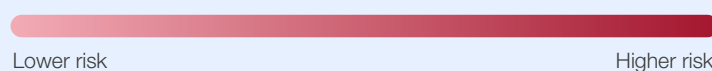
Elevated risk: **7,000** supplier sites



River flooding in Thailand, Malaysia and Viet Nam



River flooding in Ho Chi Minh City, Viet Nam



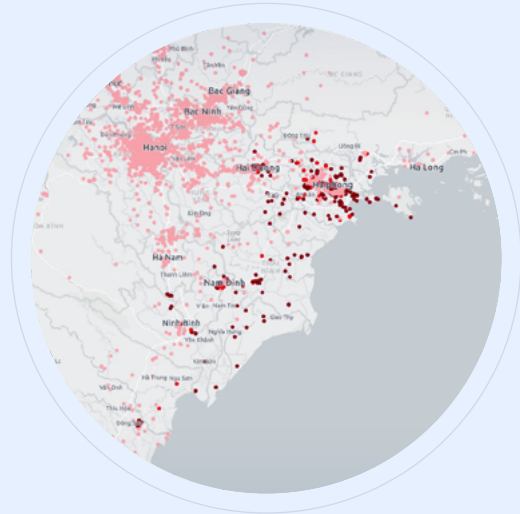
Coastal flooding in South-East Asia

Total: **15,000** supplier sites

Elevated risk: **1,000** supplier sites



Coastal flooding in Thailand, Malaysia and Viet Nam



River flooding near Hanoi, Viet Nam

Automotive

For a sample of half a dozen major automotive manufacturers, nearly 5,000 upstream supplier sites were identified across Thailand, Malaysia

and Viet Nam. Around 74% of these have significant exposure to extreme heat, often detrimental to local populations' health.

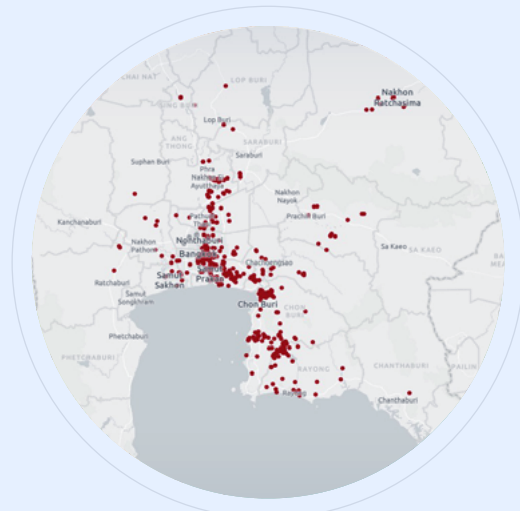
Extreme heat in South-East Asia

Total: **5,000** supplier sites

Elevated risk: **3,700** supplier sites



Extreme heat in Thailand, Malaysia and Viet Nam



Extreme heat near Bangkok, Thailand

Lower risk

Higher risk

Effectively managing local risks starts with getting clear visibility into supply chains, comprehensive risk assessment and real-time monitoring of emerging threats.

- Supply-chain visibility requires mapping out business-to-business relationships across multiple tiers and beyond simply production facilities.
- Prioritization is vital – this means understanding the most critical components, dependencies, structural risks and ability to substitute.

- Teasing out the effects of disruption by identifying the top risks and conducting scenario analysis helps isolate the biggest impact drivers and guide mitigation options.
- Monitoring via real-time alerts allows early intervention.

More and more enterprises are now using tools featuring cutting-edge analytics to obtain a deeper understanding of their supplier ecosystems, enable stronger partnerships with suppliers and facilitate action to help the long-term de-risking of supply chains.



From awareness to action: Building a scaffold for organizational change

Effective action starts with clear governance. Alignment, clarity and accountability are essential to turn awareness into action.

Momentum is growing across sectors to address the impacts of climate on workers' health, including for those in supply chains. The interviews reflected this shift: half of participants, spanning sectors and organizational levels, noted an increasing awareness of the intersection between worker health and climate risk. These findings reflect a broader trend seen in policy and practice, where organizations such as the International Labour Organization (ILO),⁵⁴ the World Health Organization,⁵⁵ the World Economic Forum^{56,57} and others⁵⁸ have positioned worker well-being as central to economic and climate resilience. For example, the ILO's Vision Zero Fund has worked with companies such as Nestlé in Indonesia to integrate climate adaptation into occupational safety and health practices and address risks such as heat stress in agricultural supply chains.⁵⁹

Insights from the semi-structured interviews underscored the importance of governance as “scaffolding” – that the interplay of regulation, standards, commitments and internal mechanisms help organizations move from intention to action.

Regulation plays a dual role here: defining the “rules of the road” and establishing a floor for responsible behaviour, while also inspiring action and elevating accountability.

Participants widely acknowledged regulation as a necessary foundation for action. Nearly two-thirds described regulation as a baseline and essential driver of company behaviour. They emphasized its role in compelling compliance through mandates, legal frameworks and minimum standards. For example, the European Union's Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD/CS3D) require companies to assess and address their environmental and human rights impacts across their operations and supply chains.^{60,61} These frameworks mandate disclosure and enforceable obligations on occupational health and safety (OHS) and climate-related risks, elevating expectations beyond compliance to active risk management.



Regulation has actually become one of the most powerful catalysts. Take the EU's Corporate Sustainability Reporting Directive: on the surface, it's compliance. But once you're investing that level of money and effort, the real question becomes: why stop at compliance? We see it as a chance to accelerate our transition towards a more sustainable business, deliver on our net-zero commitments and help drive transformation across the health system. Not everyone is taking that approach, but for us, that's exactly where the opportunity lies.

Glyn Richards, Group Director of Sustainability, Bupa

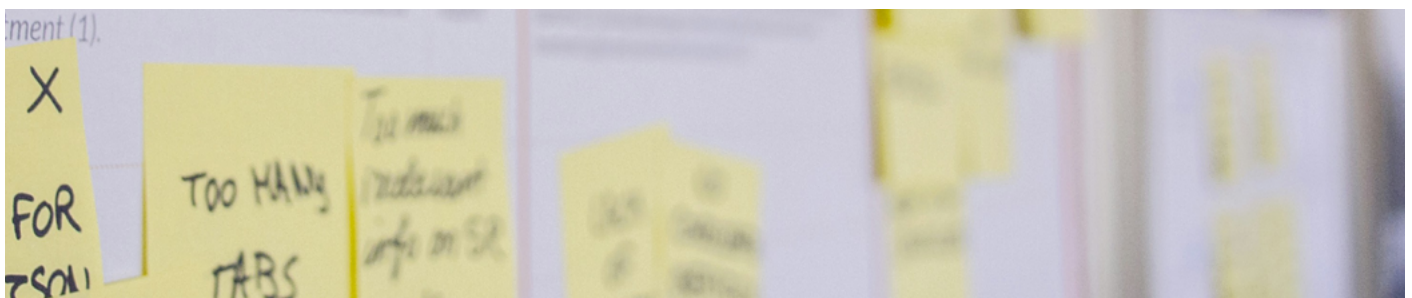
However, three-quarters of participants also considered regulation to be burdensome, fragmented or ineffective in practice. These concerns were especially prominent among private-sector respondents, who highlighted the administrative strain of overlapping reporting requirements, compliance fatigue and the operational disconnect between global standards and local implementation. Several noted that current policies often divert attention towards meeting audit requirements rather than investing in lasting improvements. Others cited limited enforcement capacity, particularly in jurisdictions with large informal economies, and expressed concern that regulations too often arrive “after someone gets hurt”. These frustrations echo broader critiques of sustainability efforts, including the mismatch between compliance tasks and true performance improvement.

A smaller but significant group, roughly a quarter, voiced more nuanced or mixed views, emphasizing that the effectiveness of regulation is highly context-dependent. In these discussions, participants acknowledged the need for a balanced approach: regulation that sets a floor but also allows for innovation and collaboration. Public-private partnerships and convergence across jurisdictions were viewed as potential levers to increase efficacy. Several also underscored the need for regulation to evolve in parallel with emerging business models, technological shifts and the realities of work on the ground.



Sometimes regulatory channels do change behaviour and sometimes they do not. For example, you can arrange a tax break, and companies may act to avoid the fine. So you use the regulatory carrot and stick. But to cement change you have to build from within business. I think if you want to figure out what the role of employers is, it has to come from ‘This helps you solve a business need’ and then change will be more sustainable.

Cynthia Hansen, Managing Director, Innovation Foundation empowered by the Adecco Group



These varied perspectives were shaped, in part, by institutional roles. Private-sector participants often framed regulation as an unavoidable requirement – one that could occasionally prompt new strategies, but more often created compliance complexity. Some expressed concern that overly prescriptive rules could dampen innovation or drive companies to de-prioritize worker well-being when economic pressures rose.

In contrast, civic society and advocacy stakeholders viewed regulation as a critical mechanism for protecting labour rights and health – especially where voluntary corporate action has lagged. These participants emphasized the importance of enforceable standards and consistent oversight, while also acknowledging the persistent challenges of implementation and local governance.

Collectively, these insights suggest that regulation is experienced simultaneously as a scaffold for action and a site of friction, influencing how

organizations navigate the intertwined imperatives of climate resilience and workforce well-being. Yet as regulatory frameworks begin to align and mature, there is a window for convergence, where overlapping mandates, investor scrutiny and social accountability begin to cohere into achievable norms. This alignment can offer not only a stable foundation for action but also a shared direction for cross-sector collaboration.

The expectation is increasingly not just to disclose risks but to demonstrate due diligence and mitigation efforts.^{62,63} Materiality assessments increasingly call for the integration of occupational health, heat exposure and other climate-linked risks into corporate strategy. Transparency is no longer about reporting what is known but discovering what needs to be known in order to adapt.⁶⁴



You can enforce all the principles you want on the immediate contract. The challenge arises when the subcontractor subcontracts. If on their side, they involve other businesses in the process, it is not immediately known to the original contracting party unless they are informed or they do an investigation, and that requires time and money. We often think that supply chains are like a neat string of pearls. But, in fact, they're more like a bowl of spaghetti – each strand is intertwined and overlapping with another. It's hard to see where one starts or ends.

Sandro Pettineo, Senior Programme Officer, Employers' Activities, International Training Centre of the International Labour Organization

Companies that pursue transparency for strategic insight will be better positioned to weather the shocks ahead.⁶⁵ IKEA, for instance, has long maintained supplier standards through its IWAY code of conduct.⁶⁶ In response to evolving expectations, the company has built a broader social performance framework that integrates labour standards, worker health safeguards and stakeholder engagement, underpinned by consistent reporting practices.⁶⁷ This approach reflects both regulatory alignment and a strategic view that resilient workforces contribute to long-term value creation.

However, the shifting economic landscape – particularly the resurgence of tariff policies and geopolitical trade tensions – is complicating these

efforts. Some companies are using this disruption as an opportunity to restructure supply chains regionally, enhancing transparency and enabling closer monitoring of environmental and labour practices.⁶⁸

The private sector is at an inflection point.⁶⁹ Awareness is expanding from isolated compliance functions to broader strategic planning. In this evolving environment, long-term business success increasingly depends on whether companies can align economic strategy with investments in worker health and climate resilience. The next step is to move from understanding to action – building mechanisms to translate this awareness into durable, scalable investments in labour resilience across the supply chain.



Our argument is simple: because of climate, you have put in place reporting standards on emissions for one's own organization (i.e. Scope 1) and for the broader supply chain (i.e. Scope 2 and Scope 3). However, why is this not the case for health? That is the anomaly. Why is it that when it comes to the social aspect of reporting there is a lapse and we do not apply the same rigorous accountability standard?

Glen Mpufane, Director of Mining, Diamonds, Gems, Ornaments and Jewelry Production and OHS Lead, IndustriALL Global Union

Investing in labour: Models for health, resilience and climate adaptation

Leading firms are committing to labour protection – strengthening supply chains through proactive, worker-centred investment and strategy.

Despite existing health risks and the compounding effect of climate, efforts to improve healthcare access, quality and climate adaptation remain underfunded. According to recent research, less than 6% of adaptation finance has gone to health-related initiatives, leaving critical gaps in preparedness and resilience.⁷⁰ Climate-health adaptation funding in low and middle-income countries (LMICs) similarly falls far short of the estimated \$11 billion annually required to strengthen health systems and mitigate the impacts.⁷¹ According to recent research from the World Economic Forum in collaboration with Oliver Wyman, the cost of climate-related health impacts could reach \$12.5 trillion in economic loss by 2050 if left unaddressed.⁷² Furthermore, in many supply-chain hubs, underdeveloped insurance markets leave workers with little financial protection in the face of illness, injury or disruption – compounding both economic fragility and health vulnerability. When formal insurance coverage is limited or absent, the burden of health shocks falls directly on workers and their families, increasing economic insecurity and undermining workforce stability.^{73,74}

Shared value theory, which emphasizes the alignment of social progress with economic success, offers a compelling framework for action.⁷⁵ By investing in workforce health and safety, firms can generate measurable returns in productivity, retention and supply-chain reliability. This means going beyond still-important audits and codes of conduct⁷⁶ to embed worker well-being into performance outcomes, business models, supply-chain governance, risk management and capital allocation.

Critically, this also aligns with a shift in other funding models. Donor funding is shrinking while global needs are rising, requiring new models that act as local market multipliers.⁷⁷ Smart, targeted capital not only drives innovation and local capacity – it creates the conditions for scale and sustainability that single donor or philanthropic funding often cannot sustain alone.⁷⁸ From this perspective, community resilience is a strategic asset to cultivate. A key shift will therefore be to view communities, particularly those with indirect or contract labour sources, not only as costs but as long-term assets.



Ultimately, working with ministries to strengthen healthcare service availability in the local vicinity and make it accessible and equitable is something that costs relatively little, but has a large impact for us on our safety metrics. We as a business are extremely vulnerable to outbreaks, and the interruption of our business can be catastrophic.

Alexandra Plowright, Head of Community Health and Wellbeing,
Anglo American

Creating resilience requires a movement from reactive to proactive strategies. Rather than responding to shocks after they occur, leading firms are investing in systems that anticipate, absorb and recover from climate and health disruptions. This includes early-warning systems for extreme heat, worker-centred data collection, flexible benefits models and infrastructure co-financing with suppliers and local governments.

Innovative models are emerging to support these investments. For example, climate adaptation funds and health-focused impact bonds have been piloted to distribute costs and scale solutions.⁷⁹ These models are characterized by their ability to

pool funds from multiple sources such as public-private partnerships or blended finance, which create more flexible and sustainable approaches to financing healthcare. Innovative models often focus on aligning the interests of different stakeholders, including governments, private companies and non-profit organizations, to achieve common health and climate goals.⁸⁰

This will not be a one-size-fits-all journey. Each sector, region and company will need to follow different pathways. But the common thread is a revaluation of labour and community – not just as a cost centre, but as a strategic asset worth protection and investment.



We need sustainable markets where employers take initiative for creating healthcare access.

Rangarajan (Ranga) Sampath, Diagnostics Innovator and Global Health Leader



4.1 Insurance as infrastructure: De-risking disruption

The insurance industry, standing at the forefront of the evolving climate risk landscape, has recognized the need for proactive long-term solutions and risk reduction strategies covering both property and people.⁸¹ For instance, firms are already filling in gaps by offering parametric insurance and other risk-pooling mechanisms to help protect informal workers and smallholder farmers – those least covered by traditional safety nets. By underwriting climate risk through a social lens, insurers and investors can help de-risk markets and attract further capital.^{82,83}

With 70% of the global workforce exposed to extreme heat, sectors such as agriculture and construction are losing billions in productivity annually. Innovative solutions such as parametric insurance and microinsurance are critical for ensuring worker health and maintaining supply-chain stability in vulnerable regions.⁸⁴ Many leading organizations have thus started to explore parametric insurance as a climate-health financing tool.⁸⁵



Insurers have an interest in reducing the consequences of severe climate events because it translates to wider economic benefit. There is definitely a strong role for insurers on this, because our industry is keen to ensure that the outcome, or loss, is as low as possible.

Paolo Marini, Head of Broker Relations, Integrated Benefits, Zurich Insurance Company

TABLE 1 | Innovative insurance products

Parametric insurance	International organizations	UNICEF's Today and Tomorrow Initiative combines pre-arranged payouts for climate events with health service delivery planning. As of 2024, the policy provided disaster protection for up to 13.5 million people across eight high-risk countries, with \$4 million in payouts supporting 327,266 beneficiaries. These funds were used to sustain essential health services during climate shocks through mobile health team deployments, delivery of medical supplies and public health messaging in flood- and cyclone-affected areas. Payouts were disbursed within 36–72 hours, demonstrating the initiative's ability to deliver rapid, targeted disaster response.⁸⁶ In 2023, the Rockefeller Foundation, in collaboration with the Adrienne Arsht-Rockefeller Foundation Resilience Center, the Self-Employed Women's Association (SEWA) and Blue Marble, piloted an Extreme Heat Income Insurance initiative in India. This programme was designed to safeguard the health and financial stability of women in the informal sector who are disproportionately affected by rising temperatures. When extreme heat conditions are met, a parametric microinsurance payout is automatically triggered, providing compensation for lost wages due to unsafe working environments. This innovative effort aims to prevent these vulnerable workers from having to choose between their health and their family's economic security, with the goal of scaling this critical support to 2.5 million SEWA members and beyond.⁸⁷ In Mexico, the Insurance Development Forum, United Nations Development Programme (UNDP) and Mexican government agencies partnered on a project targeting smallholder maize producers. Their pilot covered around 10,000 farmers in municipalities highly vulnerable to drought and excessive rainfall, achieving significant success: 95% of recipients expressed satisfaction with the insurance and direct payments effectively strengthened community resilience against climate shocks.^{88,89}
	Industry	Nespresso, through collaboration with Blue Marble Microinsurance, developed a parametric insurance scheme for coffee farmers in Colombia, providing rapid financial support when excessive rainfall or drought disrupts coffee production. The Café Seguro programme delivered \$3 million in payouts for 6,475 Colombian smallholder coffee farmers.^{90,91} Allianz has similarly developed a parametric scheme to insure Colombian coffee growers, protecting \$1.5 million of farmers' investments across 45 municipalities in Colombia.⁹²
Captive insurance		A more traditional model being reimaged for a new era is captive insurance. Captive insurance companies – entities owned by the parent organization they insure – have long been used to cover property, liability and workers' compensation risks, but captives are increasingly being repurposed to address complex climate risks and cover health benefits for workers.⁹³ Captives enable companies to trigger immediate support or income replacement for outdoor and climate-vulnerable workers during extreme heat or other severe weather conditions. These tailored policies ensure direct access to healthcare and financial stability for agricultural labourers, construction workers and field staff, who are often the first affected by climate events. Additionally, captives consolidate data related to climate risks, which enhances organizations' capacity to monitor exposure, plan mitigation strategies and ensure supply-chain resilience.^{94,95}
Pooled insurance		The Africa Risk Capacity (ARC) facilitates a pooled insurance model for African nations to address climate disasters. Member countries collectively fund an insurance pool that provides payouts to governments for rapid disaster response. Pooled financing helps countries manage climate shocks without waiting for slow-moving aid flows. This collective approach allows the ARC to manage climate risk with fewer funds than would be needed if each country independently prepared for its own worst-case scenarios; it is unlikely that all regions will experience severe events simultaneously.^{96,97}



If we want to maintain public health in the long term for everybody, then insurance is one of those things we have to get right. Residential insurance is going to be a determinant of public health in the future.

Kali Mercier, Deputy Director and WSP Fellow, the Helen Clark Foundation



Research produced by my colleagues evaluated the effect of cash transfers made to households forecast to experience extreme flooding in Bangladesh in 2022. Hydrological modelling can predict flooding to an area five days ahead of a flood peak, allowing cash to reach those who will be affected, before they actually are. This 'anticipatory' transfer improved welfare for those who received it. Our work is showing that people spend the money they receive judiciously – much of this spending goes towards stockpiling medicines and food, with positive consequences for health and food security outcomes.

Rocco Zizzamia, Post-Doctoral Researcher, University of Oxford

The Caregiver programme from Women's World Banking

Health emergencies are one of the most common triggers of financial distress globally. With most health costs borne directly by households, the World Health Organization estimates that more than 100 million people are pushed into extreme poverty each year due to out-of-pocket medical expenses. Such shocks not only devastate families but also create credit risk for low-income individuals as well as micro, small or medium-sized enterprise clients and their businesses.

Recognizing the detrimental effects, especially on women's financial resilience, Women's World Banking designed the Caregiver programme, a hospital-cash health microinsurance product bundled with microloans and with no exclusions.⁹⁸ Automatic enrolment ensures wide reach, and customers receive a fixed daily payment during hospitalization, providing flexible funds to cover medical, household or business expenses without jeopardizing loan repayment. Piloted in 2010 with Microfund for Women in Jordan, where many claims were maternity-related, the programme demonstrated both client and institutional value.⁹⁹ It showed strong health outcomes, such as encouraging hospital visits and allowing sufficient recovery

time, as well as positive financial outcomes, including higher loan repayment rates and reduced reliance on savings to cover hospitalization costs. The programme also significantly boosted customers' confidence in their ability to manage healthcare expenses.

A 2024 study on the Caregiver programme conducted in Nigeria found that the confidence level of customers who submitted a claim through the Caregiver solution was three times higher, and 1.5 times higher even among those who had not submitted a claim.

Today, Caregiver operates in four countries in Africa and the Middle East and has covered more than 2 million lives – women and their families – with strong uptake and claims rates that underscore its relevance.

The programme is simple, offers quick payouts and maintains a focus on women entrepreneurs. It highlights how insurance can achieve meaningful social impact while remaining economically sustainable – an approach increasingly vital as climate-related health and financial risks intensify.

4.2 Employer-led solutions for workforce and community health

Many organizations have also developed innovative programmes to extend services or coverage. Notable examples of employer-led initiatives include:

- Diageo has partnered with La Isla Network to address the growing risks of heat stress faced by agricultural workers, particularly in the sugar-cane sector.^{100,101,102} Through this collaboration, they are piloting occupational safety and health programmes that use physiological and environmental monitoring – such as heart rate, metabolic load, temperature and humidity – to quantify worker exposure and guide preventive measures. Supported by the Bonsucro Impact Fund, the initiative aims to establish globally adaptable protocols that can be applied across supply chains to build resilience to climate-related health risks.
- Anglo American's Thriving Communities framework outlines community health and safety areas (CHSA) in regions such as South Africa and Latin America.^{103,104} Its health programmes cover HIV/AIDS, NCDs, environmental impacts and pandemic resilience, focusing on integrated health action for host communities.¹⁰⁵ The company operates the world's largest private-sector voluntary HIV/AIDS and TB counselling, testing and treatment programmes, and has extended these benefits to employees and contractors since 2003, significantly reducing co-infection rates. Since 2012, it has aimed to extend these health and welfare standards to contract labour across South African operations, ensuring parity with direct employees.¹⁰⁶



Captives are often vehicles where flexibility and direct control by sophisticated firms offer room for innovation. This is certainly an area where I've seen significant innovations being developed in the life as well as the general insurance space.

Paolo Marini, Global Head, Broker Relationship Management, Integrated Benefits, Zurich Insurance Company

- The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) operates a multi-tiered worker health initiative supported by its members, development partners and industry actors. BGMEA runs eight health centres serving more than 60,000 garment workers annually with free medical services and medicines.¹⁰⁷ In collaboration with the ILO, BGMEA is also scaling model enterprise clinics to provide accessible, high-quality healthcare within garment factories, guided by sustainability and governance standards.¹⁰⁸

Notably, the Avery Dennison Foundation funded the expansion of UNICEF's Mothers@Work programme – supporting breastfeeding spaces, maternity care and workplace health services – across 160 additional RMG factories, building capacity among healthcare staff and facility managers.¹⁰⁹ These programmes aim to institutionalize health services and maternal well-being throughout the sector, strengthening resilience through preventive care and worker-centred design.



The health ministry isn't just going to throw money at something that is not fully proven in the geographies that you're going to implement in. So that's where I think our role – a little bit of a catalyst for broader change – comes through. We as a company can take both the programmatic and financial risk, support the tweaking, adaptation and localization of these models so that they work really well.

Alexandra Plowright, Head of Community Health and Wellbeing, Anglo American

CASE STUDY 2

Bayer's investment in farmer resilience

Smallholder farmers, who cultivate less than 2 hectares of land, are crucial to global food security, producing 80% of the food supply in developing countries.¹¹⁰ Despite their vital role, these farmers face significant challenges, including severe climate impacts such as droughts and floods, inadequate credit and insufficient insurance coverage.¹¹¹ In response, Bayer, through initiatives such as the Better Life Farming (BLF) Alliance, has spearheaded comprehensive programmes designed to support smallholders by enhancing productivity, resilience and overall well-being.

The BLF Alliance – launched in 2018 by Bayer, the International Finance Corporation (IFC) and Netafim – provides an integrated ecosystem for smallholder farmers in rural Asia, Africa and Latin America.¹¹² Reports indicate that farmers participating in BLF experienced significant enhancements in financial stability and overall life satisfaction, with 84% of surveyed farmers in India noting improvements in their quality of life due to the initiative.¹¹³

Additional initiatives, such as Semilla Segura in Latin America and Lakapati Weather Insurance in the Philippines, address similar gaps, offering critical agricultural insurance to protect smallholder farmers from climate-related shocks. In the Philippines, 71% of participants reported that the insurance improved their resilience against adverse weather events.¹¹⁴ Both programmes have also demonstrated positive effects

on farmers' psychological well-being, including reduced stress and anxiety linked to unpredictable weather and crop failure risks.¹¹⁵

Complementing these efforts, Bayer's Nutrient Gap Initiative in Indonesia focuses on community-based nutrition education, raising awareness of dietary diversity, nutrient-rich foods and essential prenatal supplementation (multiple micronutrient supplementation – MMS). The programme works through last-mile health social enterprise with community health workers to reach vulnerable populations – particularly women and children.¹¹⁶

In India, the Knowledge Transfer Initiative provides tailored training on climate-smart farming, health and hygiene practices and women's empowerment, reaching not only farmers but also wider community members through on-the-ground facilitators and village engagement hubs. The initiative strengthens adaptive capacity while supporting resilient livelihoods and improved health behaviour change.¹¹⁷

Collectively, these programmes contribute to Bayer's goal of reaching 100 million smallholder farmers by 2030. In doing so, they strengthen economic stability, health and resilience across farming communities, supporting broader goals of food security and sustainable development.

4.3 Scaling access with commercial models: Subscription-based care

In addition, there has been promising growth in commercial enterprises that offer healthcare through subscription services. Subscription-based care models offer options to support access to valuable outpatient services designed to maintain health. Successful case studies from mPharma, now in nine African countries, Praava in Bangladesh and Clínicas del Azúcar in Mexico, are expanding access to care and prevention through market-driven models that are increasingly attractive to both employees and employers.

- Founded in 2010, Clínicas del Azúcar is a for-profit social enterprise providing integrated, affordable care for diabetes and hypertension in Mexico. Clínicas deploys a one-stop-shop care model in retail shopfronts near high-traffic areas such as supermarkets, offering coordinated services by multidisciplinary teams (doctors, nutritionists, psychologists and nurses).^{118,119} Its innovation lies in its annual membership packages, which bundle laboratory tests, behavioural support, screenings and unlimited consultations (excluding medications) at fixed rates – ranging from \$150 to \$300 per year depending on disease complexity. Payment is flexible, with monthly instalment options and discounts for low-income patients.

The pricing is over 60% lower than comparable private clinics. As of 2021, Clínicas had treated more than 150,000 patients and reported that 65% of its patients achieved blood glucose control – a stark contrast to the 19% success rate in the public system. With sustained growth and IFC investment, Clínicas aims to scale to 100 clinics and serve more than 2 million patients by 2026.^{120,121}

- mPharma, founded in Ghana in 2013, is a technology-driven healthcare company that focuses on improving access to affordable medicines through inventory management, e-prescriptions, data-driven forecasting and digital financial tools.¹²² mPharma's mutti+ model demonstrates how a low-cost subscription (around \$2/month, rising to \$5 for insulin users) can improve access to primary care and essential medicines.¹²³ A Ghana partnership integrated mutti+ with the region's largest telecommunications company, enabling mobile-money subscriptions in which the smartphone wallet doubles as the bank account – facilitating easy enrolment and micro-payment plans.

CASE STUDY 3

Praava Health's subscription model in Bangladesh

Founded in 2014 and serving patients since 2018, Praava has become one of the fastest-growing fully integrated healthcare platforms, serving nearly 1 million patients in Bangladesh to date. The company delivers high-quality care by combining international standards of in-person consultations, advanced diagnostics, pharmacy services and digital tools including telemedicine, chronic disease management and e-pharmacy.^{124,125,126,127}

Praava has revolutionized healthcare in Bangladesh as a market-opening business for the country's rapidly growing middle class. Its integrated "click-and-brick" model makes it particularly relevant for middle-income workers, including

those in supply chains, who benefit from predictable costs, trusted quality and continuity of care. The model also appeals to employers seeking healthier, more resilient workforces, while demonstrating how market-based healthcare innovation can expand access and strengthen communities in emerging economies.

Praava's model is particularly relevant for middle-income workers, including those in supply chains, who benefit from predictable costs, continuity of care and trusted quality. The model also appeals to employers seeking healthier, more resilient workforces.

“ At the end of 2019, I would say 2% or very little of our revenues came from corporate clients who were purchasing health products on behalf of their employees. That segment grew significantly during the pandemic and now it is more than 30% of our business. So the really positive shift was that employers started to see that investing in employee health was a good thing. This is against the backdrop of the level of health insurance penetration staying flat in Bangladesh at approximately 1%.

Sylvana Quader Sinha, Founder, Chair and Chief Executive Officer, Praava Health

These models are notably innovative and highly consumer-centric, benefiting from affordability and providing an alternative pathway to overburdened public healthcare systems. By combining preventive care, digital tools and accessible pricing, commercial health enterprises can drive equitable health access in low-resource settings.

Taken as a whole, the examples outlined in this section – spanning insurance innovations, employer-led health programmes and subscription-based care – share common attributes:

- **They are longitudinal:** focused on long-term value creation and risk reduction
- **They are collaborative:** engaging companies, communities, development partners and often civil society

- **They are systemic:** designed to support labour resilience across factory floors, informal sectors and community networks

With growing momentum and proven success, these efforts present a compelling opportunity to scale impact and drive systems change. To scale impact, organizations benefit when they collaborate with public, philanthropic and financial stakeholders. Shared data platforms, pooled capital and incentive-aligned partnerships can amplify outcomes and reduce duplication. To sustain labour resilience, capital is required beyond episodic distribution towards integrated finance structures.¹²⁸

Investing in labour resilience is not a zero-sum decision – it enhances productivity, brand trust, regulatory compliance and climate-preparedness.



From fragmentation to shared futures: Scaling through partnership

Isolated efforts fall short, but shared responsibility across companies, sectors and communities drives durable labour and supply-chain resilience.



While awareness of risks is growing and successful pilots are emerging, the response remains fragmented. Most corporate and policy efforts are still limited to specific programmes, regions or tiers of the supply chain. They are often narrow in scope, short in duration and too isolated from core business operations. Efforts thrive when capital is allocated in ways that reinforce system-wide strength.

The nature of climate and health risks demands an integrated and collective approach – one that recognizes interdependence across sectors and geographies.^{129,130} This is especially true in global supply chains, where local issues can become global crises – labour conditions in one region can affect delivery and logistics worldwide. Isolated interventions such as heat-safety protocols at a single factory or insurance access for a select group of workers may improve outcomes locally, but they do little to enhance systemic resilience. For that, coordination is needed. Multistakeholder engagement is essential for navigating market turbulence, managing trade-offs and building long-term competitiveness in future supply chains.¹³¹

Precompetitive collaboration – where industry peers work collectively on shared systemic challenges without competing on the outcomes – represents a promising strategy to enact meaningful progress.¹³² Such collaborations allow businesses to align on prosocial goals and co-invest in solutions that address root causes rather than symptoms. These collaborations can shift market norms and reduce the cost and risk of action for individual firms, enabling broader transformation across supply chains.

Multinational companies are already working together through a diverse ecosystem of coalitions and alliances committed to sustainability goals, ethical sourcing and greater supply-chain transparency. Numerous industry platforms have emerged, including groups encompassing apparel,^{133,134,135} hospitality¹³⁶ and consumer goods,^{137,138,139} as well as many other individual and cross-sector alliances.¹⁴⁰ While some of these efforts centre on standards and principles, an increasing number are evolving to address supply-chain realities by partnering directly with suppliers, factories and communities on the ground.

The nature of supply-chain sourcing and procurement necessitates such collective action. Global supply chains are highly interconnected, with individual production facilities often serving multiple buyers simultaneously. This structural feature creates both a challenge and an opportunity: while it can diffuse accountability and hinder direct oversight, it also opens the door to joint investments in worker well-being and environmental resilience that benefit multiple brands at once.

Many industries, especially electronics, apparel and automotive, rely heavily on contract manufacturing models, where third-party firms (e.g. Foxconn, Pegatron, Wistron) produce goods for several multinational clients. A single factory line may shift from assembling Apple iPhones to HP laptops or Sony components within a short time frame. This structure creates the opportunity for shared investment in worker-centred interventions. Because factories serve multiple clients, health and safety investments can deliver cross-brand impact.

A number of notable companies are already acting on this logic:

- In 2021, Apple, Dell and HP became founding signatories of the Toward Zero Exposure initiative coordinated by the Clean Electronics Production Network (CEPN).¹⁴¹ This precompetitive collaboration seeks to eliminate worker exposure to hazardous chemicals in electronics manufacturing by promoting chemical substitutions, better safety protocols and supplier accountability through transparent reporting. It reflects a growing trend among brands to jointly address systemic risks that no single actor can tackle alone.
- The Responsible Business Alliance (RBA), a leading industry coalition of electronics, retail, car and toy companies, offers a complementary model of precompetitive collaboration. The RBA develops and enforces a common code of conduct for labour,

health and safety, environmental and ethical standards across global supply chains. Its members – ranging from Dell and HP to Microsoft, Cisco and Panasonic – collectively conduct supplier audits, provide joint training programmes and support shared assessments of working conditions. The RBA's Worker Well-being initiative extends beyond compliance to focus on worker voice, access to health services and improved communication between workers and management.¹⁴²

- Initiatives such as the Action for Sustainable Derivatives (ASD) have institutionalized precompetitive collaboration as a proactive strategy.^{143,144} ASD supports traceability, grievance mechanisms and sustainable sourcing across palm oil supply chains that serve multiple sectors. Rather than focusing solely on individual supplier contracts, it aligns brands on common mapping tools and action frameworks, showing how long-term market transformation is possible when companies recognize their shared stake in upstream labour and environmental risks.

While these coalitions have made important progress in advancing worker safety, labour rights and improving working conditions, there remains an opportunity to integrate healthcare access more fully into collaborative models, including preventive care, occupational health services and medical support for both acute and chronic needs. Expanding the definition of worker well-being to include not just safer working conditions but also meaningful access to health services would ensure that efforts to protect workers are both comprehensive and sustained.

System-level threats demand coordinated responses that go beyond the factory gate. This means co-investing not only in protective infrastructure and supply-chain technologies but also in the social and civic ecosystems that anchor production, logistics and labour markets.



Place-based solutions and figuring out how to marshal community-based organizations, companies big and small and government are critical to replicability and scalability. It's usually through coalitions like that, built at the local level and driven by the local level, that you can actually invest in capacity-building. This produces better results than that old school, 'let's zoom in and throw a bunch of money at something'.

Cynthia Hansen, Managing Director, Innovation Foundation empowered by the Adecco Group

In this context, communities represent both a source of vulnerability and a reservoir of adaptive capacity. Their dual role as both receivers of systemic stress and agents of recovery is particularly evident in climate-related disruptions.¹⁴⁵ On the one hand, communities can be highly dependent on local business systems for employment, infrastructure and services; on the other, they are often the first responders in times of crisis, mobilizing informal support networks, local knowledge and improvised logistics to restore stability long before formal recovery plans take effect.^{146,147} This duality underscores why businesses cannot afford to treat communities as externalities. Rather, they must be engaged as partners in resilience. Frameworks such as the RAND Community Resilience Framework¹⁴⁸ and the National Institute of Standards and Technology (NIST) Community Resilience Guide¹⁴⁹ emphasize this twofold role.

When Typhoon Nesat inundated Metro Manila in 2011, it shut down banks, paralysed transportation and left major back-office operations inaccessible.

Since then, companies operating in the region have partnered with the Philippine Disaster Resilience Foundation (PDRF) to jointly invest in more resilient infrastructure and to develop contingency plans that include both workers and the surrounding community.^{150,151} PDRF facilitates coordinated planning across collocated businesses to reinforce lifeline infrastructure such as roads, power grids and telecommunications. These efforts have proven that when businesses support the systems on which their workers rely – from roads to emergency services – they reduce downtime, strengthen loyalty and help ensure more inclusive and rapid recovery.

Ultimately, the resilience of supply chains is inseparable from the resilience of the local geography. When roads flood, employees cannot report to work; when health clinics close, illnesses go untreated. By recognizing the dual role of communities – as both points of exposure and as stakeholders – companies can evolve from passive risk managers to active partners in building durable, equitable and future-ready economies.



Conclusion: A call to action

Labour resilience across supply chains is both urgent and strategic; it requires coordinated multistakeholder action and fundamental shifts in corporate strategy.

Building a resilient supply-chain workforce requires coordinated action across companies, industries and governments – truly a multistakeholder effort. This action is improved with data, accountability and financing mechanisms that enable sustained investment in worker health and climate adaptation. The business case is clear: companies that act early to protect their supply-chain workforce will have a competitive advantage in an increasingly volatile world.

To meet the moment, this research supports a new approach to labour resilience, anchored in four core shifts:

1. From workers as cost centres to workers as assets

Supply-chain labour – especially indirect, migrant or contract workers – is essential to continuity and competitiveness. Worker well-being is not ancillary; it is fundamental. Companies that invest in resilience will be better positioned to manage shocks, secure supply and deliver long-term value.

2. From compliance-based checkbox to strategic integration

What gets measured gets managed – embed worker well-being alongside environmental and financial metrics into risk modelling, procurement standards and board-level accountability frameworks. This requires board-level involvement, cross-functional ownership and harmonized reporting systems.

3. From crisis response to planned adaptation

Move beyond after-the-fact crisis response and begin allocating capital to front-line infrastructure: health services, insurance schemes, cooling systems and worker housing. These investments protect both people and productivity.

4. From individual pilots to systemic scale via multistakeholder action

Isolated programmes, however successful, cannot solve systemic challenges. Scalable change requires multistakeholder coordination across suppliers, industry peers and civil society but also with governments and health systems that provide the broader care infrastructure. Aligning efforts across public and private actors ensures that worker health interventions are sustainable, integrated and capable of meeting long-term needs.

This agenda is ambitious but actionable. Tools already exist to support this transformation. Data platforms, impact measurement frameworks, blended finance vehicles and public–private partnerships are increasingly accessible. The next frontier is implementation – at scale, with urgency and in alignment with climate and economic goals.

Governments, multilaterals and investors must also play a role. Regulation can set minimum standards. Capital can reward leadership. Procurement can prioritize resilience. But it is companies, especially multinationals with extended supply chains, that can lead the way.

As climate volatility intensifies, the question is not whether to invest in labour resilience, but how quickly and effectively businesses can mobilize. This is the path forward for supply-chain stability, for sustainable leadership and for shared prosperity in an era of systemic risk.

The path forward is not easy. But it is necessary – and it is achievable. By reimagining responsibility and investing in shared resilience, organizations can structure supply chains that are not only competitive but humane and future-fit.

Appendix

The primary research for this report involved conducting semi-structured interviews with key stakeholders spanning roles across insurance, sustainability, procurement, public health, development finance and others. Participants were selected based on their expertise and engagement with supply chains, the geographical region in which they work and their industry to allow for broad representation (Figures 3–4). The aim was to gather insights on the intersection of health, climate and labour risks, as well as the implementation and impact of innovative models.

This study was approved with expedited approval by the University of Richmond's Institutional Review Board (URIRB240806). All team members involved in data collection and analysis received research ethics training.

Data collection: Data was collected through face-to-face and online interviews approximately one hour in length. In order to generate transcripts, sessions were conducted on and recorded via Zoom with the participants' consent.

Interview analysis: Transcripts were generated from the interview recordings and later anonymized and cleaned for analysis. Interviews were thematically coded based on a priori codes and supplemented with quotes from the participants. Once all interviews were analysed, the team calculated the frequency of each theme across the sample and synthesized findings across the interviews. Findings were further verified with published literature of scientific papers and grey literature.

FIGURE 3 Geographical representation of interview participants

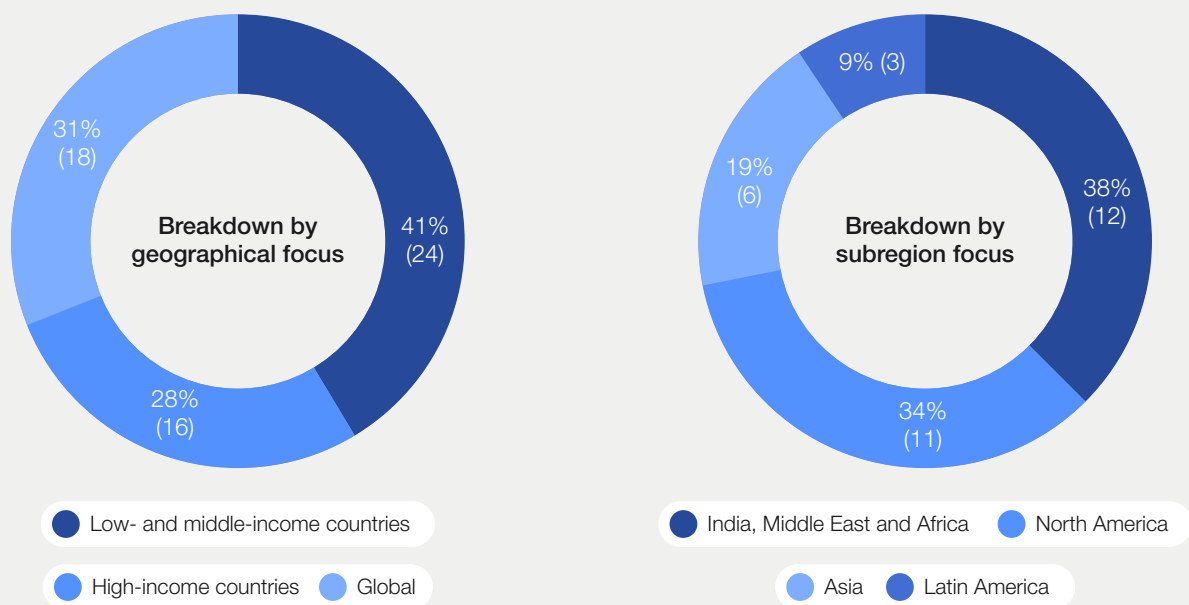
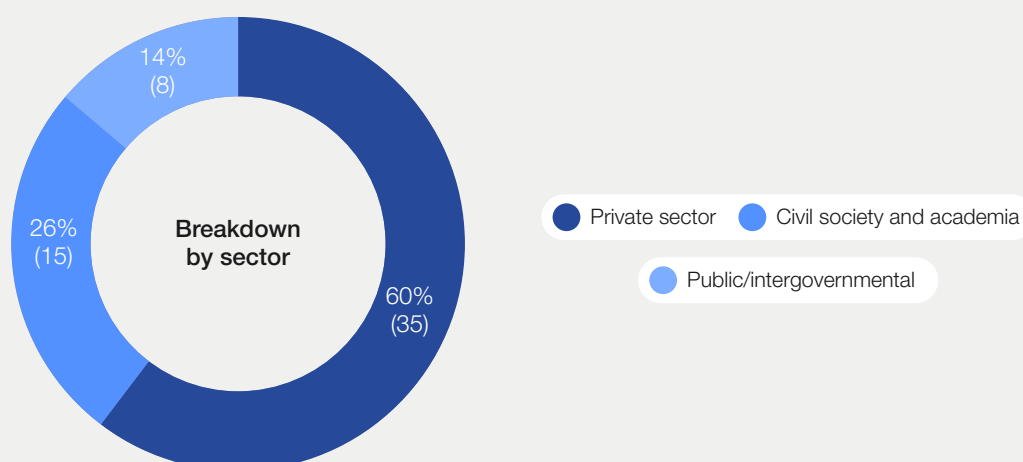


FIGURE 4 Sector representation of interview participants



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