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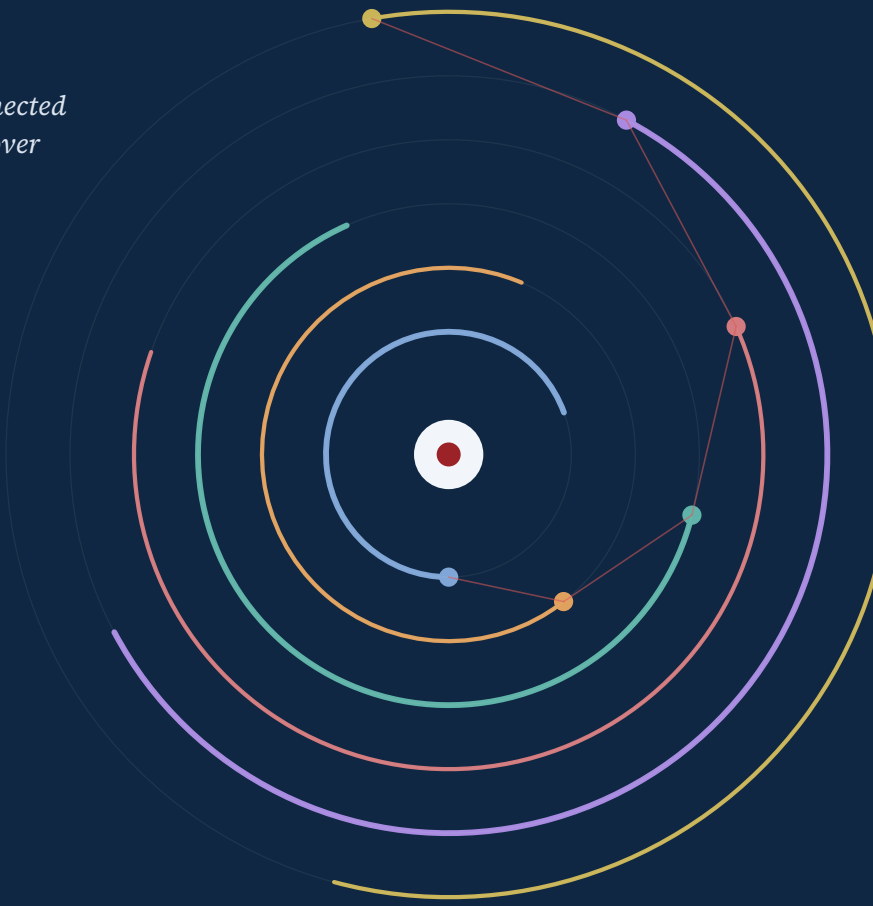
FLAGSHIP REPORT

A CONCEPT DEVELOPED BY HUNTER HUGHES

Polycrisis Resilience

A General Definition and the H Heuristics Framework

The capacity of individuals, communities, institutions, economies, societies and interconnected systems to anticipate, withstand, adapt to, recover from and reduce their vulnerability to multiple interacting crises.



Hunter Hughes
Founder, H Heuristics

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The concept. Polycrisis Resilience and the H Heuristics Polycrisis Resilience Framework are concepts developed by Hunter Hughes, Founder of H Heuristics.

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THE CONCEPT AND FRAMEWORK AT A GLANCE

THE DEFINITION

Polycrisis Resilience is the capacity of individuals, communities, institutions, economies, societies and interconnected systems to anticipate, withstand, adapt to, recover from and reduce their vulnerability to multiple interacting crises.

SIX CAPACITIES

- **Risk reduction** lower the drivers of vulnerability
- **Preventive** make crises rarer and milder
- **Absorptive** keep essential functions working
- **Recovery** restore functions and welfare
- **Adaptive** learn and adjust between crises
- **Transformative** change vulnerable pathways

FIVE-STAGE CYCLE

1. Identify vulnerability
2. Prioritise development interventions
3. Strengthen interconnected systems
4. Reduce systemic vulnerability
5. Strengthen long-term resilience

Continuous assessment, learning and improvement

EXECUTIVE SUMMARY

Executive Summary

The defining risks of this century do not arrive one at a time. Resilience must therefore be judged against crises that interact, and it must be built before they arrive.

Climate change, environmental degradation, economic instability, geopolitical conflict, demographic change, public health threats, technological disruption and fragile infrastructure now act on one another. A drought raises food prices; higher prices strain budgets already stretched by debt; budget cuts weaken the health and social systems that would have cushioned the next shock. When crises become entangled in this way, the harm they cause together exceeds the sum of their separate effects. This report sets out a concept for that condition, **Polycrisis Resilience**, and a framework for building it, **the H Heuristics Polycrisis Resilience Framework**, both developed by Hunter Hughes, Founder of H Heuristics.

Polycrisis Resilience

Polycrisis Resilience is the capacity of individuals, communities, institutions, economies, societies, and interconnected systems to anticipate, withstand, adapt to, recover from, and reduce their vulnerability to multiple interacting crises.

General definition. A concept developed by Hunter Hughes, Founder of H Heuristics.

Part I sets out a general definition usable across disciplines, institutions, economies and societies: what makes a polycrisis distinct (Section 2), the components of the definition (Section 3), its six capacities (Section 4), its relation to neighbouring concepts (Section 6) and how it can be assessed (Section 7). **Part II** presents the H Heuristics framework, which applies the concept through development (Section 8): the evidence that development reduces vulnerability (Section 9), the five systems it strengthens (Section 10), its development cycle (Section 11) and how to choose interventions that reduce several vulnerabilities at once (Section 12).

6	98%	99%	0.81
capacities that make up Polycrisis Resilience, from prevention to transformation	fall in the global death rate from natural disasters between the 1920s and the 2010s	fall in Bangladesh's cyclone death rate between the 1970 and 2007 storms	share of cross-country variation in resilience capacity explained by income (R^2)

Principal messages

- **A polycrisis requires its own idea of resilience.** Crises become entangled through common causes, domino effects and feedback loops (Lawrence et al., 2024). Resilience to one hazard at a time cannot protect a society from a flood that strikes during a currency crisis, or a pandemic that arrives during a debt squeeze. Polycrisis Resilience makes the *interaction* between crises its object.
- **The concept has six capacities.** Risk reduction, preventive, absorptive, adaptive, recovery and transformative capacities act at different moments, before, during, after and between crises. A society needs all six, because a polycrisis tests every phase at once and new shocks often arrive before recovery from the last is complete.
- **Reducing vulnerability is the distinctive element.** Polycrisis Resilience is not only about bouncing back. A society that recovers fully from each shock but never lowers its exposure is resilient only until shocks arrive faster than it can recover. The concept therefore places prevention, development, adaptation and systemic improvement at its centre.
- **Development is one of the strongest forms of resilience on record.** Deaths from natural disasters per person have fallen by about 98 per cent globally since the 1920s even as recorded disasters became more frequent (Ritchie et al., 2025). Income, education, institutions and infrastructure explain much of the difference in disaster mortality between countries (Kahn, 2005; Toya and Skidmore, 2007; Lutz et al., 2014). The H Heuristics framework builds on this evidence.
- **Interventions should be chosen for their multiple dividends.** Reliable clean electricity, adaptive social protection, early warning systems, digital payments, water and sanitation, schooling and resilient infrastructure each reduce several vulnerabilities at once. The framework's development cycle prioritises such investments and treats resilience as continuous improvement, not a fixed end state.

The framework in brief

The H Heuristics Polycrisis Resilience Framework rests on one premise: **reducing vulnerability to the polycrisis requires strengthening the systems, capabilities and development conditions that allow societies to become less exposed to interconnected risks**. It applies four development drivers (convergence, technology diffusion, sustainable development and coordinated improvement) to five interconnected systems (economic, technological and infrastructure, environmental, human and institutional) through a five-stage cycle: identify vulnerability, prioritise development interventions, strengthen interconnected systems, reduce systemic vulnerability and strengthen long-term resilience. Each pass leaves a society better placed for the next shock, which is why the framework treats development and resilience as one objective (Section 13).

PART I · SECTION 01

Introduction: An Age of Interconnected Crises

The challenges of the twenty-first century extend beyond the boundaries of individual crises. They interact, and their interactions are now a principal source of risk.

IN BRIEF

- Climate change, environmental degradation, economic instability, conflict, demographic change, health threats, technological disruption and infrastructure weakness increasingly act on one another.
- Their interactions amplify existing vulnerabilities, create cascading disruptions and leave societies exposed to several shocks at once or in quick succession.
- This report establishes a general definition of Polycrisis Resilience and the H Heuristics Polycrisis Resilience Framework, a development-oriented approach to building it.

The twenty-first century is increasingly characterised by interconnected challenges that extend beyond the boundaries of individual crises. Climate change, environmental degradation, economic instability, geopolitical conflict, demographic transitions, public health threats, technological disruption and infrastructure vulnerabilities increasingly interact, creating complex systems of risk. These challenges do not operate independently. Their interactions can amplify existing vulnerabilities, create cascading disruptions and make societies more susceptible to multiple simultaneous or sequential shocks.

The experience of the 2020s has made this pattern hard to ignore. COVID-19 caused an estimated 14.9 million excess deaths in 2020 and 2021 (Msemburi et al., 2023) and the deepest global recession since the Second World War. Before recovery was complete, the war in Ukraine and tight supply chains sent food and energy prices to multi-decade highs, and central banks raised interest rates to contain inflation. Governments that had borrowed to fight the pandemic then faced higher debt-service costs: by 2025, 3.4 billion people lived in countries that spend more on interest payments than on either health or education (UNCTAD, 2025). At the same time the physical climate kept shifting. The World Meteorological Organization confirmed 2024 as the warmest year on record, about 1.55°C above the pre-industrial average (WMO, 2025), and the 2025 Planetary Health Check found that seven of nine planetary boundaries had been crossed (Planetary Boundaries Science, 2025).

None of these crises was isolated. The pandemic weakened public finances that were then hit by the price shock; the price shock raised hunger in countries already strained by conflict and drought; the debt squeeze limited the resources available for adaptation to a warming climate. Forced displacement reached 123 million people by the end of 2024 (UNHCR, 2025), and 295 million people faced acute food insecurity across 53 countries (FSIN and GNAFC, 2025). In each case, harm was greatest where several stresses converged on the same people and places.

1.1 Eight interacting domains of risk

Table 1 lists the eight domains of risk named in the H Heuristics account of the polycrisis, with examples of how each interacts with the others. The list is not a ranking. Its purpose is to show that each domain is connected to several others, so that a crisis in any one of them rarely stays confined there.

Table 1 Eight domains of risk and how they interact

Domain	Typical stresses	Example interactions with other domains
Climate change	Heat, drought, floods, storms, sea-level rise	Lower harvests raise food prices; disasters damage infrastructure and strain public budgets; heat cuts labour productivity
Environmental degradation	Biodiversity loss, soil and water depletion, pollution	Degraded land and water reduce food security; pollution raises disease burdens; lost ecosystems remove natural buffers against floods
Economic instability	Recessions, inflation, debt distress, currency crises	Fiscal squeezes cut health, social and adaptation spending; unemployment fuels unrest
Geopolitical conflict	War, sanctions, trade fragmentation, state fragility	Disrupts food and energy supply; destroys infrastructure; displaces people; diverts aid
Demographic transitions	Rapid urban growth, youthful or ageing populations	Concentrates people in exposed cities; ageing raises heat vulnerability; youth unemployment raises instability
Public health threats	Pandemics, endemic disease, malnutrition, antimicrobial resistance	Disease shocks collapse output and revenue; malnutrition and weak health systems deepen the toll of every other crisis
Technological disruption	Cyber incidents, automation, concentration of digital systems	Software failures cascade through finance, transport and health; automation reshapes labour markets
Infrastructure vulnerability	Unreliable power, water, transport and communications	Outages halt health care, water treatment and commerce; weak networks slow disaster response

Source: H Heuristics, drawing on Lawrence et al. (2024), World Economic Forum (2025) and UNDRR (2019).

1.2 Beyond conventional crisis management

Addressing these conditions requires more than conventional crisis management. Emergency response remains indispensable, but it is organised around single events and single sectors: a ministry of health responds to an epidemic, a disaster agency to a flood, a central bank to a currency run. A polycrisis cuts across these mandates. It requires an approach that considers how societies, economies, institutions and populations can reduce their underlying vulnerability to interconnected threats, and that treats the interactions between crises as the main object of policy rather than an afterthought.

It also requires a change of timing. Most resources for crises are mobilised after the crisis has begun. Yet the evidence reviewed in this report shows that the largest and most durable reductions in harm come from changes made beforehand: early warning systems, building standards, social protection that can scale up automatically, reliable infrastructure, diversified economies and capable institutions (Clarke and Dercon, 2016; Global Commission on Adaptation, 2019; Hallegatte et al., 2019). **Polycrisis Resilience** provides a conceptual framework for understanding and strengthening this capacity.

1.3 Purpose and structure of this report

This report establishes two complementary components. The first is a **general definition of Polycrisis Resilience**, a broad concept applicable across disciplines, institutions, economies and societies. The second is **the H Heuristics Polycrisis Resilience Framework**, a development-oriented approach for reducing vulnerability through economic development, technological diffusion, institutional capacity, environmental improvement and systemic strengthening. Together they provide a foundation for understanding how resilience can be developed in an increasingly interconnected world.

Part I (Sections 1 to 7) develops the general concept. Part II (Sections 8 to 14) presents the H Heuristics framework, the evidence behind it, its development cycle and its implications for policy. The general definition is intended to be usable on its own by anyone working on interconnected risk. The framework is one way of applying it, with a particular focus on the countries and communities where vulnerability is greatest and development gaps are widest.

DEFINITIONS

A note on terms

Crisis: a disruption that threatens essential functions of a system and demands an urgent response. **Shock**: a sudden event that triggers or deepens a crisis. **Stress**: a slow-moving pressure, such as debt accumulation or land degradation, that weakens a system over time.

Vulnerability: the propensity to be harmed, which this report treats as the product of *exposure* (being in harm's way), *susceptibility* (how much harm a given shock causes) and *coping capacity* (the ability to limit and recover from harm), following IPCC (2022) and UNDRR (2017).

Polycrisis: a situation in which crises in several systems become causally entangled, so that their combined harm exceeds the sum of their separate effects (Lawrence et al., 2022).

PART I · SECTION 02

From Crisis to Polycrisis

A polycrisis is not simply many crises at once. It is a condition in which crises change one another's course, and that is what makes it a distinct problem for resilience.

IN BRIEF

- The term was introduced by Edgar Morin in the 1990s and returned to wide use in 2022 to describe a world in which the whole is more dangerous than the sum of its parts.
- Crises become entangled through three mechanisms: common causes, domino effects and inter-systemic feedbacks.
- Tighter coupling, eroding planetary buffers and depleted policy buffers explain why entanglement has become more frequent.

2.1 Origins of the term

The word *polycrisis* was introduced by the French philosopher Edgar Morin and his co-author Anne Brigitte Kern in the 1990s to describe the interwoven and overlapping crises facing a planetary civilisation (Morin and Kern, 1999). It returned to wide use in 2022, when the historian Adam Tooze used it to describe a world in which shocks are disparate but interact so that "the whole is even more dangerous than the sum of the parts" (Tooze, 2022). The World Economic Forum's *Global Risks Report* now organises its annual survey around interconnected risks (World Economic Forum, 2025).

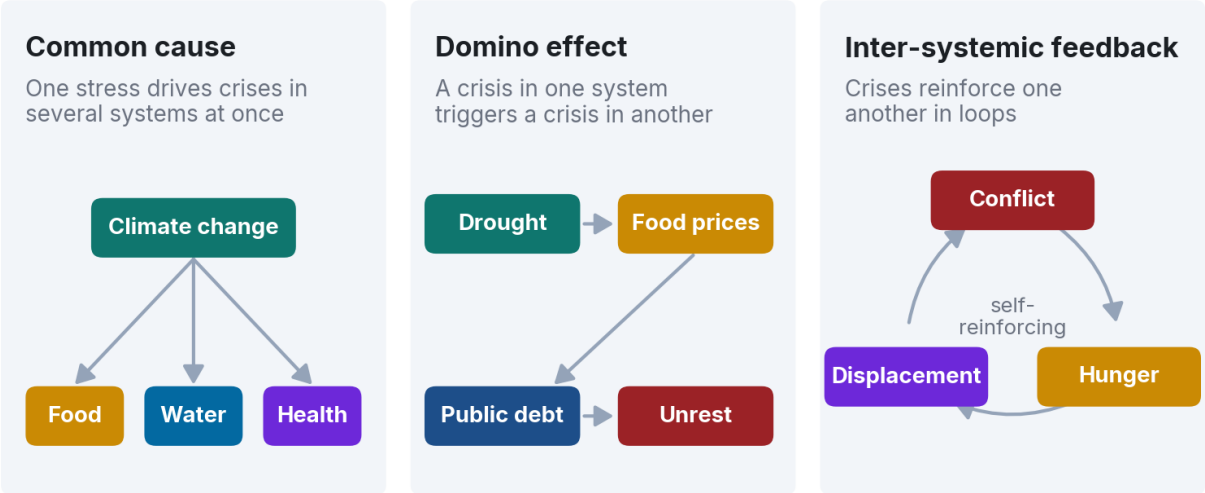
Popularity brought vagueness. A more precise definition comes from the Cascade Institute, which describes a global polycrisis as one in which crises in multiple global systems become causally entangled in ways that significantly degrade humanity's prospects (Lawrence et al., 2022). The key word is *entangled*. Two unrelated events that happen to coincide are a coincidence. A polycrisis exists when the events alter one another's course.

2.2 Three mechanisms of entanglement

In a peer-reviewed synthesis, Lawrence et al. (2024) identify three causal mechanisms through which crises become entangled, illustrated in Figure 1. A **common cause** is a single stress, such as climate change, that drives crises in several systems at once: food, water and health may all deteriorate together because they share a driver. A **domino effect** occurs when a crisis in one system triggers a crisis in another, as when drought raises food prices, food subsidies strain public debt and austerity provokes unrest. An **inter-systemic feedback** occurs when crises reinforce one another in loops, as when conflict causes hunger, hunger causes displacement and displacement fuels further conflict.

Each mechanism is familiar from older research on systemic risk. Sociologists describe how the integration of global systems creates new channels for failure (Centeno et al., 2015); physicists and network scientists show how tightly coupled networks can turn local failures into global cascades (Helbing, 2013); and organisational theorists have long argued that in complex, tightly cou-

Figure 1 Crises become entangled through common causes, domino effects and feedback loops



Source: H Heuristics, adapted from the typology in Lawrence et al. (2024). Conceptual illustration; examples are stylised.

pled systems, serious accidents are "normal" rather than exceptional (Perrow, 1984). What is new is their simultaneity and speed: the UN concluded in 2019 that risk has become systemic, with cascading impacts across geographic and sectoral boundaries (UNDRR, 2019).

2.3 Why crises now interact more readily

Three structural changes explain why entanglement has become more common. The first is **tighter coupling**. Supply chains, financial markets and digital platforms transmit disturbances faster and further than in earlier decades. In July 2024 a faulty software update disabled about 8.5 million Windows devices worldwide within hours, grounding flights and disrupting hospitals and banks (Weston, 2024). Integration brings efficiency but removes firebreaks between systems (Renn et al., 2022).

The second is **eroding planetary buffers**. As the Earth system moves further from the stable conditions of the Holocene, climate and ecological stresses become more frequent common causes of crises in food, water, health and migration. The IPCC estimates that 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change (IPCC, 2023), and compound events such as concurrent heat and drought, which are more damaging than either hazard alone, are becoming more likely (Zscheischler et al., 2018).

The third is **depleted policy buffers**. Many governments entered the 2020s with higher debt, and long-term growth prospects in developing economies have weakened (Kose and Ohnsorge, 2024). Thin buffers are themselves a channel of entanglement: a fiscal squeeze caused by one crisis reduces the capacity to respond to all the others.

2.4 What entanglement means for resilience

Entanglement changes what resilience has to accomplish. If crises were independent, a society could prepare for each hazard separately and add up the results. In a polycrisis this approach fails for three reasons. First, **harm is non-additive**: a flood during a currency crisis does more damage than the same flood in a stable economy, because reconstruction must be financed at punitive cost. Second, **recovery windows shrink**: when shocks arrive in quick succession, each one strikes a system that has not yet recovered from the last, so losses can ratchet down over time. Third, **vulnerabilities cluster**: the same households, regions and countries tend to lack several buffers at once. In the H Heuristics capacity scorecard, 50 countries with 1.7 billion people are in the global bottom third on at least three of five resilience capacities, far more than would be expected if weaknesses were independent (Hughes, 2026).

Table 2 shows how these features appeared in five recent episodes. In each, a shock that might have been manageable on its own became a broader crisis because it met another stress, or a society without buffers, at the wrong moment.

Table 2 Entanglement in practice: five recent episodes

Episode	Crises that interacted	Main mechanism	Lesson for resilience
Global shocks, 2020–2023	Pandemic, supply disruption, war in Ukraine, food and energy prices, monetary tightening	Domino effect through prices, inflation and debt	Shocks arrived before recovery; fiscal space ran out first in the poorest countries
Sri Lanka, 2019–2022	Terror attacks and pandemic collapse tourism; tax cuts; reserves depleted; global price shock	Domino effect through foreign exchange and debt	A single thin buffer at the wrong moment led to default and shortages of fuel and medicine
Pakistan, 2022	Record floods during balance-of-payments stress and high import prices	Common shock meets depleted policy buffers	Damage and losses above US$30 billion had to be financed at punitive cost (Government of Pakistan et al., 2022)
Lebanon, 2019–2020	Banking and currency collapse, pandemic, Beirut port explosion	Feedback between financial, health and governance crises	Institutional weakness turned each shock into a deeper systemic crisis
East Africa, 2020–2021	Pandemic, desert locust upsurge, floods and drought	Common causes and coincident hazards hitting food systems	Clustered vulnerabilities in the same households and regions compounded harm

Source: H Heuristics synthesis of the sources cited in this report and contemporaneous reporting.

Resilience must therefore be judged against *combinations* and *sequences* of crises, must cover the whole cycle from prevention to recovery and must reduce clustered vulnerability, not simply restore the status quo. Section 3 turns these requirements into a definition.

PART I · SECTION 03

A General Definition of Polycrisis Resilience

Polycrisis Resilience is defined by who holds it, what it enables them to do, what it protects against and what it ultimately serves.

IN BRIEF

- The definition applies to six kinds of holder, from individuals to interconnected systems, and names five things they must be able to do: anticipate, withstand, adapt to, recover from and reduce vulnerability.
- Its object is multiple interacting and compounding crises, not single hazards; its purpose is to maintain essential functions and strengthen long-term stability.
- It is not exclusively concerned with responding to crises after they emerge. It emphasises reducing vulnerability before disruptions occur.

Polycrisis Resilience

Polycrisis Resilience is the capacity of individuals, communities, institutions, economies, societies, and interconnected systems to anticipate, withstand, adapt to, recover from, and reduce their vulnerability to multiple interacting crises.

General definition. A concept developed by Hunter Hughes, Founder of H Heuristics.

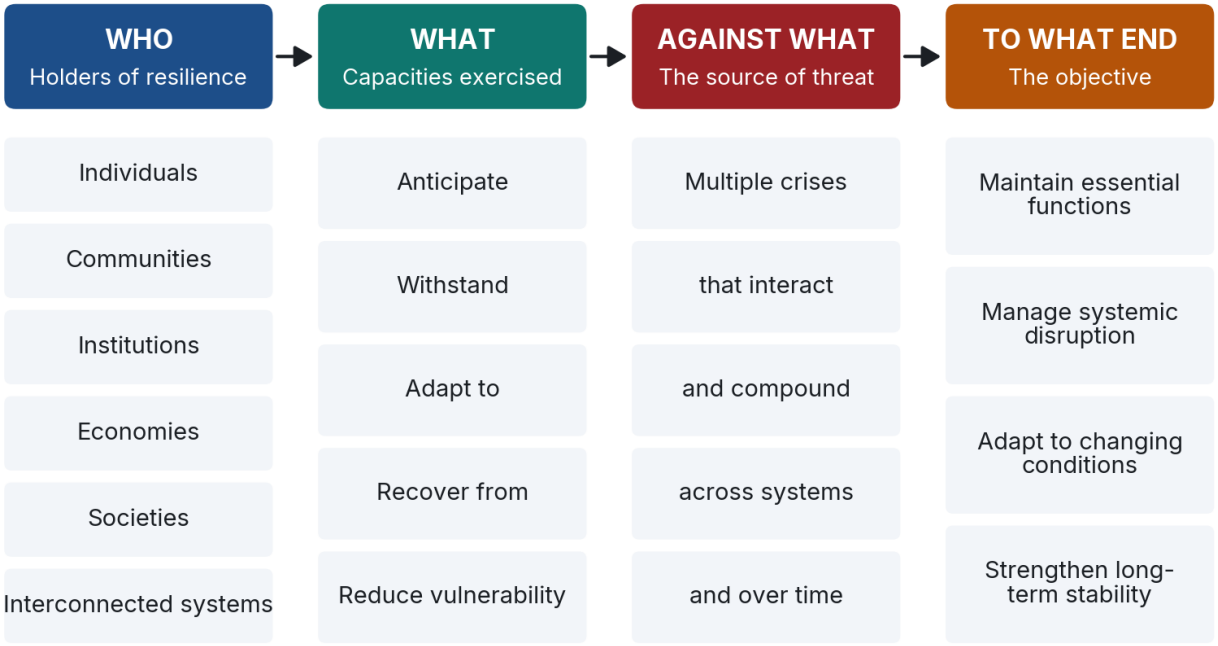
The definition can also be stated in a form that emphasises its purpose: Polycrisis Resilience is the capacity of individuals, communities, societies, economies, institutions, and interconnected systems to withstand, adapt to, recover from, and reduce vulnerability to multiple interacting and compounding crises. It concerns the ability to maintain essential functions, manage systemic disruptions, adapt to changing conditions, and strengthen long-term stability in an environment characterized by interconnected global risks. Both statements describe the same concept. The first lists the full set of capacities, including anticipation; the second names the functions those capacities protect.

Polycrisis Resilience recognises that contemporary risks frequently emerge through interconnected relationships rather than isolated events. A disruption in one system can generate consequences across others, increasing exposure and creating cascading effects. Polycrisis Resilience therefore extends beyond the ability to withstand a single crisis. It considers the capacity to manage overlapping threats, reduce systemic weaknesses, limit the transmission of risk and strengthen the conditions necessary for long-term stability and development.

3.1 Anatomy of the definition

The definition has four parts, shown in Figure 2. It names the **holders** of resilience, the **capacities** they exercise, the **source of threat** they face and the **objective** that resilience serves. Each part is chosen deliberately, and each distinguishes the concept from narrower ideas of resilience.

Figure 2 The four parts of the general definition of Polycrisis Resilience



Source: H Heuristics. The first three columns restate the general definition; the fourth restates the purpose of the concept.

Who. The definition applies to individuals, communities, institutions, economies, societies and interconnected systems. Resilience is not only a property of nations. A household with savings and a mobile-money account, a city with a functioning drainage system, a central bank with adequate reserves and a regional power grid with spare capacity all hold some part of it. Including "interconnected systems" as a holder is important: some resilience exists only at the level of the connections between units, such as trade rules that keep food moving or financial safety nets that provide emergency liquidity.

What. Five verbs describe what resilience enables. To *anticipate* is to see a crisis coming and prepare for it. To *withstand* is to absorb the first blow without losing essential functions. To *adapt* is to change practices, assets or institutions as conditions shift. To *recover* is to restore, or surpass, previous levels of welfare and function. To *reduce vulnerability* is to emerge from each crisis less exposed and less susceptible to the next. The last verb is what most distinguishes Polycrisis Resilience from ordinary notions of robustness.

Against what. The source of threat is "multiple interacting crises": not one hazard, but several crises whose effects compound, across systems and over time. A society can be well prepared for floods and still be devastated by a flood that arrives during a currency crisis. The definition directs attention to that interaction.

To what end. Resilience serves four purposes: maintaining essential functions, managing systemic disruptions, adapting to changing conditions and strengthening long-term stability. These

purposes keep the concept anchored in outcomes that matter to people, such as health, livelihoods, safety and opportunity, rather than in the survival of a particular institution or arrangement.

Table 3 Key terms in the general definition and what each implies

Term	Meaning in this report	Implication for practice
Capacity	An ability that exists before it is needed, embodied in people, assets, institutions and relationships	Resilience must be built in advance; it cannot be purchased in the middle of a crisis
Interconnected systems	Networks that link units together: supply chains, grids, financial and information systems	Some risks can only be managed at the level of connections, through redundancy, firebreaks and coordination
Anticipate	Detect emerging threats and act before they materialise	Early warning, foresight and pre-arranged finance and plans
Withstand	Absorb shocks while keeping essential functions working	Buffers, redundancy and continuity planning for critical services
Adapt	Adjust practices, assets and institutions to changing conditions	Learning systems, flexible institutions and adaptive policy
Recover	Restore functions and welfare after disruption	Fiscal space, access to finance, reconstruction capacity
Reduce vulnerability	Lower exposure and susceptibility to future crises	Development, diversification, structural change and prevention
Interacting crises	Crises that alter one another's course through shared causes, dominoes or feedbacks	Plan for combinations and sequences of shocks, not single scenarios

Source: H Heuristics.

3.2 Before, not only after

An important distinction is that Polycrisis Resilience is not exclusively concerned with responding to crises after they emerge. It emphasises reducing vulnerability before disruptions occur. This makes prevention, development, adaptation and systemic improvement central to the concept.

The emphasis has a practical basis. A large body of evidence shows that harm from shocks depends far more on pre-existing conditions than on the response once a crisis has begun. Early warning systems that give 24 hours' notice of a coming storm or heatwave can cut the ensuing damage by 30 per cent (Global Commission on Adaptation, 2019). Investment in more resilient infrastructure in low- and middle-income countries yields about US$4 in benefits for every US$1 invested (Hallegatte et al., 2019). Disaster finance arranged in advance arrives faster and is spent better than appeals launched after the fact (Clarke and Dercon, 2016). A concept of resilience that waited for crises to begin would miss most of what works.

The emphasis on prevention also answers a common criticism of resilience thinking: that it asks the vulnerable to “bounce back” from harms that could have been avoided (Béné et al., 2012). Polycrisis Resilience does not treat endurance as a virtue in itself. Its aim is to reduce the frequency and severity of the crises that people must endure.

PART I · SECTION 04

The Six Capacities of Polycrisis Resilience

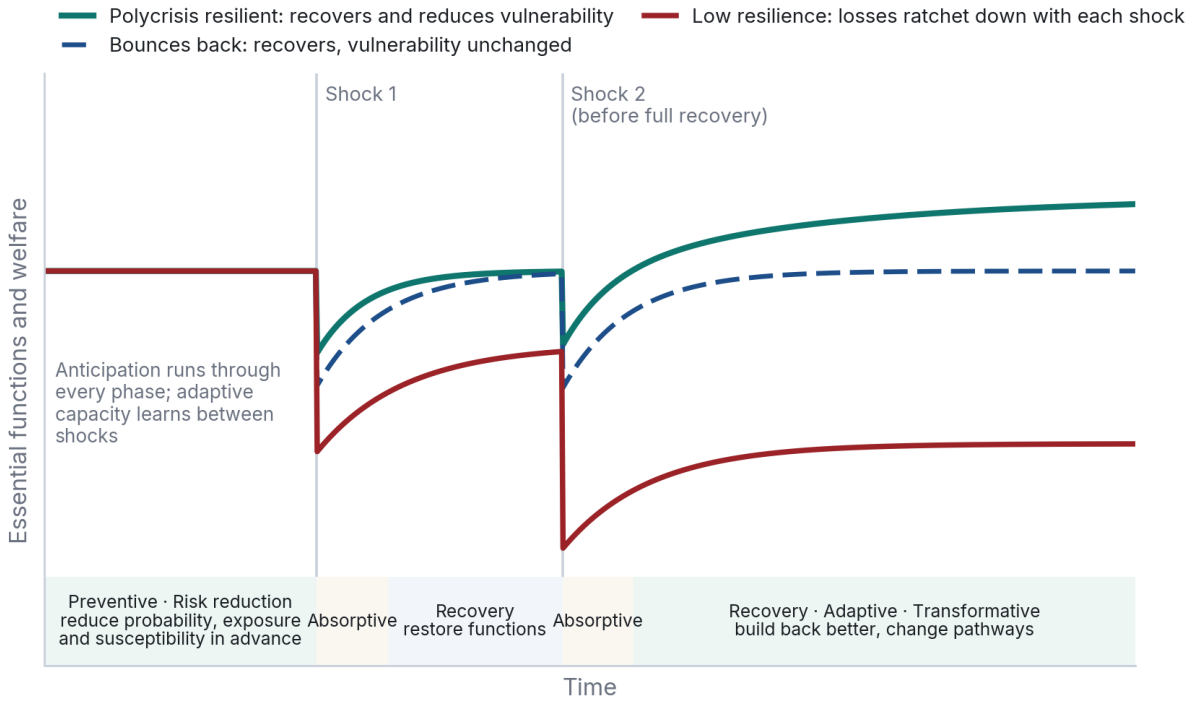
Polycrisis Resilience is made up of six interconnected capacities. Each acts at a different moment in the life of a crisis, and a polycrisis tests them all at once.

IN BRIEF

- Risk reduction and preventive capacities act before crises; absorptive capacity acts during them; recovery capacity acts after them; adaptive and transformative capacities act between and across them.
- In a polycrisis, shocks arrive before recovery is complete, so weak recovery and adaptive capacity cause losses to ratchet down over time.
- The capacities draw on the same underlying assets, so investments that strengthen one often strengthen several.

The general definition encompasses six interconnected capabilities. Three are well established in the resilience literature, which has long distinguished **absorptive**, **adaptive** and **transformative** capacities (Béné et al., 2012; Walker et al., 2004). Polycrisis Resilience adds three more that reflect its emphasis on acting before and after crises: **risk reduction**, **preventive** and **recovery** capacities. Figure 3 places the six capacities on the timeline of two overlapping shocks.

Figure 3 The six capacities act at different moments, and a polycrisis tests all of them at once



Source: H Heuristics. Stylised illustration of essential functions and welfare over time for three systems facing two shocks; the second shock arrives before full recovery from the first.

A system with low resilience loses part of its welfare permanently with each shock, and when the second shock arrives before recovery, losses ratchet down. A system that merely bounces back remains equally exposed. A system with Polycrisis Resilience recovers and uses the recovery to reduce its vulnerability. The six capacities explain the difference.

4.1 Risk reduction capacity

Risk reduction capacity is the ability to identify and reduce the underlying conditions that make populations and systems vulnerable to multiple crises. It acts on the drivers of risk: poverty, unplanned urban growth in exposed places, degraded ecosystems, weak building standards and dependence on a single export or import. The Sendai Framework places these drivers at the centre of its first two priorities (UNDRR, 2015). In a polycrisis it must also address the *connections* through which crises spread, such as debt structures that turn a climate shock into a fiscal crisis.

4.2 Preventive capacity

Preventive capacity is the ability to reduce the probability, severity and potential consequences of future crises. Prevention acts on the threats themselves or the moment they strike: cutting emissions, containing outbreaks, de-escalating conflicts, regulating finance and warning people before a hazard arrives. Yet in 2023 only about half of countries reported having multi-hazard early warning systems, which the Early Warnings for All initiative aims to make universal by 2027 (UNDRR and WMO, 2023; WMO, 2025).

4.3 Absorptive capacity

Absorptive capacity is the ability to maintain essential functions and limit disruption when crises occur. It rests on buffers and redundancy: foreign-exchange reserves and fiscal space, food and fuel stocks, backup power for hospitals, spare capacity in transport and communications networks, household savings and insurance. It determines how far a system falls, but on its own it is insufficient, because buffers drawn down by one crisis are unavailable for the next.

4.4 Recovery capacity

Recovery capacity is the ability to restore economic, social, institutional and infrastructural functions following disruptive events. Recovery, not impact, is often the decisive phase: output losses after financial and political crises tend to be persistent (Cerra and Saxena, 2008), tropical cyclones depress national incomes for more than a decade (Hsiang and Jina, 2014), and disasters push an estimated 26 million people into extreme poverty each year (Hallegatte et al., 2017). Recovery depends on fiscal space, finance, functioning markets, social protection and the capacity to rebuild.

4.5 Adaptive capacity

Adaptive capacity is the ability to adjust to changing circumstances, emerging threats and uncertain future conditions. Unlike absorption, adaptation changes practices, technologies, institutions and locations: farmers adopt drought-tolerant crops, cities revise drainage standards, governments create institutions for new risks. Educational attainment is one of the strongest predictors of lower vulnerability to climate-related disasters (Lutz et al., 2014).

4.6 Transformative capacity

Transformative capacity is the ability to change vulnerable systems, structures and development pathways when existing arrangements are insufficient to manage emerging risks. Some systems cannot be made resilient by incremental adjustment: an economy dependent on a single commodity, an energy system dependent on imported fuel, or a settlement on land that will flood regularly. Transformation means changing the system itself, by diversifying the economy, shifting to domestic renewable energy or relocating people and assets (Kates et al., 2012). It is the hardest of the six to build, because it requires large, long-term change against the resistance of existing interests.

Table 4 The six capacities of Polycrisis Resilience

Capacity	Core question	Main phase	Illustrative mechanisms	Illustrative indicators
Risk reduction	Are the underlying drivers of vulnerability falling?	Before	Land-use planning, building codes, poverty reduction, diversification	Exposed population; poverty rate; export concentration
Preventive	Are crises becoming less likely and less severe?	Before	Early warning, outbreak surveillance, financial regulation, emission cuts	Early warning coverage; disease surveillance capacity
Absorptive	Do essential functions keep working during a crisis?	During	Reserves, stocks, redundancy, insurance, continuity plans	Reserves in months of imports; backup power in clinics
Recovery	How quickly and fully are functions restored?	After	Fiscal space, contingent finance, reconstruction capacity	Interest share of revenue; time to recover output
Adaptive	Does the system learn and adjust between crises?	Between	Education, information systems, flexible institutions	Schooling; government effectiveness; data systems
Transformative	Can the system change its pathway when needed?	Long run	Structural change, energy transition, relocation, reform	Economic complexity; clean energy share

Source: H Heuristics.

4.7 How the capacities interact

The six capacities are distinct but not independent. They draw on the same assets: education, health, savings, infrastructure, institutions and trust. A strong health system contributes to prevention, absorption, recovery and adaptation alike. Investments in shared foundations therefore strengthen several capacities at once; where the foundations are weak, all six are weak together, which is one reason vulnerabilities cluster.

The capacities also involve trade-offs, such as buffers against transformation or efficiency against redundancy, which should be made explicitly with the full range of possible crises in view (Linkov et al., 2014).

PART I · SECTION 05

Scales, Systems and the Distribution of Resilience

Resilience resides at every level from the household to the global system. Shocks that overwhelm one level are passed to the next, and national averages can hide who bears the losses.

IN BRIEF

- The definition names six holders of resilience: individuals, communities, institutions, economies, societies and interconnected systems.
- Resilience at one scale can depend on, substitute for or undermine resilience at another; the strongest systems link the scales together.
- Polycrisis Resilience asks resilience *for whom*. Losses from shocks fall hardest on the poor, informal workers, women, displaced people and other groups with the fewest buffers.

Resilience is often discussed as a national attribute: a country is said to be resilient or fragile. The general definition deliberately takes a wider view. It names six holders of resilience, from individuals to interconnected systems, because the capacities described in Section 4 are distributed across all of them. A household's savings, a community's social networks, a ministry's emergency procedures, an economy's diversification, a society's trust in its institutions and a region's shared power grid all contribute to how a polycrisis unfolds.

5.1 Six holders of resilience

Individuals and households rely on health, skills, savings, assets, insurance and social connections. **Communities** rely on local services, infrastructure, collective organisation and local knowledge of hazards. **Institutions**, public and private, rely on mandates, procedures, staff, information and legitimacy. **Economies** rely on diversification, fiscal and financial buffers, access to markets and finance, and productive capacity. **Societies** rely on trust, social cohesion, inclusion and the ability to make collective decisions under pressure. **Interconnected systems**, such as supply chains, power grids, financial networks and the global trading system, rely on redundancy, firebreaks, coordination and shared rules.

Table 5 Holders of resilience and examples of each capacity

Holder	Absorptive	Recovery	Adaptive and transformative	Preventive and risk reduction
Individuals and households	Savings, insurance, food stocks	Social transfers, credit, remittances	Skills, education, migration, livelihood change	Safer housing, health, information
Communities	Shelters, local stores, mutual aid	Local reconstruction, cooperatives	Collective action, local planning	Drainage, ecosystem restoration, local warning
Institutions	Continuity plans, staff surge capacity	Contingent finance, rapid procurement	Learning from after-action reviews	Risk assessment, regulation, surveillance
Economies	Reserves, fiscal space, diversified trade	Counter-cyclical policy, credit access	Structural change, innovation	Diversification, macro-prudential rules
Societies	Trust and cohesion during crises	Inclusive recovery, legitimacy	Reform, social learning	Inclusion, conflict prevention
Interconnected systems	Redundancy, spare capacity	Mutual assistance, emergency liquidity	Rule changes, new connections	Firebreaks, stress testing, coordination

Source: H Heuristics.

5.2 How the scales interact

Resilience at different scales interacts in three ways. It can be **complementary**: household savings work better when banks are sound, and community early warning works better when national meteorological services are strong. It can be **substitutive**: where states are weak, households and communities carry more of the load, through extended-family transfers, remittances and informal mutual aid. And it can be **contradictory**: actions that protect one level can expose another, as when a country bans food exports to protect its own consumers and thereby raises world prices for everyone else, or when a firm's lean inventory reduces its own costs while making the supply chain more fragile.

A shock that overwhelms one scale is passed up to the next. Households that exhaust their savings turn to their communities; communities that are overwhelmed turn to the state; states that run out of fiscal space turn to regional and international institutions. A polycrisis is dangerous partly because it can overwhelm several scales at once: a regional drought, a global price shock and a national debt crisis together leave households, communities and governments without a level to fall back on. The strongest systems link the scales, so that support moves quickly from where it is held to where it is needed. Adaptive social protection, which uses national delivery systems to channel support to affected households when a shock hits, is a clear example (Bowen et al., 2020).

5.3 Resilience for whom?

Resilience is not distributed evenly within societies, and an aggregate measure can conceal who bears the losses. During the pandemic and the price shock of the early 2020s, informal workers, women, migrants, displaced people and the urban poor absorbed a disproportionate share of income losses, while those with savings, formal jobs and assets recovered quickly. The World Bank estimates that natural disasters cause consumption losses equivalent to US$520 billion a year, far more than the value of assets destroyed, because poor households cannot smooth consumption or rebuild what they lose (Hallegatte et al., 2017). A society can therefore appear resilient on average while a large minority falls into poverty traps from which recovery takes a generation.

This is why resilience scholars ask "resilience of what, to what?" (Carpenter et al., 2001), and why critics warn that resilience can become a way of asking the vulnerable to cope with harms that others impose (Béné et al., 2012). Polycrisis Resilience answers these concerns in two ways. First, its objective includes reducing vulnerability, not only restoring averages: the question is whether people emerge from crises less exposed, not merely whether the economy returns to trend. Second, it recognises that essential functions include those on which the poorest depend, such as food markets, primary health care and basic incomes. Policies that protect the most exposed are not separate from resilience; they are among its most important components.

PERSPECTIVE

Resilience and poverty traps

Development economists have proposed a theory of resilience built around poverty traps: a household is resilient if it can avoid falling below a threshold of well-being from which it cannot recover on its own, and the goal of policy is to keep people above that threshold over time (Barrett and Constas, 2014).

This view connects Polycrisis Resilience directly to development. Each shock that pushes a household below the threshold, by forcing it to sell livestock, take children out of school or skip medical care, raises its vulnerability to the next shock. A polycrisis, which delivers shocks in quick succession, is especially likely to push households into traps. Reducing vulnerability before crises occur, and protecting the assets that keep households above the threshold during them, are therefore two sides of the same task.

PART I · SECTION 06

Polycrisis Resilience Among Related Concepts

The concept builds on more than fifty years of resilience research. It differs from its neighbours in what it treats as the threat, what it treats as success and how far forward it looks.

IN BRIEF

- Ecological, disaster, climate and economic resilience each capture part of the problem; none was designed for crises that interact.
- Polycrisis Resilience adds an explicit focus on interactions between crises, a full set of six capacities and an objective of reducing vulnerability over time.
- It also answers the main critiques of resilience thinking: that it is conservative, that it shifts responsibility to the vulnerable and that it is too vague to measure.

6.1 Roots in the resilience literature

The modern study of resilience began in ecology, where C. S. Holling defined it as the ability of a system to absorb disturbance and still maintain the same relationships between its parts (Holling, 1973). Later work on social–ecological systems added adaptability and transformability, the capacity to create a fundamentally new system when the existing one becomes untenable (Walker et al., 2004; Folke, 2006). These ideas underlie the absorptive, adaptive and transformative capacities used in development practice (Béné et al., 2012).

Disaster-risk practice developed in parallel. The UN defines resilience as the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from their effects, including by preserving essential basic structures and functions (UNDRR, 2017); the IPCC adds that resilience is positive when it maintains the capacity for adaptation, learning and transformation (IPCC, 2022). Polycrisis Resilience shares the emphasis on essential functions but extends the scope from hazards to interacting crises of every kind.

6.2 How the concept differs from its neighbours

Table 6 compares Polycrisis Resilience with seven related concepts. Three differences stand out. First, the **unit of concern is the interaction** between crises, not the hazard. Second, the **objective includes reducing vulnerability over time**, which links resilience to long-run development rather than treating it as emergency management. Third, the concept **spans the full cycle** of six capacities, from risk reduction and prevention to transformation, rather than concentrating on absorption and recovery.

Polycrisis Resilience is therefore best understood as an **integrating concept**. It does not replace disaster risk reduction, climate adaptation or macroeconomic policy; it asks how they fit together when crises interact. A finance ministry that arranges contingent credit for disasters, or an en-

Table 6 Polycrisis Resilience compared with related concepts

Concept	Core question	Typical focus	What Polycrisis Resilience adds
Ecological resilience	Can a system absorb disturbance and persist?	Ecosystems; thresholds and regime shifts	Human welfare as the objective; social, economic and political crises
Disaster risk reduction	How can losses from hazards be reduced?	Natural and technological hazards	Interactions with economic, political and health crises; non-hazard crises such as debt
Climate resilience	How can societies cope with a changing climate?	Climate impacts and adaptation	Climate as one driver among several; cascades into finance, health and governance
Economic resilience	How quickly does output recover after shocks?	Growth, employment, macro stability	Non-economic functions and the distribution of losses
Systemic risk	How do failures propagate through networks?	Finance, infrastructure, global networks	A normative goal: protecting essential functions and reducing vulnerability
Compound and cascading events	How do hazards combine physically?	Concurrent and sequential hazards	Social and institutional amplifiers, not only physical coincidence (Zscheischler et al., 2018)
Human security and development	Are people free from want and fear?	Capabilities, rights, well-being	An explicit focus on shocks and their compounding (UNDP, 2014)
Antifragility	Can a system gain from disorder?	Systems that improve under stress	A guarded version: emerging from crises less vulnerable, without welcoming them (Taleb, 2012)

Source: H Heuristics, drawing on the sources cited.

ergy ministry that reduces import dependence to protect the balance of payments, is practising Polycrisis Resilience whether or not it uses the term. Beyond the three differences above, the concept is also **multi-scale**, applying from individuals to interconnected systems, and **development-linked**, a connection that Part II develops into the H Heuristics framework.

6.3 Answering the critiques of resilience

Resilience thinking faces three persistent criticisms. It can be **conservative**, protecting arrangements that are unjust or unsustainable; Polycrisis Resilience answers with transformative capacity and by defining success as protecting essential functions for people, not any particular institution. It can **shift responsibility** to the vulnerable (Béné et al., 2012); the concept answers by placing risk reduction and prevention at its centre and treating resilience as a property of systems and institutions as much as of households. And it can be **too vague to measure**; Section 7 therefore proposes principles and indicators for assessment.

PART I · SECTION 07

Assessing Polycrisis Resilience

Resilience cannot be observed directly until a crisis tests it. It can be assessed through the capacities that precede crises and the outcomes that follow them, provided both are read with care.

IN BRIEF

- Assessment should combine capacity indicators, outcome evidence from past shocks and attention to how weaknesses cluster.
- An initial H Heuristics scorecard of five capacities across 166 countries finds capacity steeply sorted by income: a mean score of 22 in low-income countries against 70 in high-income countries.
- Measured capacity is not the same as performance under stress. Trust, institutional quality and the ability to act on plans often matter as much as resources on paper.

A useful concept must be assessable. Yet resilience is a latent property: it is revealed fully only when a system is tested, and by then it is too late to build. Assessment therefore relies on two kinds of evidence. **Capacity indicators** measure the assets, buffers and institutions that are expected to confer resilience before a crisis arrives. **Outcome evidence** measures how systems actually performed in past shocks: how far they fell, how quickly they recovered and whether they emerged less vulnerable. Neither is sufficient alone. Capacity indicators can be wrong about what matters, and outcomes reflect luck as well as resilience.

7.1 Principles for assessment

- **Assess all six capacities**, not only buffers, which miss prevention, adaptation and transformation.
- **Look for clustering.** How many capacities are weak at once matters more than the average, because a polycrisis exploits the absence of any fallback.
- **Disaggregate** by region and social group, because resilience for whom is part of the definition.
- **Test against outcomes** from past crises, and revise measures where they fail.
- **Publish components and use public data**, so that weights can be challenged and results replicated.

Table 7 Illustrative indicators for each capacity

Capacity	National indicators	Household and community indicators	Main public sources
Risk reduction	Population in high-hazard zones; poverty rate; export concentration	Housing quality; asset ownership	World Bank WDI; INFORM Risk; national surveys
Preventive	Early warning coverage; disease surveillance; financial regulation	Access to warnings; vaccination coverage	UNDRR and WMO; WHO
Absorptive	Reserves; fiscal balance; electricity reliability; food stocks	Savings; insurance; food security	IMF; WDI; FAO
Recovery	Interest share of revenue; access to contingent finance	Social protection coverage; credit access	IMF; ILO; Global Findex
Adaptive	Government effectiveness; schooling; statistical capacity	Education; mobile and internet access	WGI; UNESCO; ITU
Transformative	Economic complexity; clean energy share; reform record	Livelihood diversification	Atlas of Economic Complexity; IEA; IRENA

Source: H Heuristics. Indicators are illustrative; selection should reflect the context and the crises of greatest concern.

7.2 What an initial measurement shows

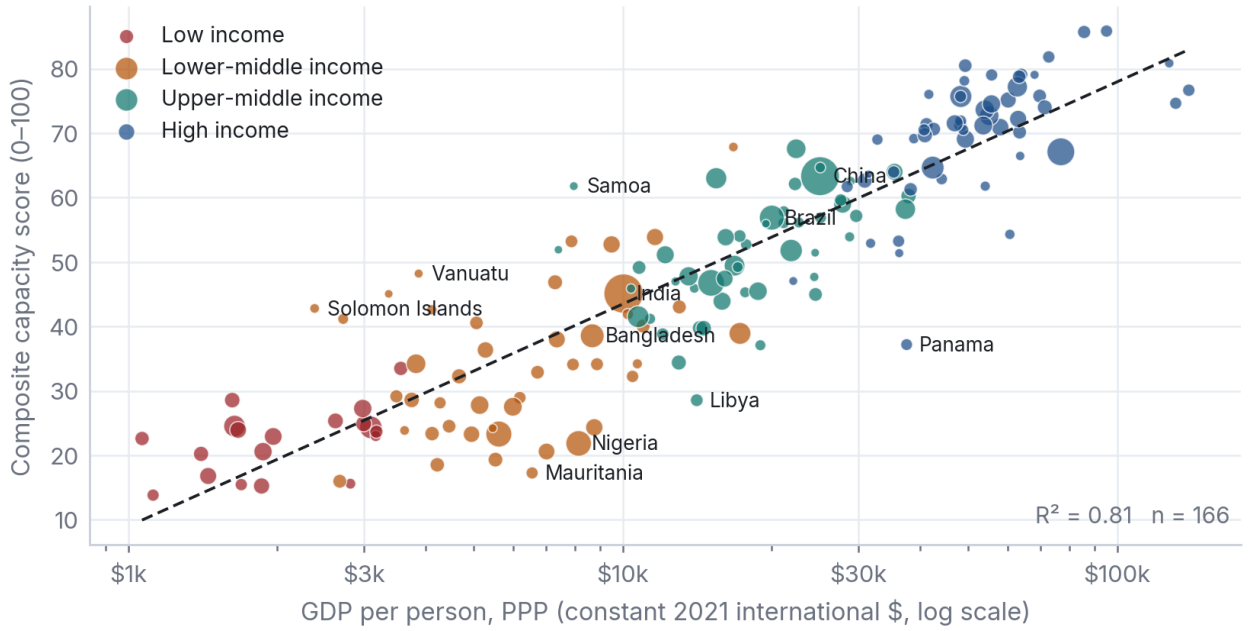
The H Heuristics *Polycrisis Resilience 2026* report built a first national scorecard using five measurable capacities: fiscal and financial buffers, social protection and health, institutions, infrastructure and digital access, and exposure to imported food and fuel (Hughes, 2026). It combined sixteen public indicators, chiefly from the World Bank's World Development Indicators and Worldwide Governance Indicators (World Bank, 2026; World Bank, 2025), for 166 countries holding 8.0 billion people. Each indicator was converted to a percentile and the percentiles averaged within each capacity. The scorecard is a partial measure: it captures absorptive, recovery and adaptive capacities better than prevention or transformation. But it illustrates what assessment can reveal.

Two findings stand out. First, capacity is steeply sorted by income (Figure 4). Income per person explains 81 per cent of the variation in the composite score, which averages 22 in low-income countries and 70 in high-income countries on a 0 to 100 scale. This is the strongest single piece of evidence for the development-oriented approach of Part II: the countries with the least capacity are those with the largest development gaps. Second, income is not destiny. Countries at similar incomes differ by twenty points or more, which shows that policy choices about institutions, social protection and infrastructure shape resilience independently of income.

Figure 5 shows where the gaps are widest. In infrastructure and digital access, low-income countries score 9 on average against 74 in high-income countries; in social protection and health, 15 against 81. Fiscal buffers, by contrast, are thin almost everywhere, with a gap of only 13 points. The same scorecard found that weaknesses cluster: 50 countries with 1.7 billion people are in the global bottom third on at least three of the five capacities.

Figure 4 **Resilience capacity rises steeply with income, but countries at the same income differ widely**

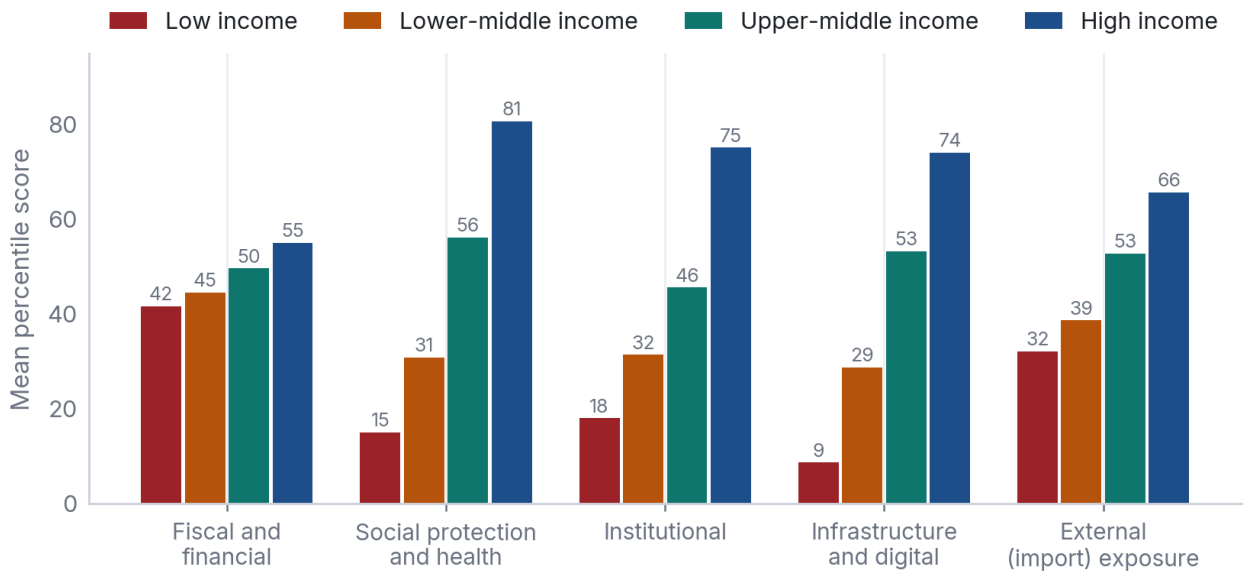
Composite capacity score against GDP per person, by income group



Source: H Heuristics, *Polycrisis Resilience 2026* (Hughes, 2026), from World Bank data (World Bank, 2026; World Bank, 2025). Composite of five capacity scores, each the mean percentile of its indicators; bubble size proportional to population. n = 166.

Figure 5 **Low-income countries trail most in infrastructure, social protection and institutions**

Mean capacity scores by World Bank income group, 0–100



Source: H Heuristics, *Polycrisis Resilience 2026* (Hughes, 2026). Mean percentile score of countries in each World Bank income group on each capacity.

7.3 Capacity is not performance

Assessment must also recognise the limits of capacity measures. The clearest warning came from the COVID-19 pandemic. Before 2020, the Global Health Security Index ranked countries on their preparedness for epidemics. A large study of 177 countries found that these preparedness scores were not associated with lower infection or death rates during the pandemic, whereas trust in government and between people was associated with lower infection rates (COVID-19 National Preparedness Collaborators, 2022). The *Polycrisis Resilience 2026* scorecard reached a similar conclusion: conditional on income, most capacities predicted outcomes in 2020 to 2024 only weakly, with the exception of institutional quality, which was associated with markedly smaller losses of life expectancy (Hughes, 2026).

The lesson is not that capacities do not matter, but that resources on paper must be converted into action under pressure, which depends on institutions, trust and coordination. Assessment should therefore combine indicators with evidence on governance, and treat each real crisis as a test from which the measures can learn, the logic of the continuous assessment at the centre of the development cycle (Section 11).

7.4 Existing indices and what they miss

Several established indices already measure parts of Polycrisis Resilience, and they are valuable starting points. Table 8 summarises five. Each was designed for a particular hazard or function, so none measures the interactions between crises, the clustering of weaknesses or the capacity to reduce vulnerability over time. Combining them, and adding evidence on interaction and recovery, is a practical first step towards assessing the concept as a whole.

Table 8 Established indices relevant to Polycrisis Resilience

Index	Producer	What it measures	Gap from a polycrisis perspective
INFORM Risk Index	European Commission Joint Research Centre and partners	Hazard and exposure, vulnerability and lack of coping capacity for humanitarian crises (European Commission JRC, 2025)	Treats hazards largely separately; little on economic and fiscal channels
ND-GAIN Country Index	University of Notre Dame	Vulnerability to climate change and readiness to adapt (Notre Dame Global Adaptation Initiative, 2025)	Climate-focused; does not cover non-climate crises or their interaction
WorldRiskIndex	Bündnis Entwicklung Hilft and Ruhr University Bochum	Exposure to natural hazards combined with societal vulnerability (Bündnis Entwicklung Hilft and IFHV, 2025)	Hazard-centred; limited attention to recovery and transformation
Global Health Security Index	Nuclear Threat Initiative and Johns Hopkins Center for Health Security	Preparedness for epidemics and pandemics (NTI and Johns Hopkins Center for Health Security, 2021)	Scores did not predict COVID-19 outcomes; omits trust and cross-system effects
Worldwide Governance Indicators	World Bank	Government effectiveness, rule of law, stability and other governance dimensions (World Bank, 2025)	Measures institutional capacity, not its use under compound stress

Source: H Heuristics, from the documentation of each index.

PART II · SECTION 08

The H Heuristics Polycrisis Resilience Framework

Resilience cannot be established through crisis management alone. It must also emerge from improvements in the conditions that determine vulnerability.

IN BRIEF

- The H Heuristics framework, developed by Hunter Hughes, applies the general concept through a development-oriented approach focused on reducing human and systemic vulnerability.
- Its central premise is that reducing vulnerability to the polycrisis requires strengthening the systems, capabilities and development conditions that make societies less exposed to interconnected risks.
- It emphasises four drivers: convergence, technology diffusion, sustainable development and coordinated improvement across interconnected systems.

Part I set out a general definition of Polycrisis Resilience that can be applied by any discipline, institution or society. Part II presents one application of it: **the H Heuristics Polycrisis Resilience Framework**, developed by Hunter Hughes. The framework applies the general concept through a development-oriented approach focused on reducing human and systemic vulnerability to interconnected crises.

The framework recognises that resilience cannot be established through crisis management alone. It must also emerge through improvements in the economic, technological, environmental, institutional and infrastructural conditions that determine vulnerability. A country with reliable electricity, universal schooling, functioning health care, diversified exports and capable institutions will suffer less from almost any combination of shocks than one without them, however good its emergency plans.

Central premise of the framework

Reducing vulnerability to the polycrisis requires strengthening the systems, capabilities, and development conditions that allow societies to become less exposed to interconnected risks.

The H Heuristics Polycrisis Resilience Framework, developed by Hunter Hughes, Founder of H Heuristics.

8.1 Development as a mechanism of resilience

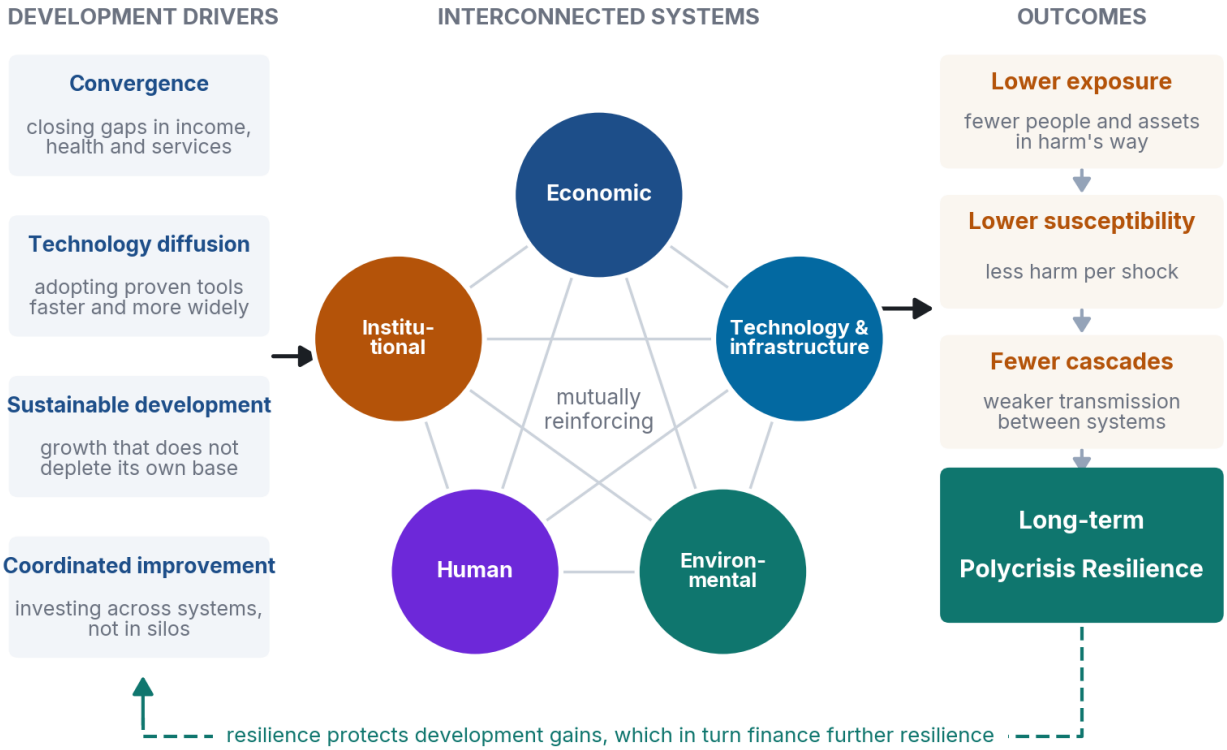
Rather than treating development and resilience as separate objectives, the framework considers development itself an important mechanism for building resilience. In practice the two are usually kept apart: development through long-term investment, resilience through disaster management and humanitarian response, with separate budgets and institutions that compete for scarce resources.

The framework rejects the separation for three reasons. First, **most of what makes societies vulnerable is a development deficit**: poverty, ill health, poor housing, unreliable infrastructure, weak institutions and undiversified economies. Second, **most of what protects societies from crises is a development achievement**: savings, education, health systems, reliable power and water, financial inclusion and capable states. Third, **crises reverse development**, so development that is not protected by resilience is easily lost. The two reinforce each other when pursued together.

8.2 Four development drivers

The H Heuristics framework places particular emphasis on four drivers of development that also build resilience. They are shown on the left of Figure 6.

Figure 6 The H Heuristics Polycrisis Resilience Framework: development drivers strengthen interconnected systems and reduce vulnerability



Source: H Heuristics. Conceptual diagram of the framework developed by Hunter Hughes.

Convergence. The framework seeks to close the gaps in income, health, education and access to services between poorer and richer countries and communities. Convergence matters for resilience because the evidence in Section 9 shows that vulnerability falls steeply as these gaps close. After decades in which poorer countries did not systematically catch up, there is evidence that convergence in income and in many policy and institutional measures strengthened from the 1990s (Kremer et al., 2022), although long-term growth prospects have weakened since (Kose and Ohnsorge, 2024).

Technology diffusion. Many of the most powerful tools for reducing vulnerability already exist: solar power and batteries, mobile money, vaccines, drought-tolerant seeds, weather forecasting and digital public infrastructure. The constraint is not invention but adoption. Historically, the average lag between a technology's invention and its adoption in a typical country has been about 45 years (Comin and Hobijn, 2010). Shortening that lag is one of the fastest ways to reduce vulnerability (Gerschenkron, 1962).

Sustainable development. Development that depletes its own environmental base, by degrading soils, exhausting aquifers or raising emissions, adds to future risk even as it reduces present vulnerability. The framework therefore emphasises development that improves environmental conditions as well as material ones, so that today's gains do not become tomorrow's hazards.

Coordinated improvement. A new hospital without reliable power, or a social protection programme without a payment system, delivers less than it should. The framework emphasises improvements across interconnected systems, sequenced so that each strengthens the others.

8.3 How the framework relates to the general concept

The general definition describes *what* Polycrisis Resilience is. The framework describes *how* to build it in societies where development gaps are the main source of vulnerability. Table 9 shows how the framework's development emphasis strengthens each of the six capacities. The framework gives particular weight to risk reduction, adaptive and transformative capacities, which crisis management most often neglects.

Table 9 How the framework's development approach strengthens each capacity

Capacity	Development pathway in the H Heuristics framework	Examples
Risk reduction	Raising incomes and living standards removes the conditions that make people vulnerable	Safer housing; poverty reduction; diversified livelihoods
Preventive	Diffusing technologies that reduce the probability or severity of crises	Clean energy; vaccines; forecasting and warning
Absorptive	Building buffers through growth, financial deepening and public revenue	Savings and insurance; reserves; fiscal space
Recovery	Expanding the institutions and finance that enable rapid restoration	Social protection; digital payments; contingent credit
Adaptive	Investing in education, information and institutional capability	Schooling; statistical systems; effective public administration
Transformative	Structural change towards diversified, low-carbon, knowledge-based economies	Industrial diversification; energy transition; digital economy

Source: H Heuristics.

PART II · SECTION 09

Development as Resilience: The Evidence

Over the past century the death toll from natural hazards has fallen dramatically, even as recorded disasters have multiplied. Development, more than any single programme, explains why.

IN BRIEF

- The global death rate from natural disasters fell from 26 per 100,000 people a year in the 1920s to under 1 in the 2010s, while recorded disaster events rose.
- Across countries, higher income, better education and stronger institutions are associated with far fewer deaths from hazards of similar intensity.
- Bangladesh cut its cyclone death rate by more than 99 per cent between 1970 and 2007 through early warning, shelters and broad-based development.

The framework's premise is an empirical claim, and it can be tested. If development reduces vulnerability, then as countries develop, the harm caused by hazards of a given size should fall, and at any moment richer, better-educated and better-governed countries should suffer less from similar hazards. The evidence for both propositions is strong, although it comes with important qualifications.

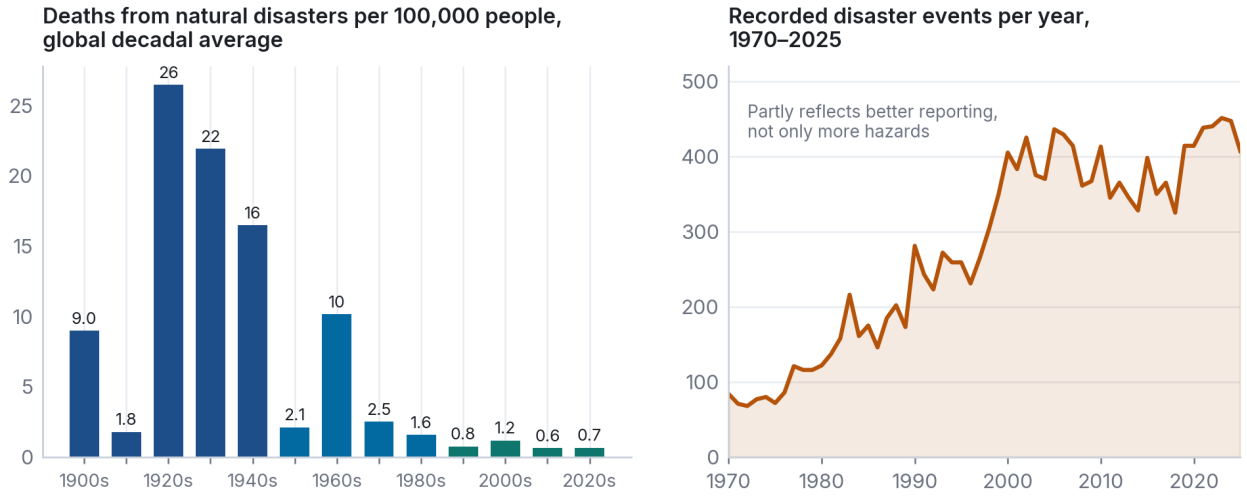
9.1 A century of falling disaster mortality

Figure 7 shows the long-run record compiled from the EM-DAT international disaster database (Ritchie et al., 2025; CRED, 2025). In the 1920s, natural disasters killed on average about 26 people per 100,000 each year worldwide. Catastrophic droughts and famines, floods in China and earthquakes accounted for most of the toll. By the 2010s the rate had fallen to 0.64 per 100,000, a decline of about 98 per cent, and the 2020s so far are similar. This fall occurred while the number of recorded disaster events rose from 84 in 1970 to more than 400 a year in the 2020s, partly because of better reporting and partly because more people and assets are exposed.

Several forces contributed: better forecasting, early warning and building codes, but also higher incomes, the end of famine as a regular occurrence outside conflict zones, better roads and communications, and stronger states. Research that separates these factors finds that development is central. Studying disasters across 73 countries, Kahn (2005) showed that richer countries do not experience fewer natural disasters than poorer ones, but suffer far fewer deaths from them, and that democracies and countries with stronger institutions also suffer fewer deaths. Toya and Skidmore (2007) found that countries with higher income, higher educational attainment, greater openness and more developed financial systems experience fewer losses, measured both in deaths and as a share of GDP.

More recent studies confirm the pattern for climate-related hazards. Analysing floods, droughts, storms and heatwaves, Formetta and Feyen (2019) found clear evidence that vulnerability has

Figure 7 Disaster deaths per person have fallen by about 98 per cent in a century, even as recorded events multiplied



Source: Our World in Data, from EM-DAT, CRED/UCLouvain (Ritchie et al., 2025; CRED, 2025). Decadal averages of annual deaths from all natural disasters per 100,000 people; 2020s covers 2020 to 2025. Event counts are affected by improvements in reporting over time.

fallen over time and that it declines with wealth, with mortality and loss rates dropping several-fold between the 1980s and the 2010s. Jongman et al. (2015) found that vulnerability to river floods has declined globally, with the share of exposed people killed falling, and that the gap between high- and low-income countries narrowed as poorer countries developed. Education appears to be among the strongest single drivers: across countries, higher levels of female education in particular are associated with substantially lower disaster mortality (Lutz et al., 2014).

BOX 1 · CASE

Bangladesh: how development and preparedness transformed cyclone risk

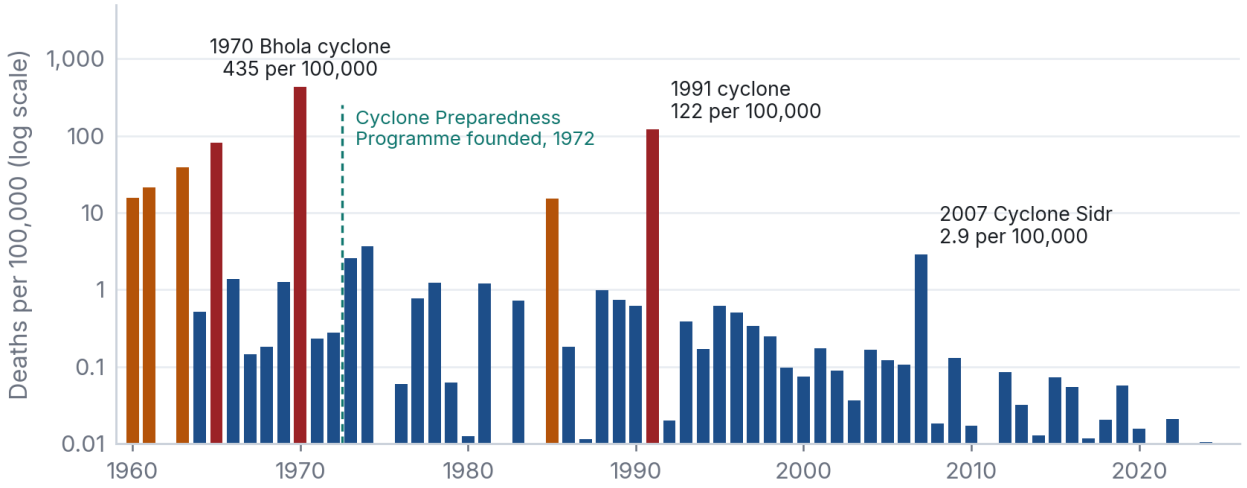
In November 1970 the Bhola cyclone struck the coast of what is now Bangladesh and killed an estimated 300,000 people or more, one of the deadliest natural disasters of the twentieth century. In EM-DAT data, deaths from extreme weather that year amounted to 435 per 100,000 people. A cyclone in 1991 killed about 138,000 people (122 per 100,000). In 2007, Cyclone Sidr, a storm of comparable strength, killed between 3,400 and 4,200 people, about 2.9 per 100,000 (Haque et al., 2012; Ritchie et al., 2025).

The decline of more than 99 per cent in the death rate reflects deliberate preparedness: the Cyclone Preparedness Programme, founded in 1972, built a network of trained community volunteers to spread warnings and organise evacuation, and thousands of cyclone shelters were built along the coast (Haque et al., 2012). But it also reflects broad development. Over the same decades Bangladesh raised literacy, cut child mortality, expanded roads and mobile phone coverage and grew its economy, so that warnings reached more people, more people could act on them and more households had the means to recover.

The case illustrates the central claim of the framework: the largest gains came from combining specific resilience measures with general improvements in human, technological, institutional and economic conditions. Neither alone would have achieved the same result.

Figure 8 Bangladesh cut its cyclone death rate by more than 99 per cent between 1970 and 2007

Deaths from extreme weather per 100,000 people, Bangladesh, logarithmic scale



Source: Our World in Data, from EM-DAT, CRED/UCLouvain (Ritchie et al., 2025; CRED, 2025); programme date from Haque et al. (2012). Annual deaths from extreme weather per 100,000 people, 1960–2025; years with no recorded deaths shown at the axis floor.

9.2 Protection against economic shocks

The protective effect of development extends beyond natural hazards. Households with access to financial services can smooth consumption when shocks strike. In Kenya, households using the M-Pesa mobile money service were able to absorb negative income shocks without reducing consumption, because they could receive transfers quickly from relatives and friends, whereas nonusers' consumption fell by about 7 per cent (Jack and Suri, 2014). Over the longer run, access to mobile money increased consumption and lifted an estimated 194,000 households, about 2 per cent of Kenyan households, out of poverty (Suri and Jack, 2016). Countries with institutions that manage social conflict well recover faster from external economic shocks (Rodrik, 1999), and countries with deeper financial systems suffer smaller output losses after disasters (Toya and Skidmore, 2007).

9.3 Qualifications

The evidence supports the framework's premise, but three qualifications matter. First, **development can create new risks**. Rapid urban growth in flood plains and coastal zones raises exposure; industrialisation raises emissions and pollution; and tightly coupled modern infrastructure creates new channels for cascading failure. This is why the framework emphasises *sustainable* development and coordinated improvement rather than growth alone. Second, **falling mortality does not mean falling losses**. Economic damage from disasters has risen as more assets are exposed, and the UN estimates that, once cascading and ecosystem costs are included, disasters cost more than US$2.3 trillion a year (UNDRR, 2025). Third, **development is slow and reversible**. Without rapid, inclusive and climate-informed development, climate change alone could push more than 100 million additional people into extreme poverty by 2030 (Hallegatte et al., 2016). Development builds resilience only if it is protected from the crises it is meant to withstand, which is why the framework links the two in a single cycle.

PART II · SECTION 10

Five Interconnected Systems

The framework strengthens five systems that together determine how exposed and how susceptible a society is to interconnected crises. Each supports the others, and weakness in any one limits them all.

IN BRIEF

- The five systems are economic, technological and infrastructure, environmental, human and institutional.
- Each contributes to several of the six capacities, and each depends on the others to deliver its full benefit.
- Coordinated improvement across the five systems is more effective than isolated investment in any one.

The third stage of the H Heuristics development cycle is to strengthen interconnected systems: economic, technological, environmental, human and institutional. Infrastructure, which the framework names among the conditions that determine vulnerability, is treated here together with technology, because physical networks are the main channel through which technologies reach people. This section describes how each system contributes to Polycrisis Resilience and how the systems depend on one another. Table 10 summarises the discussion.

10.1 The economic system

A diversified, growing economy with fiscal space, functioning financial markets and broad access to jobs and financial services is the main source of the buffers that absorb shocks and the resources that finance recovery. Diversification protects against shocks to any single sector or commodity; fiscal space allows governments to spend when crises hit; and financial inclusion lets households save, borrow, insure and receive transfers. The most acute economic weakness in the current polycrisis is debt. By 2025, 3.4 billion people lived in countries that spend more on interest than on health or education (UNCTAD, 2025), which means that the fiscal channel transmits each new shock into cuts in the very systems that build resilience.

10.2 The technological and infrastructure system

Reliable electricity, water, transport and digital networks keep essential services running during crises and enable rapid response. They are also the platform for most other improvements: clinics need power, schools need connectivity and social protection needs payment systems. The gaps remain large. About 666 million people lacked access to electricity in 2023, most of them in Sub-Saharan Africa (IEA et al., 2025), and many more have connections too unreliable to depend on. The infrastructure capacity score of low-income countries in the H Heuristics scorecard averages 9, the widest gap of any capacity (Hughes, 2026). Disruptions to infrastructure already cost households and firms in low- and middle-income countries at least US$391 billion a year (Hallegatte et al., 2019).

Technology diffusion is the framework's main lever here, and conditions for it have rarely been better. The global average cost of electricity from new utility-scale solar power fell by about 90 per cent between 2010 and 2023 (IRENA, 2024), making distributed solar and storage the least-cost way to reach many unserved communities. Digital public infrastructure, such as digital identity, payment systems and data exchange, can be built at low cost and allows governments to reach people quickly in a crisis. In 2020, Togo used mobile phone data and machine learning to target emergency cash transfers to the poorest people during the pandemic, delivering support far faster than traditional surveys would have allowed (Aiken et al., 2022).

10.3 The environmental system

Healthy ecosystems are natural buffers: wetlands and mangroves reduce flood and storm damage, forests stabilise water supplies and soils, and biodiversity sustains food systems. Environmental degradation removes these buffers and is itself a common cause of crises in food, water and health. Pollution is also a direct source of vulnerability. Household air pollution from cooking with solid fuels causes an estimated 3.2 million deaths a year (WHO, 2024), and about 2.1 billion people still lacked access to clean cooking in 2023 (IEA et al., 2025). Environmental improvement therefore reduces vulnerability in two ways: by restoring natural buffers and by removing chronic burdens that weaken health and livelihoods before any shock arrives. At the global scale, it means slowing the climate change and ecological decline that drive the polycrisis (Planetary Boundaries Science, 2025).

10.4 The human system

Health, education, nutrition and social protection determine whether people can withstand shocks without permanent harm and adapt to changing conditions. Healthy people survive disasters and epidemics more often; educated people understand warnings, find new livelihoods and participate in collective decisions (Lutz et al., 2014); well-nourished children grow into productive adults; and social protection keeps households above the thresholds from which recovery becomes impossible (Barrett and Constas, 2014). Coverage remains incomplete: in 2023, for the first time, just over half of the world's population was covered by at least one social protection benefit, leaving some 3.8 billion people without any (ILO, 2024). Adaptive social protection programmes, which can scale up automatically when shocks strike, are among the most effective links between the human system and the other four (Bowen et al., 2020).

10.5 The institutional system

Institutions determine whether resources are converted into action. Effective governments plan ahead, coordinate across ministries, deliver services and maintain public trust under pressure; the rule of law protects assets and contracts; and accountable institutions learn from failure. The evidence that institutions matter for resilience is among the strongest in this report. Countries with stronger institutions suffer fewer disaster deaths (Kahn, 2005), recover faster from economic shocks (Rodrik, 1999), and, in the COVID-19 pandemic, those with greater trust in government and between people had lower infection rates (COVID-19 National Preparedness Collaborators, 2022). In the H Heuristics scorecard, institutional capacity was the only capacity robustly associated with smaller losses of life expectancy in 2020 to 2021 once income was taken into account (Hughes, 2026).

Table 10 The five systems: what development improves and which vulnerabilities fall

System	What development improves	Vulnerabilities reduced	Depends on
Economic	Diversification, fiscal space, jobs, financial inclusion	Income and price shocks; inability to finance response and recovery	Institutions to manage public finance; infrastructure for productivity
Technological and infrastructure	Reliable power, water, transport, digital networks; adoption of proven technologies	Service collapse during crises; slow response; isolation	Economic resources; institutions for regulation and maintenance
Environmental	Ecosystem health, pollution control, sustainable resource use	Flood, drought and storm damage; chronic disease; resource scarcity	Institutions for land and water governance; clean technology
Human	Health, education, nutrition, social protection	Mortality, malnutrition, poverty traps, low adaptability	Infrastructure for services; fiscal resources; delivery institutions
Institutional	Effectiveness, accountability, coordination, trust	Policy failure, diversion of resources, social conflict	Educated public; economic resources; information systems

Source: H Heuristics.

10.6 Why coordination matters

The final column of Table 10 makes the central point of this section: every system depends on the others. A social protection programme needs institutions to target it, infrastructure to pay it and fiscal resources to fund it. A power grid needs institutions to regulate and maintain it and an economy that can pay for it. A sustainable environment needs institutions to govern land and water and technologies that let people meet their needs without degrading them. Improvements made in isolation are therefore often less effective than expected, while coordinated improvements can be more effective than the sum of their parts. This is the positive counterpart of the polycrisis: just as crises can compound one another, so can improvements, a property that systems thinkers call reinforcing feedback (Meadows, 2008) and practitioners call multisolving (Sawin, 2018). Section 12 shows how to find investments that exploit it.

PART II · SECTION 11

The Polycrisis Resilience Development Cycle

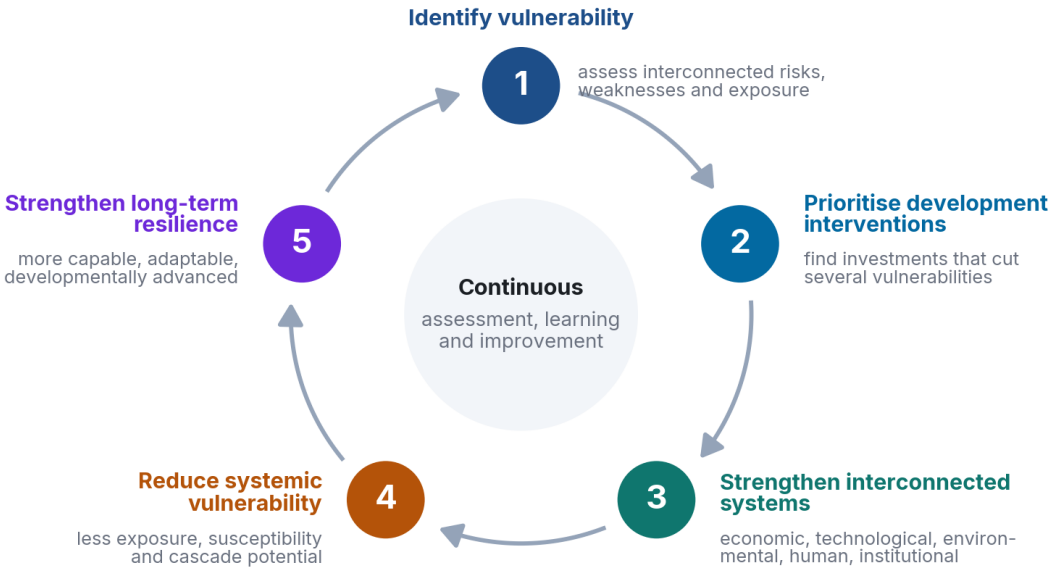
The framework operates as a continuous process that connects vulnerability reduction with long-term development. Each pass through the cycle leaves a society better placed for the next.

IN BRIEF

- The cycle has five stages: identify vulnerability, prioritise development interventions, strengthen interconnected systems, reduce systemic vulnerability and strengthen long-term resilience.
- It is iterative rather than linear: improvements in one area create opportunities in others, and changing conditions require priorities to be reassessed.
- Continuous assessment, learning and improvement sit at the centre of the cycle.

The H Heuristics Polycrisis Resilience Framework can be understood as a continuous process connecting vulnerability reduction with long-term development. Figure 9 shows the five stages of the Polycrisis Resilience Development Cycle. The cycle can be applied at any scale, from a municipality planning its infrastructure to a national government setting its development strategy or a development bank designing its country programme.

Figure 9 The Polycrisis Resilience Development Cycle



Source: H Heuristics Polycrisis Resilience Framework, developed by Hunter Hughes.

11.1 Stage 1: Identify vulnerability

The first stage assesses interconnected risks, structural weaknesses and exposure across systems. Its distinctive feature is that it looks for *interactions*: not only which hazards a society faces, but how a shock in one system would travel to others, and where several vulnerabilities coincide in the same places and populations. Useful questions include: Which essential functions would fail first, and what depends on them? Which buffers are thin in more than one system at once? Which groups have no fallback if their main source of support fails? Tools include multi-hazard risk assessment, mapping of dependencies between infrastructure networks, fiscal stress tests that combine climate, price and interest-rate shocks, and household surveys that measure exposure to several stresses at once. The indicators in Section 7 provide a starting point.

11.2 Stage 2: Prioritise development interventions

The second stage identifies investments and improvements capable of reducing multiple vulnerabilities. Because resources are always limited, the aim is not to address every weakness at once but to find interventions with the widest and most durable effects: those that reduce several vulnerabilities, strengthen several capacities and support several systems. Section 12 sets out criteria for doing so and shows that a relatively small set of investments, including reliable clean electricity, adaptive social protection, early warning, digital public infrastructure, water and sanitation and schooling, accounts for a large share of the potential gains.

11.3 Stage 3: Strengthen interconnected systems

The third stage implements improvements across economic, technological, environmental, human and institutional systems. Implementation follows the principle of coordinated improvement described in Section 10: investments are sequenced and combined so that each strengthens the others, as when electrification is planned together with health and education facilities, or when a social registry is built so that it can serve both routine programmes and emergency response. Implementation also attends to delivery capacity, because the evidence in Part I shows that resources on paper do not confer resilience unless institutions can use them under pressure.

11.4 Stage 4: Reduce systemic vulnerability

The fourth stage is where improvements become reductions in risk: less exposure, lower susceptibility and less potential for cascading disruptions. It asks whether the investments of Stage 3 have actually changed the conditions identified in Stage 1. Have fewer people been left in harm's way? Would the same shock now cause less damage? Have the links through which crises spread been weakened, for example by diversifying imports, adding redundancy to critical networks or creating firebreaks between financial and fiscal stress? Measuring these changes requires the outcome evidence discussed in Section 7, including evidence from real shocks when they occur.

11.5 Stage 5: Strengthen long-term resilience

The fifth stage consolidates gains into more capable, adaptable and developmentally advanced societies. It is the stage at which resilience becomes self-reinforcing: higher incomes provide fiscal space for further investment, educated populations adapt more readily, effective institutions plan ahead more successfully, and protected development gains are not lost to the next crisis. Strengthened long-term resilience then becomes the starting point for a new assessment of vulnerability, which begins the cycle again at a higher level.

Table 11 The five stages: key questions, methods and outputs

Stage	Key question	Illustrative methods	Output
1. Identify vulnerability	Where do risks interact, and who has no fallback?	Multi-hazard and dependency mapping; combined fiscal stress tests; household surveys	Map of interconnected vulnerabilities
2. Prioritise development interventions	Which investments reduce the most vulnerabilities, most durably?	Multi-dividend screening; cost–benefit analysis; sequencing analysis	Prioritised investment portfolio
3. Strengthen interconnected systems	Are improvements coordinated across systems and deliverable?	Integrated planning; shared delivery platforms; capacity building	Implemented, coordinated improvements
4. Reduce systemic vulnerability	Have exposure, susceptibility and cascade potential fallen?	Outcome monitoring; after-action reviews of real shocks	Measured reduction in risk
5. Strengthen long-term resilience	Are gains protected and self-reinforcing?	Long-term strategy; institutionalised learning	Higher baseline for the next cycle

Source: H Heuristics.

11.6 An iterative, not linear, process

The cycle is iterative rather than linear. Improvements in one area can create new opportunities in others, while changing conditions may require priorities and interventions to be reassessed. Electrification, for example, may make digital payments feasible in places where they were not, opening new options for social protection in the next cycle; a new climate projection, a debt crisis or a conflict may require a sharp change in priorities. At the centre of the cycle sits **continuous assessment, learning and improvement**. Each real crisis is treated as a test of the system, and its lessons are fed back into the identification of vulnerability.

The iterative design reflects the nature of the polycrisis itself. Because crises interact in ways that are hard to predict, no plan can anticipate them all. A society that repeatedly assesses its vulnerabilities, invests in the most valuable improvements and learns from experience will, over successive cycles, become more resilient to crises that no one foresaw. This is the practical meaning of the framework's claim that development and resilience are one objective: each turn of the cycle advances both.

PART II · SECTION 12

Prioritising Multi-Dividend Interventions

Because crises interact, the most valuable interventions are those that reduce several vulnerabilities at once. A small set of investments accounts for a large share of the potential gains.

IN BRIEF

- The framework screens interventions on five criteria: breadth, depth, durability, distribution and deliverability.
- Reliable clean electricity, adaptive social protection and resilient infrastructure each reduce at least five of seven major vulnerabilities in an illustrative assessment.
- Foundational systems, such as power, payments, identification and data, multiply the value of later investments and should come early in the sequence.

Stage 2 of the development cycle asks which investments are capable of reducing multiple vulnerabilities. This is the practical heart of the framework, because it determines where scarce resources go. In a world of interacting crises, an intervention that reduces only one vulnerability, however efficiently, is often less valuable than one that reduces several. The same logic that makes crises compound makes improvements compound: a single investment that strengthens health, livelihoods and public finances at once weakens several channels through which the next crisis could spread.

12.1 Five screening criteria

The framework screens candidate interventions on five criteria, summarised in Table 12. None is new on its own; together they shift attention from the narrow cost-effectiveness of single-purpose programmes to the systemic value of investments.

Table 12 Five criteria for prioritising development interventions

Criterion	Question	Why it matters in a polycrisis
Breadth	How many vulnerabilities and systems does it affect?	Interventions that act on several channels weaken the links through which crises compound
Depth	How much does it reduce each vulnerability?	Small effects spread widely can matter less than large effects on the most dangerous channels
Durability	Do the benefits last, and do they survive shocks?	Gains that are lost in the next crisis do not build resilience
Distribution	Does it reach the people and places with the fewest buffers?	Clustered vulnerability means the largest gains are among those with no fallback
Deliverability	Can it be implemented, financed and maintained with existing capacity?	Resources on paper confer no resilience unless institutions can deliver them

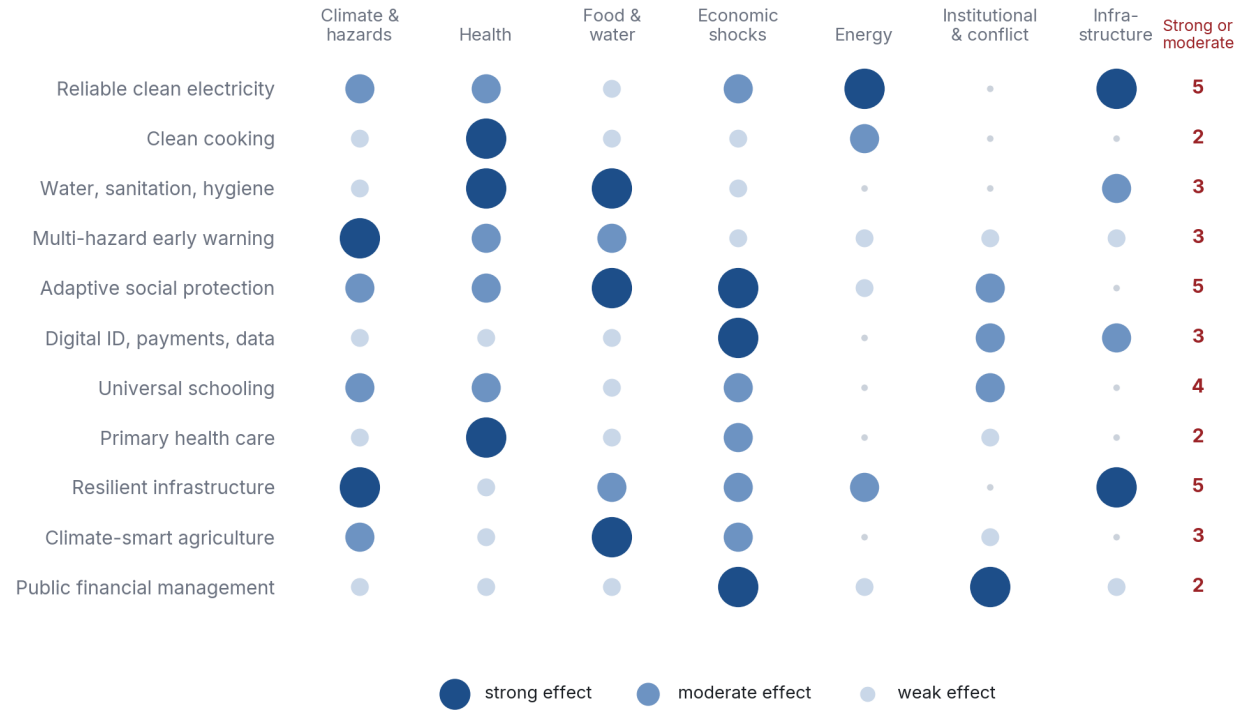
Source: H Heuristics.

12.2 An illustrative multi-dividend screen

Figure 10 applies the breadth criterion to eleven common development interventions and seven major vulnerabilities. The assessment is illustrative: it is an H Heuristics judgement based on the literature cited in this report, not an estimate of effect sizes, and the pattern will differ between contexts. Even so, it shows a clear structure. Three interventions, reliable clean electricity, adaptive social protection and resilient infrastructure, have strong or moderate effects on five of the seven vulnerabilities. Universal schooling affects four. Others, such as clean cooking and primary health care, have deep effects on fewer vulnerabilities, and are best combined with broader investments.

Figure 10 A small set of interventions reduces many vulnerabilities at once

Illustrative strength of effect of eleven interventions on seven vulnerabilities



Source: H Heuristics assessment, drawing on Hallegatte et al. (2019), Bowen et al. (2020), Global Commission on Adaptation (2019), IEA et al. (2025) and other sources cited in this report. Illustrative and qualitative; strength of effect will vary by context. The right-hand column counts strong or moderate effects.

12.3 Interventions with the broadest dividends

Reliable clean electricity keeps clinics, water pumps, cold chains and communications running; powers productive work and schooling; reduces dependence on imported fuel and exposure to oil-price shocks; and, where it replaces diesel and kerosene, reduces pollution. With solar costs down by about 90 per cent since 2010 (IRENA, 2024), distributed solar and storage now make it possible to extend reliable power to many of the 666 million people without it faster and more cheaply than before (IEA et al., 2025).

Adaptive social protection combines routine support for poor households with the ability to scale up quickly when a shock strikes, using registries, payment systems and pre-agreed triggers. It protects households from falling into poverty traps, sustains food consumption and local

markets during crises, and builds trust in the state. Programmes such as Ethiopia's Productive Safety Net Programme and Kenya's Hunger Safety Net Programme have shown how such systems can be designed to respond to drought (Bowen et al., 2020).

Resilient infrastructure, built to withstand the hazards it will face over its lifetime, protects the networks on which every other system depends. The World Bank estimates that the net benefit of investing in more resilient infrastructure in low- and middle-income countries would be US$4.2 trillion over the lifetime of new assets, about US$4 for every US$1 invested (Hallegatte et al., 2019).

Multi-hazard early warning saves lives at very low cost and gives people time to protect assets; **digital identification and payments** allow support to reach people in days rather than months, as the Kenyan and Togolese experiences show (Jack and Suri, 2014; Aiken et al., 2022); and **universal schooling**, especially for girls, raises incomes, improves health and strengthens the ability to understand and act on warnings (Lutz et al., 2014).

12.4 Sequencing: foundations first

Interventions differ not only in breadth but in their place in the sequence. Some are **foundational**: electricity, digital identification and payments, statistical and registry systems, and basic public financial management. These multiply the value of later investments, because they are the platforms through which health care, education, social protection and emergency response are delivered. Others are **dependent**: they deliver their full benefit only once the foundations are in place. The framework therefore gives foundations priority early in the cycle, even where their direct benefits appear modest, because they raise the returns to everything that follows.

Sequencing also matters for financing. Many multi-dividend interventions have high long-run returns but require substantial upfront investment, at a time when debt service is absorbing a growing share of revenue in many developing countries (UNCTAD, 2025). Framing these investments as resilience infrastructure, with measurable reductions in future crisis costs, can open sources of finance that are not available for ordinary development spending, including contingent credit, disaster risk finance and climate funds (Clarke and Dercon, 2016; UNDRR, 2025).

PERSPECTIVE

The cost of waiting

Decisions about resilience are often framed as a choice between investing now and saving money. In a polycrisis the real choice is usually between investing now and paying more later. Disaster risk finance arranged in advance can reach affected households weeks or months faster than humanitarian appeals (Clarke and Dercon, 2016); early warning systems prevent losses many times their cost (Global Commission on Adaptation, 2019); and every crisis that pushes households into poverty traps creates costs that persist for years (Hallegatte et al., 2017).

The framework's emphasis on prevention, development and systemic improvement is therefore not a luxury for good times. It is the most cost-effective response to a world in which the next crisis is likely to arrive before recovery from the last one is complete.

PART II · SECTION 13

Implications for Policy and Practice

Putting the concept and the framework into practice requires changes in how governments plan, how development is financed and how resilience is measured.

IN BRIEF

- Governments should assess vulnerability across systems, protect resilience-building spending during crises and organise budgets around multi-dividend investments.
- Development finance should treat resilience as a development outcome and development as a resilience strategy, and reward investments that reduce several vulnerabilities.
- Researchers should develop better measures of interaction, clustering and recovery, and test which capacities matter most under compound stress.

The general concept and the H Heuristics framework imply changes for every actor involved in development and crisis management. Table 13 summarises the main implications; the rest of this section explains the most important of them.

Table 13 What the concept and framework imply for different actors

Actor	Key implications
National governments	Assess vulnerability across systems; create a cross-government risk function; protect social spending in fiscal squeezes; pre-arrange crisis finance
Finance ministries	Run combined climate, price and interest-rate stress tests; count disaster liabilities in debt analysis; prioritise multi-dividend investments
Local governments and communities	Map local dependencies and fallbacks; invest in community warning and shelters; build mutual-aid capacity
Development finance institutions	Count vulnerability reduction as a result; finance foundational systems; offer contingent, counter-cyclical instruments
Private sector	Find single points of failure in supply chains; add redundancy where failure would cascade; invest in resilient infrastructure
International institutions	Strengthen global safety nets: emergency liquidity, risk pooling, open trade in food and medicine, debt restructuring
Researchers	Measure interaction, clustering and recovery; evaluate multi-dividend interventions

Source: H Heuristics.

13.1 For governments

The first implication is organisational. Most governments manage risk sector by sector, and a polycrisis exploits the gaps between their plans. Governments should assess vulnerability across systems, as in Stage 1 of the cycle, and give one function, often at the centre of government or in the finance ministry, responsibility for understanding how crises would interact. The second is fiscal: because budgets connect every sector, protecting spending on health, education, social protection and maintenance during crises, and arranging contingent finance in advance, stops short-term emergencies becoming long-term setbacks.

13.2 For development finance

Development finance institutions already finance the systems the framework seeks to strengthen. The main change is to treat resilience as a development outcome and development as a resilience strategy: counting reductions in vulnerability among project results, giving priority to foundational systems, and offering instruments that provide liquidity when crises strike, so that shocks do not force borrowers to cut the investments that build resilience.

13.3 For communities and civil society

Much of the resilience that matters in a crisis is held locally. As the Bangladeshi experience in Box 1 shows, national systems work best when linked to community volunteers who know their neighbours and terrain; national and international actors should strengthen these capacities rather than bypass them.

13.4 Limitations of the framework

The framework has limits. Development is slow, so emergency response and humanitarian action remain essential; development can create new risks if it is not sustainable (Section 9); national action does not remove the need for global action on the common causes of the polycrisis, above all climate change, ecological decline, conflict and the architecture of international finance; and the multi-dividend screen in Section 12 is a qualitative judgement to be tested with better data.

13.5 A research agenda

Five research questions deserve priority:

1. **Measuring interaction:** how strong are the links between crises, and which channels are most dangerous?
2. **Clustering and thresholds:** when does clustered weakness turn manageable shocks into national crises?
3. **Recovery dynamics:** what determines full or partial recovery when shocks arrive in quick succession?
4. **Capacity into performance:** why do some societies use their resources well under pressure and others not?
5. **Returns to multi-dividend investments:** how large are they, and how should appraisal value them? The H Heuristics series will pursue these questions (H Heuristics, 2026).

PART II · SECTION 14

Conclusion

In an age of interconnected crises, resilience must be built across systems, before crises arrive, and through the development that makes societies less vulnerable in the first place.

The crises of the twenty-first century do not take turns. They act on one another, and the harm they cause together exceeds the sum of their parts. This report has set out a concept for understanding resilience in that condition and a framework for building it.

The general definition holds that **Polycrisis Resilience is the capacity of individuals, communities, institutions, economies, societies and interconnected systems to anticipate, withstand, adapt to, recover from and reduce their vulnerability to multiple interacting crises**. It comprises six capacities, is held at every scale, and asks not only whether societies bounce back but whether they emerge less vulnerable, and for whom.

The H Heuristics Polycrisis Resilience Framework applies the concept through development. Its premise, that reducing vulnerability to the polycrisis requires strengthening the systems, capabilities and development conditions that allow societies to become less exposed to interconnected risks, is supported by a century of evidence: as societies have developed, the toll of hazards has fallen dramatically, and richer, better-educated and better-governed societies suffer far less from shocks of similar size. The framework turns that evidence into a method: a five-stage cycle that is repeated, each time from a higher base.

14.1 Ten propositions

1. A polycrisis is a condition of entangled crises, and its harm is greater than the sum of its parts.
2. Resilience to a polycrisis must be judged against combinations and sequences of crises, not single events.
3. Polycrisis Resilience comprises six capacities: risk reduction, preventive, absorptive, recovery, adaptive and transformative.
4. Reducing vulnerability before crises occur is the concept's distinctive objective.
5. Resilience is held at every scale, and the strongest systems link the scales together.
6. Resilience must be assessed for whom: averages can hide those with no fallback.
7. Development is among the most powerful and best-documented forms of resilience.
8. Interventions that reduce several vulnerabilities at once should receive priority, and foundational systems should come first.
9. Coordinated improvement across economic, technological, environmental, human and institutional systems is more effective than isolated investment.
10. Resilience is continuous improvement, not an end state: each turn of the development cycle should leave societies better prepared for crises no one has yet foreseen.

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About H Heuristics. H Heuristics is an independent research practice founded by Hunter Hughes. It publishes research on polycrisis, resilience, development and the clean transition, with an emphasis on public data, transparent methods and practical recommendations. Reports are available at researchreports.hheuristics.com.

About this report. This flagship report sets out the general definition of Polycrisis Resilience and the H Heuristics framework for building it. Other reports in the Polycrisis Resilience series measure the concept across countries and apply it to specific systems and regions.

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