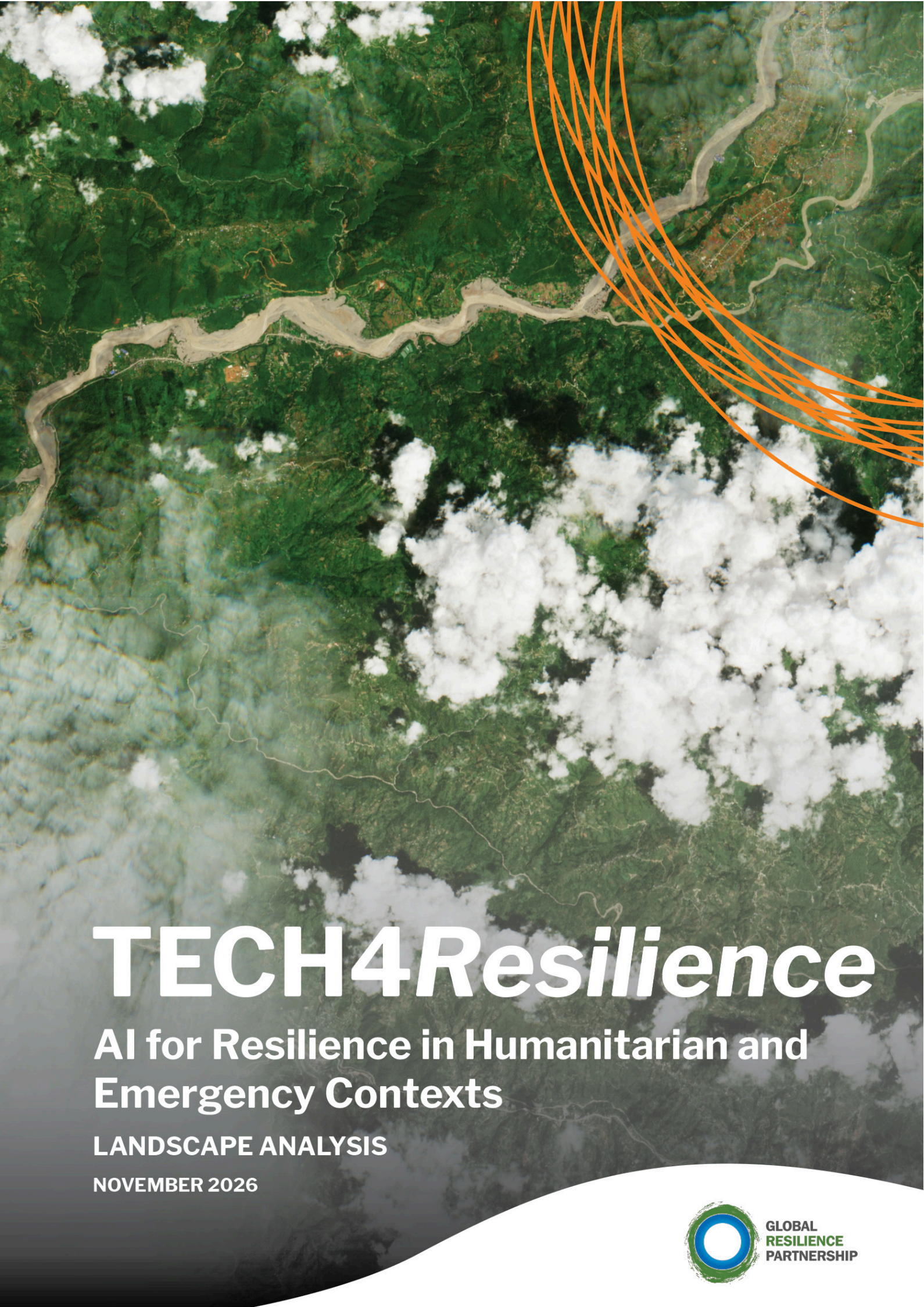


TECH4*Resilience*

AI for Resilience in Humanitarian and Emergency Contexts

LANDSCAPE ANALYSIS

NOVEMBER 2026

GLOBAL RESILIENCE PARTNERSHIP

ABOUT THE GLOBAL RESILIENCE PARTNERSHIP

The Global Resilience Partnership brings together 90+ partners working towards a resilient world in a shifting risk landscape. Together, we translate resilience science and innovation into policy, investment, and impact.

ABOUT THE TECH4RESILIENCE CHALLENGE

The Technology for Evolving Challenges in Humanitarian Contexts (TECH) 4 Resilience Challenge surfaces solutions that apply artificial intelligence to strengthen resilience to extreme climate events and to enable more anticipatory, data-driven decision-making. It is run by the Global Resilience Partnership in collaboration with the Gates Foundation and the Trafigura Foundation.

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COVER IMAGES

Sentinel-2 captures the aftermath of the 2026 Nepal flash flood. Credit: ESA

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NOTE ON THE USE OF AI IN PREPARING THIS REPORT

This analysis was prepared with the assistance of general-purpose AI tools, used for source scanning, thematic synthesis of survey responses, and editing support. All evidence, figures and attributions were verified against primary sources by the authors, who retain full responsibility for the analysis, judgements, and recommendations presented. No findings, recommendations, quotations, or primary data were generated by AI.

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Contents

At a glance 4

Executive summary 5

01 Introduction, scope and methodology 7

Introduction 7

Scope, methodology, and limitations 8

02 Landscape analysis 9

Overview 9

Hyperlocal early-warning systems 10

Anticipatory cash and action 12

AI for health resilience 14

Index and parametric insurance 16

Displacement forecasting and anticipatory action 18

Adjacent evidence: technology for nature 20

Survey insights: practitioner perspectives 20

Cross-cutting risks and asymmetries 23

03 Funding landscape and stakeholders 25

The scale of the funding gap 25

The funding spectrum across AI and technology for resilience 26

04 Conclusions and ways forward 28

Annex: Bibliography 30

AT A GLANCE

Technical feasibility is ahead of the evidence on resilience outcomes

US$582bn
global corporate AI investment in 2025, a record high

US$163m
venture investment in climate risk analytics in 2025

~US$33m
in flagship multi-year commitments to AI for resilience in humanitarian settings

890
applications across the first two TECH4Resilience calls for proposals

69%
of surveyed practitioners rely on at least one proprietary frontier model accessed as a service

60%
of countries report having a multi-hazard early warning system in place

2 in 5
solutions targeting crisis-affected settings either require connectivity or have not yet been tested without it (based on survey respondents)

39%
of survey respondents (26 of 67) described data governance as an operating practice today, rather than an intention

8
solutions in the first TECH4Resilience cohort, each receiving US$20,000 to US$50,000 for implementation during 2026

EVIDENCE AT A GLANCE

Anticipatory cash
Strongest evidence base, although studies establish the benefits of anticipatory action rather than of AI specifically

Hyperlocal early warning
Clear gains in forecast accuracy and coverage, limited evidence that AI-enhanced warnings consistently reduce losses

Health applications at scale
Weakest evidence base, concentrated on prototypes and retrospective model performance

> *AI has enormous potential to strengthen humanitarian preparedness, but its impact will depend on whether it reaches the communities that are currently excluded by language, literacy, connectivity, and accessibility barriers. The greatest innovation is not only building smarter AI, but making it more inclusive.*
>
> **Maysoon Badi**, CEO, Sudan Urban Development Think Tank

Executive summary

> *Innovation matters only if it makes a meaningful difference in people's lives. AI offers exciting opportunities to strengthen preparedness, improve decision-making, and help humanitarian actors do more with limited resources. As funders, our responsibility is to support solutions that are not only innovative, but also practical, responsible, and equitable, so that technological progress translates into real impact for crisis-affected communities.*
>
> **Jason K. Chau**
> Senior Program Officer, Emergency Response, Gates Foundation

Communities in the Global South remain on the frontlines of escalating climate, conflict and food-system shocks, and women and young people continue to bear a disproportionate share of the consequences. Advances in technology and artificial intelligence offer opportunities to develop solutions that respond to disruptions in livelihoods, health systems and food security through approaches that are locally rooted, scalable, and predictive.

Against this background, the Global Resilience Partnership (GRP), in collaboration with the Gates Foundation and the Trafigura Foundation, launched the Technology for Evolving Challenges in Humanitarian Contexts (TECH) 4 Resilience Challenge. TECH surfaces solutions that apply artificial intelligence to strengthen resilience to extreme climate events and to enable more anticipatory, data-driven decision-making, with a particular interest in technologies that improve how risks are understood, managed and acted upon in real time. The first cohort, launched in 2025, surfaced eight solutions each receiving between US$20,000 and US$50,000 through co-funding from Gates Foundation and Trafigura Foundation for implementation during 2026. The second cohort will be announced during COP31 and will implement their solutions in 2027.

This analysis maps the landscape of AI-driven solutions for climate resilience and anticipatory action in humanitarian contexts, together with the stakeholders operating in this space. In the context of AI for climate resilience in humanitarian and anticipatory contexts, the present analysis maps relevant literature, as well as the funders, adopters and amplification partners that represent realistic graduation destinations for innovative solutions. It draws on a desk review of peer-reviewed and grey literature, funder and fund documentation, mid-implementation reporting insights from the first TECH4Resilience cohort, stakeholder consultation, and an open practitioner survey.

The findings point towards an evidence base that is maturing unevenly, in which technical feasibility is demonstrated more clearly than sustained resilience outcomes. Anticipatory cash has the strongest evidence base and health applications at scale the weakest; hyperlocal early-warning systems show clear gains in forecast accuracy and coverage alongside limited evidence that AI-enhanced warnings consistently reduce losses. Advanced models do not remove the requirement for institutional ownership, funded response protocols and locally validated delivery channels. The survey points to a further structural dependency, as 69% of respondents rely on at least one proprietary model accessed as a service. Funding is similarly lopsided: global corporate AI investment reached a record US$582 billion in 2025, while the largest visible commitments to AI for resilience in humanitarian settings total around US$33 million over several years.

The analysis is published at a point when AI capabilities are quickly advancing and being integrated into the systems and programming of humanitarian and development actors, frequently ahead of a robust evidence base. We hope this analysis will serve as a resource for organisations funding or implementing AI-driven climate resilience and anticipatory action solutions in humanitarian contexts, and for the innovation intermediaries that sit between them.

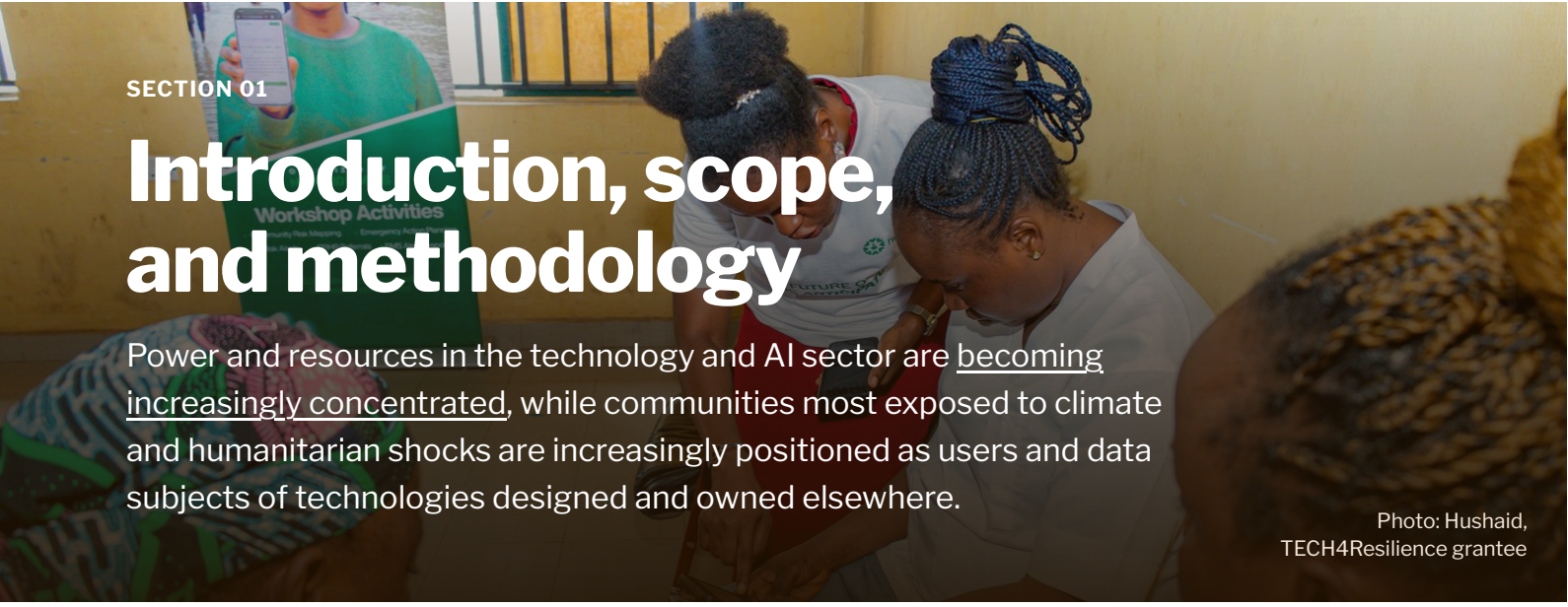
KEY FINDING

Advanced models do not remove the requirement for institutional ownership, funded response protocols and locally validated delivery channels.

Institutional ownership
An identified owner for the response, not only the model

Funded response protocols
Finance and actions need to be agreed before the arrival of the forecast

Validated delivery
Channels need to be tested with, and trusted by, affected communities



SECTION 01

Introduction, scope, and methodology

Power and resources in the technology and AI sector are becoming increasingly concentrated, while communities most exposed to climate and humanitarian shocks are increasingly positioned as users and data subjects of technologies designed and owned elsewhere.

Photo: Hushaid, TECH4Resilience grantee

60%

of countries report having a multi-hazard early warning system in place, leaving small island developing states and least-developed countries most exposed

AI is rapidly becoming a core tool for anticipatory action in humanitarian and climate contexts, yet access to critical infrastructure for acting ahead of disaster remains critically uneven. Only 60% of countries report having a multi-hazard early warning system in place, leaving small island developing states and least-developed countries most exposed, with the shortest lead times to protect lives and livelihoods when crises hit. AI is beginning to close this gap with sharper rainfall and hazard forecasts, improved impact-based prediction, and extended coverage to areas with sparse monitoring infrastructure now achievable at a fraction of the cost of traditional systems. However, the path to scale is narrowing just as momentum builds. Current humanitarian funding cuts are negatively affecting operational capacity and stalling AI-enabled anticipatory action modelling, and organisations with limited data analytics experience find it difficult to compete with more established players for the same scarce resources. On the technical side, data gaps, uneven language coverage, and weak collaboration between AI developers and disaster-risk specialists continue to limit reach, keeping the most promising tools furthest from the communities that need them most.

The proposition examined here is that enabling those communities and the organisations rooted in them to produce and govern new technologies is strategically necessary for resilience outcomes, and not solely a question of access. While an in-depth power analysis is outside of the scope of the present report, it is important to note that existing asymmetries and inequities are most often reproduced as new technologies emerge. As an early signatory of the Principles for Locally-Led Adaptation, the Global Resilience Partnership advocates for climate vulnerable communities and accompanying relevant stakeholders to have greater agency over prioritising and designing adaptation solutions, shifting them from being beneficiaries to active decision-makers.

FEATURED SOLUTION **Hushaid** — **TECH4Resilience grantee · Pictured above**

Hushaid is a predictive, AI-powered triage system for sexual and reproductive health (SRHR) in climate-related emergencies. In crises, women and young people often lose access to essential SRHR services, leading to untreated infections, maternal complications and preventable deaths. Hushaid aims to identify health risks and connect users to consultations, medications and mobile diagnostic services, while generating early-warning data for anticipatory action.

EVIDENCE INPUT

1. Desk review of peer-reviewed and grey literature, donor, investor and fund documentation (where publicly available) and TECH4Resilience portfolio documents
2. Expert and stakeholder input from challenge and grant programmes, innovators and ecosystem actors
3. A short open survey circulated through GRP channels

The analysis focuses primarily on solutions that apply AI for climate resilience and anticipatory action in humanitarian contexts, structured around application areas that broadly reflect the types of solutions solicited through the TECH4Resilience calls for proposals: **hyperlocal early-warning systems; anticipatory cash and action triggers; health resilience applications; index and parametric insurance; and displacement forecasting and anticipatory mobility action**. We also provide a light-touch discussion of adjacent evidence on technology for nature, which is treated as indicative rather than as an in-depth review.

Three further categories cut across the areas included in the literature review: **communication and language access, treated here as a delivery condition within each area; foundational digital infrastructure, treated as an enabling layer rather than an analytical category; decision-support tooling embedded in responder workflows**, treated within the general discussion of human oversight. Adaptation and resilience are treated together where the emerging evidence permits, though the reviewed literature is weighted toward anticipatory and emergency applications; longer-horizon adaptation applications are noted as an evidence gap rather than covered systematically.

The analysis draws on three evidence streams. The first is a desk review of peer-reviewed and grey literature, donor and fund documentation, and portfolio documents from our first TECH4Resilience cohort. The second draws on expert and stakeholder input gathered from organisations running comparable innovation challenges and grant programmes, innovators implementing AI solutions, and other ecosystem actors. The third is a short open survey circulated via GRP's social media channels for wider input.

A key limitation emerged in the process, as the analysis draws predominantly on the literature review. The stakeholder sample was small and not designed to be representative; findings from that stream are treated as expert opinion rather than as evidence of prevalence. While the survey was promoted via a number of channels (GRP's social media, GRP newsletters, direct email outreach to the TECH1 and 2 cohorts and call for proposals entrants) over four weeks, the sample size remained relatively small (n=67).



SECTION 02

Landscape Analysis

Across emerging application areas, technology creates resilience when better information leads to earlier, trusted, and feasible action.

Photo: ANCHOR for Cholera, GOAL, TECH4Resilience grantee

LITERATURE REVIEW

The literature distinguishes technical performance from operational use and from resilience outcomes. A model can perform well against a retrospective benchmark and still deliver no present or future resilience benefit if no institution owns the response, no finance is pre-arranged, or the recommended action lies beyond what concerned households can act on.

The literature also indicates that for-profit and not-for-profit actors generally provide complementary capabilities. Firms bring specialist products, rapid development cycles and routes to investment. Governments, community-based organisations (CBOs), non-governmental organisations (NGOs), United Nations agencies and universities contribute public mandates, contextual knowledge, trusted delivery networks and safeguards. Most operating solutions combine these in hybrid arrangements, suggesting that the organisational distinction between for profit and not for profit organisational forms might create an unnecessary polarity.

FROM MODEL TO OUTCOME

The subsections that follow are organised by application area; within each, evidence is assessed at each stage of this chain, from technical performance through operational use to resilience outcomes.

	Technical performance →	Operational use →	Resilience outcome
Hyperlocal early warning	**Demonstrated** gains in accuracy and coverage	**Emerging** needs owners, channels and pre-agreed actions	**Limited** little evidence yet that AI warnings reduce losses
Anticipatory cash and action	**Emerging** AI entering forecasts and triggers	**Established** triggers, finance and delivery in use	**Strongest** gains for anticipatory action, not necessarily attributed to AI though
Health resilience	**Prototype** retrospective accuracy on curated data	**Limited** workflow and regulatory barriers	**Weakest** little evidence on safety or health at scale
Index and parametric insurance	**Improving** AI reduces, but cannot remove, basis risk	**Established** but often dependent on subsidy	**Contested** Wide variation in effects
Displacement forecasting	**Useful skill** 10–18% error; weaker in surges	**Emerging** live triggers in South Sudan and Somalia	**Early signals** pilots depict gains, but attribution remains weak

Hyperlocal early-warning systems

EARLY WARNINGS FOR ALL

Out of four interconnected WMO pillars, AI primarily strengthens the first two:

- **1 · Risk knowledge**
- **2 · Observation and forecasting**
- 3 · Dissemination and communication
- 4 · Preparedness and response

Hyperlocal early-warning systems combine meteorological observations, satellite imagery, local sensors, historical losses and community information to predict hazards and communicate warnings at a scale relevant to neighbourhoods, settlements or livelihood zones. AI can add value by processing large and heterogeneous datasets, filling observational gaps and identifying complex relationships between hazards, exposure and vulnerability. An analysis of integrated AI for complex climate-risk early warning argues that meteorological and geospatial foundation models could support multi-hazard, impact-based prediction rather than forecasting physical conditions alone. A wider review of AI for modelling climate extremes similarly identifies potential gains from integrating real-time and historical information, while emphasising the need for transparent, reliable models and adequate data. These capabilities are particularly relevant in the Global South, where formal observation networks are often sparse and risk can vary sharply over short distances.

AI does not, however, remove uncertainty. Research on preparing for unprecedented weather notes that AI forecasting systems may outperform conventional numerical models on some measures, but can struggle to extrapolate to events outside their training data. The evidence therefore supports an end-to-end rather than technology-centred definition of success. The WMO Early Warnings for All action plan identifies four interconnected pillars: risk knowledge; observation and forecasting; dissemination and communication; and preparedness and response. AI primarily strengthens the first two, but resilience benefits depend upon the entire chain. A precise flood warning has limited value if it arrives too late, is communicated in an inaccessible language, reaches only smartphone users, or recommends actions that households lack the resources or authority to undertake. Evaluation should consequently extend beyond forecast skill and message counts to examine whether warnings were understood, acted upon and associated with reduced harm.

For-profit firms can supply forecasting platforms, satellite analytics, low-cost sensors and communication interfaces, and may iterate products more rapidly than public agencies. Commercial sustainability, however, requires a paying customer (often a government, insurer, telecommunications provider or international agency) because highly exposed communities may be unable to pay. This may draw providers towards better-resourced, data-rich markets and create dependence on proprietary infrastructure. National meteorological and disaster management agencies have formal authority and continuity, but may face budget, skills and procurement constraints. NGOs and CBOs frequently provide trusted last-mile communication and knowledge of local hazards, while universities contribute model development and validation but may lack capacity for permanent operation.

FEATURED SOLUTION

ANCHOR for Cholera

Climate shocks trigger devastating cholera outbreaks affecting millions every year. ANCHOR (Activating Neighbourhoods & Communities for Holistic Organised Response) is GOAL's proven outbreak approach, now adapted for cholera. It integrates community-led surveillance, forecasted weather, predictive analytics and multi-channel, multilingual communication for hyperlocal early detection, anticipatory action and rapid response. In 2026, GOAL is deploying ANCHOR for Cholera in South Sudan, with plans to scale to other high-burden countries.

GOAL · TECH4Resilience grantee · Pictured on page 9

The strongest delivery model is therefore often a partnership in which private technical capabilities reinforce public authority and locally rooted implementation.

Recurring barriers include sparse or biased data, weak electricity and connectivity, fragmented institutional responsibilities, inadequate maintenance finance, and low trust. The GFDRR guidance on responsible AI for disaster risk management warns that algorithmic bias, opacity and privacy risks can be compounded when technology reduces local participation or displaces expert judgement. Participatory mapping, interoperable data standards, local testing, human oversight and pre-agreed actions linked to warning thresholds can help address these constraints. Gender and age influence both access and capacity to respond: women may have less access to phones, transport, finance or household decisions, while young people may act as technology intermediaries without receiving meaningful decision-making power. Locally led systems should therefore involve affected groups in defining useful lead times, acceptable false-alarm trade-offs and communication channels.

Evidence remains limited on whether increasingly localised or AI-enhanced forecasts consistently reduce losses, particularly during unprecedented events. Predictive accuracy should therefore be treated as necessary but insufficient. A 2026 Nature commentary on food security early warning argues for differentiating by data domain rather than by application: machine learning is best placed where inputs are dense and structured, as in climate modelling and remote sensing, whereas in domains drawing on irregular and heterogeneous socioeconomic indicators its contribution lies in improving the accessibility and timeliness of data rather than in substituting for analysis. The same commentary cautions that constrained humanitarian budgets should not become the rationale for premature automation, and that retaining human analysts in the review of every forecast is a condition of accountability rather than a transitional concession. Strong graduation and scaling potential for innovation grantees should therefore demonstrate local validation, inclusive communication, an identified institutional owner, funded response protocols, and a credible route to maintaining the complete warning-to-action system.

SIGNALS OF GRADUATION AND SCALING POTENTIAL

TECHNICAL PERFORMANCE	✓ Local validation
OPERATIONAL USE	✓ Inclusive communication ✓ An identified institutional owner ✓ Funded response protocols ✓ A credible route to maintaining the complete warning-to-action system
RESILIENCE OUTCOME	✓ Evidence that warnings are understood, acted upon and reduce harm

Anticipatory cash and action

Anticipatory action uses forecasts and risk analysis to release pre-arranged finance and implement agreed measures before a hazard reaches its most damaging stage. Cash may allow households to purchase food, evacuate, protect livestock, strengthen homes or avoid distress borrowing while markets still function. Technology adds value through weather and impact forecasting, vulnerability mapping, digital registration, mobile payments and systems linking triggers to finance. AI may improve prediction or targeting, but the intervention succeeds only when forecasts, decision rules, finance and delivery capacity are aligned.

The evidence base is increasingly positive but remains uneven. Studies of forecast-based cash before flooding in Bangladesh found improved food access, lower reliance on high-interest debt and reduced stress, while a subsequent evaluation found benefits for evacuation, asset protection and avoidance of damaging financial responses. The WFP synthesis covering 2015 to 2024 similarly reports benefits for food security and livelihoods, while recognising variation in programme design and evaluation quality. These studies establish benefits of anticipatory action but not AI specifically. More recent operational examples show AI entering the forecasting and trigger chain. GiveDirectly used AI flood forecasts in Nigeria to trigger cash transfers before peak flooding, while WFP's SEWAA project uses machine learning to improve weather forecasts for anticipatory action in Eastern Africa. These examples demonstrate practical AI use, but do not yet establish whether AI produces better humanitarian outcomes than well-designed conventional forecasting and delivery systems.

Not-for-profit and public actors currently dominate because anticipatory assistance generates public and humanitarian benefits without an obvious direct revenue stream. UN agencies, NGOs, Red Cross and Red Crescent organisations, governments and social protection agencies generally establish triggers, identify recipients and oversee safeguards. Their mandates and community access support reach, but programmes may remain dependent on short-term grants and parallel delivery systems. Private firms nevertheless provide critical infrastructure, including forecasting services, telecommunications, digital identity, fintech platforms and payment systems. These can improve speed and scale, but transaction costs, exclusive platforms and weak accountability can exclude recipients or create vendor lock-in. Integration with government social protection systems may offer greater continuity, provided registries are current and do not omit informal workers, displaced people or households that have only recently become vulnerable.

18

countries covered by evidence from Red Cross and Red Crescent anticipatory action programmes

Evidence from Red Cross and Red Crescent anticipatory action programmes in 18 countries identifies recurring challenges involving forecast availability, coordination, financing and movement from pilots to routine systems. Trigger thresholds must balance false alarms against missed events, but this is not a purely technical optimisation: it determines who receives scarce assistance and which errors communities and funders must bear. Acting on a probabilistic forecast may be rational even when the hazard is less severe than predicted, but repeated apparently unnecessary activations can weaken institutional and community trust. Conversely, conservative thresholds may protect programme budgets while failing households facing severe harm.

Equity concerns go beyond access to mobile technology. People without phones, identification, accounts, or formal addresses may be excluded; household-level transfers may reach women without increasing their control over resources; and youth-led households or mobile populations may be missing from registries. A study of forecast-based financing and women's vulnerability in Bangladesh found that cash reduced household financial vulnerability but did not necessarily reduce women's individual vulnerability. Multiple registration and payment channels, sex- and age-disaggregated evaluation, community verification and accessible complaints processes can reduce exclusion. Local leadership should include influence over triggers, priority actions and definitions of vulnerability, rather than participation only after an externally designed system has been activated.

Evidence gaps concern long-term resilience, comparative cost-effectiveness, conflict-affected settings and the consequences of repeated activations. Evidence for anticipatory action is stronger than evidence for AI's contribution. Graduation and scaling therefore require transparent triggers, pre-arranged finance, inclusive delivery, institutional ownership and evidence that AI-enabled improvements in forecasting or targeting translate into earlier effective protective action.

SIGNALS OF GRADUATION AND SCALING POTENTIAL

TECHNICAL PERFORMANCE	✓ Transparent triggers
OPERATIONAL USE	✓ Pre-arranged finance ✓ Inclusive delivery ✓ Institutional ownership
RESILIENCE OUTCOME	✓ Evidence that AI-enabled improvements in forecasting or targeting translate into earlier effective protective action

AI for health resilience

WHERE AI MAY ADD VALUE

- Disease surveillance
- Outbreak forecasting
- Diagnostic support
- Triage
- Resource allocation
- Supply chain planning

AI may strengthen health resilience through disease surveillance, outbreak forecasting, diagnostic support, triage, resource allocation and supply chain planning. It can combine clinical, laboratory, environmental, mobility and community data to detect unusual patterns, predict demand or support health workers where specialist capacity is scarce. During emergencies, digital systems can also enable remote care and faster information sharing. The potential added value is therefore not confined to diagnosis: it includes maintaining essential services and allocating limited staff, medicines and equipment under stress.

The evidence nevertheless remains concentrated on prototypes and retrospective model performance. A systematic scoping review of AI for health systems in low- and middle-income countries found growing activity but a strong emphasis on diagnostic and clinical applications, with less evidence on system-level functions and sustained deployment. A systematic review of digital health applications during COVID-19 similarly identified many proposed technologies but uncertainty regarding successful real-world implementation. The broader Nature Medicine review of digital public health responses showed how surveillance, contact tracing, mobility analysis and communication can support emergency response, while documenting legal, ethical, organisational and workforce barriers. Technical accuracy in a curated dataset should therefore not be equated with safety, reduced workloads, or improved population health during a crisis.

For-profit health technology firms can recruit specialist engineers, convert research into maintained products and scale through licences or service contracts. However, viable markets are most likely where ministries, hospitals or donors can pay, potentially directing innovation away from populations with the greatest needs. Proprietary systems may restrict independent scrutiny, local adaptation and public control over sensitive health data; continuity can also depend upon the commercial viability of one provider. Universities offer scientific expertise but frequently lack implementation and maintenance capacity. Governments, NGOs and humanitarian health agencies provide clinical accountability, public mandates and frontline networks, but may lack technical staff or stable financing. Hybrid models can combine these strengths, although responsibility for validation, regulation, data stewardship, maintenance and harmful errors must be clear.

Technical accuracy in a curated dataset should not be equated with safety, reduced workloads, or improved population health during a crisis.

The WHO guidance on AI ethics and governance for health centres autonomy, safety, transparency, accountability, equity and sustainability. These principles have practical implications in the Global South. Models trained on high-income hospital data may not generalise across disease profiles, equipment, languages and populations. Missing records often reflect unequal access to care, meaning that rural communities, women, adolescents and displaced people can become the groups least visible to data-driven systems. A recent discussion of equitable, high-quality AI in low- and middle-income country (LMIC) health systems consequently emphasises safety, bias, resource constraints, workforce capability and gender equity. Privacy risks are intensified during emergencies, when consent may be limited and health, identity or location data can expose already vulnerable individuals.

Infrastructure and workflow determine reach. Systems may require reliable electricity, connectivity, interoperable records and staff capable of recognising unsafe recommendations. False alerts or additional documentation can increase rather than reduce workloads. What works is often organisational rather than algorithmic: co-design with frontline workers and patients, prospective testing on locally representative data, offline functionality, open standards, human review, clear escalation routes and long-term capacity building. Local leadership means authority over problem definition, acceptable trade-offs, data use and procurement, not merely supplying data to an externally owned model.

Evidence remains weak on cost-effectiveness, post-grant maintenance, performance during actual emergencies and comparative benefits relative to simpler investments in staff or basic information systems. It is also contested whether advanced AI should be prioritised where essential health infrastructure remains inadequate. Solutions with graduation and scaling potential should demonstrate how problem-led applications are aligned with local clinical ownership, representative data, independent validation, a regulatory pathway and a sustainable operating model.

SIGNALS OF GRADUATION AND SCALING POTENTIAL

TECHNICAL PERFORMANCE	✓ Representative data ✓ Independent validation
OPERATIONAL USE	✓ Problem-led application ✓ Local clinical ownership ✓ A regulatory pathway ✓ A sustainable operating model
RESILIENCE OUTCOME	✓ Evidence of effects on safety, workloads and population health during crises

Index and parametric insurance

Index and parametric insurance pay when an observable variable (such as rainfall, vegetation condition, wind speed or area-level yield) crosses a predefined threshold, avoiding individual loss assessment. Technology can reduce administrative costs, accelerate payments and extend coverage to dispersed farms or assets. Satellite data and machine learning may improve crop classification, yield estimation and the relationship between indices and experienced losses, especially where ground observation networks are sparse.

A 2025 systematic review of satellite data for agricultural index insurance examined 89 studies and found rapidly increasing use of remote sensing, alongside uneven geographical and crop coverage. The literature demonstrates technical feasibility more clearly than sustained welfare impact. Its central challenge is basis risk: an index may fail to pay when an insured household suffers loss, or may pay where losses are limited. The World Bank's framework for measuring reliable index-insurance protection stresses that this mismatch is especially consequential for low-income farmers. Additional data and more complex models may reduce basis risk, but cannot eliminate household differences in planting dates, crops, soils, pests and microclimates.

Evidence on economic benefits is promising but contested. A study aggregating evidence from eight index insurance experiments found positive average effects on productive investment, but substantial heterogeneity across experiments. Uptake and renewal frequently depend on price, subsidies, trust and previous payout experience. High enrolment during a donor-supported pilot therefore does not prove commercial sustainability or reliable long-term protection.

For-profit insurers, reinsurers, fintech firms and analytics companies contribute underwriting expertise, capital, product administration and potential routes to scale. Premium income can support continued operation, but purely commercial models face correlated catastrophic losses and customers with low or unstable incomes. The World Bank's review of government support for agricultural insurance shows that viable markets often require public support for data, regulation, reinsurance or premiums. Governments and donors therefore frequently subsidise premiums, provide reinsurance or purchase collective protection. NGOs, cooperatives and farmer organisations support enrolment, explanation and complaints, while universities and public agencies contribute data and independent validation. These partnerships can improve reach but may create continuing subsidy dependence. Sustainability must therefore encompass premiums, data, administration and catastrophic risk-bearing, not simply whether a digital platform can technically serve additional users.

A statistically sophisticated index that customers cannot understand may be less credible than a simpler product with transparent rules.

Trust and customer understanding are major last-mile constraints. A statistically sophisticated index that customers cannot understand may be less credible than a simpler product with transparent rules. Women and young people may lack registered land, control of livestock, formal accounts or decision-making authority, excluding them from enrolment or control of payouts. Pastoralists, tenants and informal producers can similarly be missed by land-based products. Community participation should shape which losses matter, how thresholds are tested and what happens when the index visibly fails. Combining satellite information with ground observations and community reporting, publishing trigger rules, commissioning independent validation and creating accessible grievance mechanisms can improve legitimacy.

The wider locally led literature cautions against equating local implementation with local power. ODI's review of localisation and locally led practice emphasises control over decisions, resources, knowledge and relationships. Applied to insurance, local actors should influence product design, data governance, distribution and benefit sharing rather than simply market a product designed elsewhere.

Evidence remains contested on whether increasingly complex AI models improve protection sufficiently to justify reduced transparency, and on whether subsidised index products remain viable once programme support ends. Solutions with graduation and scaling potential would therefore explicitly measure basis risk, validate indices locally, demonstrate affordability and comprehension, include a credible risk-bearing partner, and provide remedies where modelled and experienced losses diverge.

SIGNALS OF GRADUATION AND SCALING POTENTIAL

TECHNICAL PERFORMANCE	✓ Indices validated locally
OPERATIONAL USE	✓ Affordability and comprehension demonstrated ✓ A credible risk-bearing partner ✓ Remedies where modelled and experienced losses diverge
RESILIENCE OUTCOME	✓ Basis risk explicitly measured against experienced losses

Displacement forecasting and anticipatory action

Displacement forecasting and anticipatory action use data on conflict, climate hazards, food insecurity, livelihoods, population movements and other socioeconomic conditions to anticipate where and when displacement may occur and how many people may be affected. AI can add value by combining heterogeneous datasets, identifying relationships between interacting drivers and producing forecasts at temporal and geographic scales relevant to humanitarian planning. Applications range from national forecasts for strategic planning to shorter-term subnational predictions intended to trigger anticipatory action. As with early-warning systems, predictive accuracy alone creates no resilience benefit unless forecasts are connected to decisions, resources and actions that can reduce harm before or during displacement.

Results from DRC's AHEAD model show useful predictive skill, but also that performance can weaken during exceptional events where humanitarian consequences are greatest.

The Danish Refugee Council (DRC) provides one of the more mature operational examples. Its Foresight model uses 120 open-source indicators to forecast forced displacement at national level up to three years ahead, while the Anticipatory Humanitarian Action for Displacement (AHEAD) model uses machine learning to forecast displacement several months ahead at subnational level across 12 countries. A 2025 *Data & Policy* study assessed AHEAD using 315 historical forecasts across Burkina Faso and found a mean absolute percentage error of 15% for a 4-month lead time, compared with 21% for two simple benchmark approaches. However, errors increased during the largest displacement surges. When forecasts were translated into an illustrative action trigger, the model would have produced the correct action or inaction decision in around 69% of cases. In its most recent evaluation (August 2026), based on the last two years of forecasts produced, DRC found a mean absolute percentage error (MAPE) of between 10 and 18%. When forecasts were translated into an illustrative action trigger, the model would have produced the correct action or inaction decision in around 90 to 99% of cases. However, the results also show that the models tend to underestimate future levels of displacement and are largely unable to predict unprecedented surges.

Public and not-for-profit actors are likely to remain central because displacement forecasting primarily supports humanitarian preparedness and public planning rather than generating a direct revenue stream. Humanitarian organisations can combine predictive models with protection monitoring, local knowledge and response networks, while governments provide authority over public services and longer-term institutional continuity. Private firms and research organisations can contribute modelling, data infrastructure and specialist expertise. The World Bank's Displacement Crisis Response Mechanism in Uganda illustrates a complementary part of this architecture rather than an AI application itself: predefined indicators and financing arrangements were designed to allow government systems to expand services following displacement shocks.

DRC argues against basing decisions on predictive models alone and combines model forecasts with community-level information.

FEATURED SOLUTION

AHEAD model

The AHEAD model uses machine learning to forecast displacement in sub-districts across 12 countries (as of August 2026), including major displacement crises such as Sudan, DR Congo, Yemen and Somalia. The forecasts enable humanitarian actors to get ahead of displacement crises.

Danish Refugee Council (DRC) · Pictured on page 28

Displacement prediction also raises questions of uncertainty, protection and decision-making. An OCHA and UNHCR technical review of DRC's Foresight model found its scope well understood and documented, but noted that limitations in the underlying data prevented the model from capturing dynamic or sudden-onset displacement. A subsequent study of DRC's AHEAD approach shows that translating forecasts into action requires explicit trade-offs between false positives and false negatives, depending on response capacity and the risks associated with the actions being triggered. Some actions, such as pre-positioning supplies or communicating an expected displacement risk, may themselves impose costs or cause harm if the predicted event does not occur. DRC therefore argues against basing decisions on predictive models alone and combines model forecasts with community-level information. In South Sudan, for example, community action plans developed with local peace committees used indicators including insecurity around settlements, cattle raiding, abductions and early population movements alongside model predictions to determine when different anticipatory actions should be initiated. These considerations also extend to climate-related mobility. A 2026 review of AI and climate migration describes applications in this field as still under-studied and unevenly implemented, and highlights risks from biased training data alongside the need for governance approaches based on co-design and co-ownership with affected communities.

Forecasting therefore has greatest value where institutional ownership, response protocols and finance are established in advance. The principal evidence gap is consequently not whether AI can forecast some forms of displacement with useful skill, but whether better forecasts consistently lead to earlier and better decisions and ultimately reduce humanitarian losses. Evidence of downstream outcomes remains concentrated in small, context-specific pilots, with limited prospective evaluation during novel crises, comparative cost-effectiveness or the consequences of false alarms and missed events. DRC assessments of activations in Akobo, South Sudan and Beletweyne, Somalia illustrate this: they report early outcome signals, including an estimated 2,800 avoided displacements and improved household food consumption, but rely on informant estimates or non-equivalent comparison groups. The signals below summarise what this implies for graduation and scaling.

SIGNALS OF GRADUATION AND SCALING POTENTIAL

TECHNICAL PERFORMANCE	✓ Locally validated predictive performance ✓ Transparent uncertainty and trigger rules
OPERATIONAL USE	✓ An identified institutional owner ✓ Pre-arranged response capacity and finance ✓ Responsible data governance ✓ Human oversight ✓ A meaningful role for affected communities in interpreting and acting on forecasts
RESILIENCE OUTCOME	✓ Evidence that forecasts lead to earlier decisions and reduced humanitarian losses

ADJACENT EVIDENCE

Technology for nature

Technology-enabled approaches to protecting and restoring nature share several structural features with the types of applications received to date under the emergency and humanitarian scope: acoustic and satellite monitoring, species and habitat classification, and community-reported observation all depend on the same combination of model performance, institutional ownership and locally validated delivery. The evidence base is at a comparable stage of maturity, weighted toward monitoring capability rather than demonstrated conservation or livelihood outcomes, and it faces the same asymmetry in who develops and governs the tools.

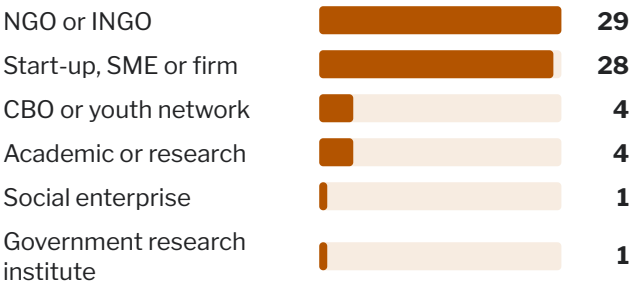
SURVEY INSIGHTS

Practitioner perspectives

This section provides a summary of the insights gathered through the open survey (n=67). Given that the sample size remains relatively small compared even to the TECH1 and TECH2 application totals (n=890), the following themes are included as insights rather than evidence. The sample is predominantly composed of implementers. Of these, 35 described themselves as not-for-profit, 29 as for-profit, and three did not state an entity type. No funder, development finance institution, UN agency or larger company responded, and the only public-sector respondent is a national forestry research institute. Solution geography concentrates in sub-Saharan Africa, and several respondents operate across more than one region. The following insights emerge.

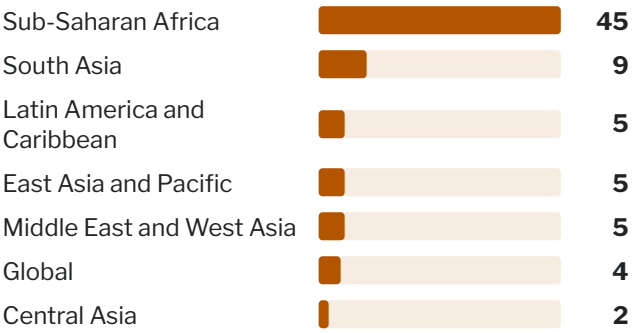
RESPONDENTS BY ORGANISATION TYPE

Number of respondents, n=67



WHERE SOLUTIONS OPERATE

Mentions by region; some respondents name several



69%

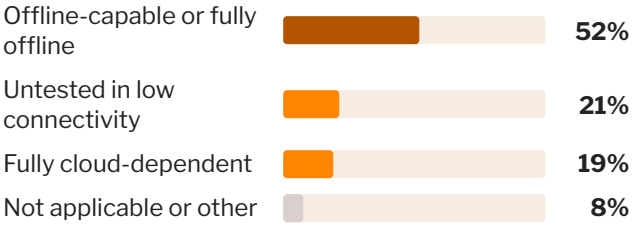
use at least one proprietary frontier model accessed as a service

1 Technical profile and solution design

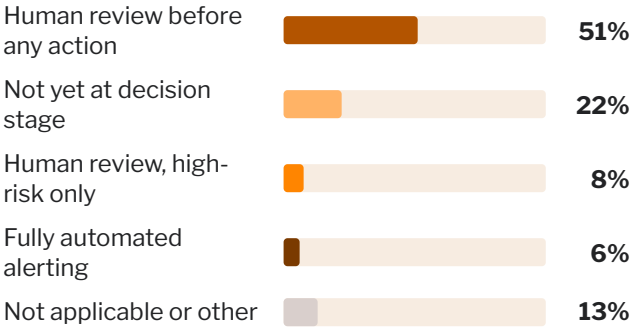
On connectivity, 52% of respondents described their solution as offline-capable with periodic synchronisation or fully offline, 19% as fully cloud-dependent, and a further 21% as untested in low-connectivity settings: roughly two in five deployments targeting crisis-affected settings either require connectivity or have not been tested without it. On oversight, 51% reported human-in-the-loop review before any action and 8% human review for high-risk cases only, while 22% were not yet at the decision-making stage; 6% reported fully automated alerting with no human review.

On model dependency, 69% use at least one proprietary frontier model accessed as a service: GPT (41), Gemini (20), Claude (18); 15% train their own model, 13% use Llama and 10% a regional or local-language model. Government or administrative records (73%) and community-reported data (66%) are the most common inputs, ahead of satellite observation (55%). One INGO named the most influential actors in the field as "*tech providers such as Google, Anthropic, and AWS; it is the cost of their services which limits application*". This highlights a structural dependency in the user–producer relationship. Many Global South innovators and the communities they serve rely on proprietary models and software controlled by a small number of commercial providers.

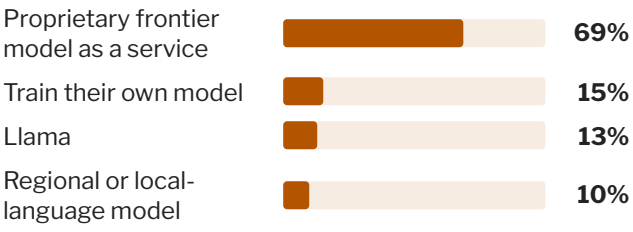
CONNECTIVITY



HUMAN OVERSIGHT

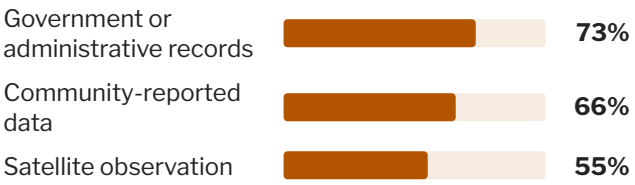


MODELS IN USE



Proprietary models named: GPT (41), Gemini (20), Claude (18). *Multiple responses allowed

MOST COMMON DATA INPUTS



*Multiple responses allowed; share of all 67 respondents

Survey responses depict a perceived locus of influence predominantly lying with UN operational agencies and US technology providers.

2 Data governance: current practice vs. intentions

Approximately two in five respondents have an articulated governance practice, with the remainder only describing this as an intention. Of the responses, only 26 described an operating practice as existing in the present tense, combining informed community consent, data minimisation, role-based access, anonymisation, named legislation and human review; a further 16 described their safeguards in the future or conditional tense, 25 gave no answer or stated that safeguards had not been developed. Specific instruments cited include Kenya's Data Protection Act and the Nigeria Data Protection Commission regulations (five mentions each), alongside single citations of the Zambian Data Protection Act, the Philippine Data Privacy Act, India's Digital Personal Data Protection (DPDP) Act 2023, free, prior and informed consent (FPIC) protocols, and ISO spatial metadata standards.

3 Influential actors and convenors

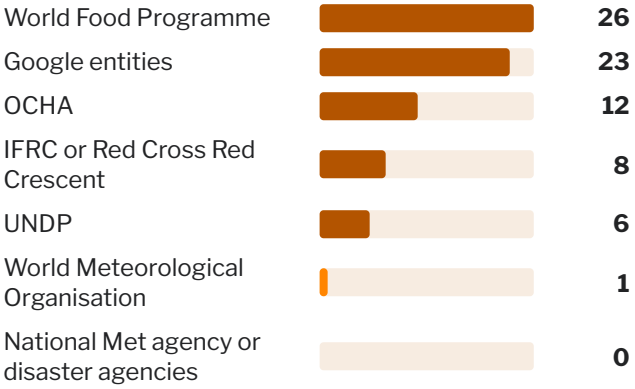
Asked to name the most influential organisations in AI for humanitarian preparedness and climate resilience, respondents named the World Food Programme (26 times), Google entities (23), OCHA (12), IFRC or the Red Cross Red Crescent movement (eight), UNDP (six), and UNICEF, FAO, UN Global Pulse, and Microsoft (four to five each); five respondents said they did not know of any. The respondents included a single mention of the World Meteorological Organisation, and no mentions of national meteorological or disaster management agencies, nor regional bodies or Global South research institutions, which points to a perceived locus of influence predominantly lying with UN operational agencies and US technology providers.

DATA GOVERNANCE, N=67



- Operating practice described in the present tense
- Safeguards described in the future or conditional tense
- No answer, or safeguards not yet developed

MOST INFLUENTIAL ACTORS NAMED



Other mentions: UNICEF, FAO, UN Global Pulse and Microsoft received four to five each

Cross-cutting risks and asymmetries

The following risks occur across all application areas.

01

Data gaps and representational bias

In humanitarian and emergency contexts, there are often limited records (and vulnerability profilings) for the populations with the least access to services. This makes targeted interventions difficult and more costly to implement. Model performance metrics computed on available data can conceal this challenge, and improving performance on such asymmetrical data can widen the gap.

02

Exclusion of low-connectivity and low-documentation populations

Delivery mechanisms that assume a phone, an account, an identity document, or a fixed address inadvertently exclude the households whose exposure to climate and humanitarian shocks is often the highest. Multiple channels and non-digital fallbacks should therefore be a design requirement.

03

Explainability, accountability, and the location of decision rights

Where a model informs consequential decisions (who receives assistance, when to evacuate, which patient is prioritised), the question of who may interrogate, override, or refuse the model recommendation is a governance question. Proprietary systems and externally hosted models can place that authority outside the jurisdiction and outside the community affected by it.

> *Forecasts create value when institutions can connect them to evidence, operational rules and accountable decisions. Scaling AI for humanitarian preparedness and climate resilience requires reliable data, local ownership, transparent methods, integration with existing systems, and sustained capacity to learn from results.*
>
> **Lindsey Moore**, CEO, DevelopMetrics

04

Over-reliance on prediction where institutions cannot act

Improving forecast quality where no institution is lined up to respond, or where response finance is not pre-arranged, produces information without protection. The institutional capacity required is most frequently underestimated and assumed as given in solution design. Scaling innovative solutions rests on the adoption readiness of surrounding policy, governance, and market systems, and not just the readiness of the solution itself.

05

Resource intensity and the environmental footprint of the tools themselves

A 2025 synthesis of AI and sustainability, drawing on expert dialogue and a structured analysis of more than 8,500 academic publications across eight sustainability domains, sets out an assessment that is broadly optimistic about AI's potential. At the same time, it is explicit about challenges pertaining to energy use and associated emissions, freshwater use (in some cases in regions already facing water scarcity), and the hardware cycles generating electronic waste containing lead, mercury and cadmium, with disposal burdens falling unevenly. For resilience solutions, the implication is not that AI should be avoided but that footprint is a legitimate assessment criterion alongside performance, and that solutions delivering comparable benefit at lower computational cost warrant preference on resilience grounds rather than only on cost grounds.

06

Concentration of research capability and the invisibility of the most exposed

The same synthesis documents that researchers in AI for the sustainability sciences are overwhelmingly affiliated with high- and upper-middle-income countries, while countries facing the most acute combined climate and demographic pressure barely appear. The most disadvantaged populations also tend to be the least represented in emerging digital data sources, and adapting or running foundation models generally requires computational infrastructure and expertise unavailable to smaller research teams, local agencies and community organisations.

> *AI only helps farmers if it reaches them before disaster hits, not after that. It has to work where connectivity is spotty, and it has to run on data and relationships farmers already trust, or nobody will bother using it. The hardest part for founders like us right now isn't the technology. It's getting from a working prototype to something proven: pilot funding, real technical validation, and partners willing to back us early.*
>
> **Josué Rushanika**, Founder and Lead Engineer, NovaFarm AI / Innova Shield

SECTION 03

Funding landscape and stakeholders

The landscape shows no shortage of actors with relevant mandates, however ticket sizes and associated criteria reveal a potential weak transition between the progressive funding levels that are needed for the overall graduation and scaling of a solution.

Image: DARAJA+AI, Sudan Urban Development Think Tank, TECH4Resilience grantee

US$582bn

global corporate AI investment in 2025, a record high

US$163m

venture investment in climate risk analytics in 2025, one of the most AI-intensive resilience segments

~US$33m

in flagship commitments to AI for resilience in humanitarian settings, spread across several years

A note on comparability. Global AI investment is annual corporate investment. The humanitarian commitments are multi-year grants that only partly fund AI. The comparison is indicative of scale rather than like-for-like.

The scale of the funding gap

Investment in artificial intelligence has reached an unprecedented scale: global corporate AI investment hit a record US$582 billion in 2025, including US$345 billion of private investment. By contrast, venture investment in climate risk analytics, one of the most AI-intensive resilience segments, was on track for just US$163 million in 2025.

No dataset tracks financial flows into AI for resilience in humanitarian and emergency settings, with the largest visible commitments in the single-digit to low-tens of millions, typically multi-year, and only partly for AI. Examples include Google.org's US$4.6 million grant to the International Rescue Committee (IRC) and GiveDirectly for AI-triggered flood cash transfers, the Rockefeller Foundation's US$10 million commitment to the IRC's Airbel Impact Lab for AI-powered solutions in conflict and crisis, and the Dutch government's allocation for the Danish Refugee Council's Anticipatory Humanitarian Action for Displacement (AHEAD) initiative.

We estimate that these flagship commitments total approximately US$33 million, however they are spread across multiple years and cover activities beyond AI. When annualised, they illustrate a stark disparity between the US$582 billion invested globally in AI in 2025 and the funding flows directed to people most exposed to climate shocks and conflict.

Venture investment in climate risk analytics, one of the most AI-intensive resilience segments, was equivalent to less than 0.03% of global corporate AI investment in 2025.

The funding spectrum across AI and technology for resilience

> *For resilience organisations building their own AI tools, graduation isn't just about a transition plan that sits outside the grant cycle — it's about whether real technical and product-delivery capacity got built during it.*
>
> *Most of our grantees are running a genuine AI build for the first time, and that's a steep learning curve on top of an already full resilience mandate. Teams that come out of a pilot having actually built that capacity are a far more fundable proposition for whoever funds them next.*

Sholto West
Senior Impact Manager, AI for Climate Resilience Programme, Milkywire

The analysis uncovered a small number of funds active in AI and technology for resilience with clear differentiators across maturity and ticket sizes. At the base sit challenge funds granting <US$50,000 to pilot-stage solutions through open calls. The next level is occupied by equity-free accelerators, seed investment tiers, and accelerator grants around or under US$250,000. Above these sit thematically comparable large philanthropic tickets, with impact challenges up to US$2-3m. Instruments are overwhelmingly grants, with venture funds, equity-free investment tiers, and blended finance vehicles notably opaque in relation to the scope of our searches.

However, the funds are not strictly comparable. Several address AI and technology for resilience and adaptation broadly rather than AI for anticipatory action and/in humanitarian contexts specifically, meaning their ticket sizes are set against a different opportunity set. Comparison across the full spectrum does not establish that a solution graduating from one rung is competitive at the next. Secondly, published outcome figures are usually portfolio-wide. Follow-on capital totals, mobilisation ratios and reach figures cited by programmes are drawn from their full portfolios and are rarely disaggregated to AI, humanitarian, or Global South subsets. They demonstrate that the programmes function; however they do not evidence achievable outcomes or the viability of pilot-stage humanitarian AI solutions. Thirdly, as this is a new field the evidence on graduation is thin across the board, as most innovation programmes reviewed are still in their early stages.

This reveals a potential weak transition between tiers and maturity levels. The table shows that a Seed stage of up to US$250,000 exists and is reasonably populated. However, most instruments at that ticket size are structured for ventures with a proven revenue model, an investment-suitable legal entity, or alignment with the funder's own country operations, none of which a solution typically holds at the end of a first Idea and concept stage grant.

FEATURED SOLUTION

DARAJA+AI for Sudan

DARAJA+AI for Sudan is transforming how early warnings reach vulnerable communities. Powered by generative AI, combining natural language processing and text-to-speech, it turns complex, technical forecasts into clear, localised voice messages in Sudanese Arabic and priority local languages and dialects. Alerts are delivered through accessible channels widely used by these communities, including local radio, mobile networks and social media, so critical information reaches everyone when it matters most.

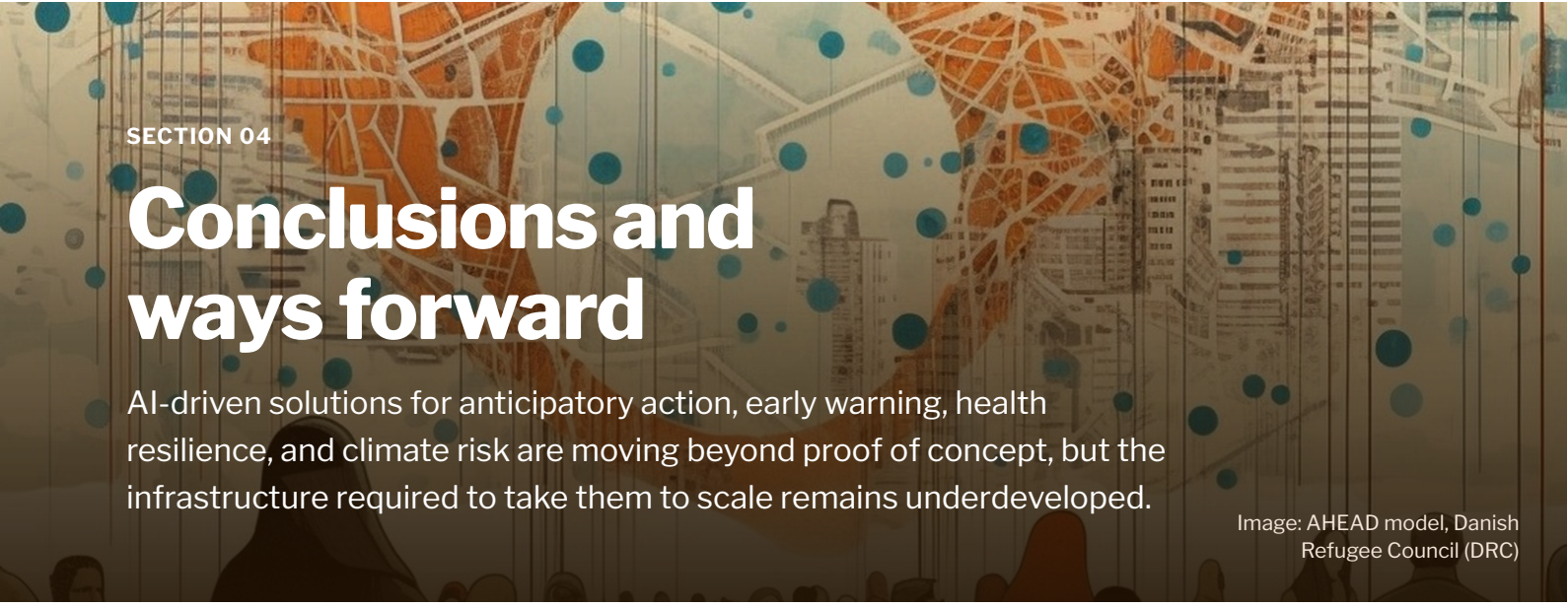
Sudan Urban Development Think Tank · TECH4Resilience grantee · Pictured on page 25

STAGE	TICKET SIZE	FUNDS	INSTRUMENT	GRADUATION DESIGN
Idea and concept stage	**Up to US$50,000**	TECH4Resilience (GRP, funded by Trafigura Foundation and Gates Foundation)	Grant	Tailored mentoring, pitching and communications training, profiling and introductions to potential funders and partners via Investor Forums
Seed	**Up to US$250,000**	The Research & Innovation for Climate (RICH) Hub; Mozilla Foundation Incubator; UNICEF Venture Fund; Prosper Global Ventures accelerator; Patrick J. McGovern Foundation; GSMA climate resilience windows; Airbel Innovation Fund and Ventures; Milkywire/Klarna	Equity-free grant or investment	Investment tiers and readiness; adoption into the funder's own country operations; alumni tracked two years post-grant
Scale	**Up to US$3 million**	Google.org Impact Challenges. **Wider innovation challenges:** Bezos Earth Fund Grand Challenge, DIV Fund; Global Innovation Fund; Fund for Innovation in Development (FID)	Grant; Investment instruments unclear based on available data	Alumni network; phased winnowing from a sprint cohort
Non-capital	**N/a**	Elrha Journey to Scale; Lacuna Fund	Scaling track; mentorship; dataset funding	Independent evaluation as an entry criterion (Elrha)

Note: the funds listed are not strictly comparable. See the discussion on the previous page and alongside.

Evolution between stages is therefore governed less by the availability of capital than by whether a solution can match the criteria of the next ticket size. A further limitation of the desk review is that many impact investors, fund managers, family offices and foundations do not disclose their portfolios or detailed funding and investment strategies and investment-readiness criteria.

A new wave of AI-focused philanthropy is taking shape, with new entrants such as the OpenAI Foundation signalling intent to direct resources toward AI for social, climate, and humanitarian benefit. These are not included in the funding spectrum or the stakeholder assessment, as their strategies are still being developed and there is insufficient public information on eligibility criteria, ticket sizes, instrument types, or geographic focus. The Gates Foundation's commitment, announced with its 2026 Goalkeepers Report, to spend at least US$1 billion over two years on expanding access to AI illustrates both the scale and the current direction of this capital: it is allocated to education (40%), health (40%), agriculture (10%) and datasets in under-served languages (10%). Its emphasis on local-language data and community control over data aligns with the asymmetries identified in this analysis. **If even a fraction of the capital being mobilised by new and existing AI-focused philanthropies is directed towards AI for resilience in humanitarian and emergency contexts in the Global South, it would represent a significant new rung on the funding ladder.**



SECTION 04

Conclusions and ways forward

AI-driven solutions for anticipatory action, early warning, health resilience, and climate risk are moving beyond proof of concept, but the infrastructure required to take them to scale remains underdeveloped.

Image: AHEAD model, Danish Refugee Council (DRC)

In every application area reviewed, technical feasibility is demonstrated more clearly than sustained resilience outcomes. Solutions rarely stall because the technology fails, but because the institutional, relational, and operational conditions for sustained use are not being developed at a similar pace.

The funding architecture offers rungs of capital with few mechanisms, and few agreed readiness signals, to support a solution graduate between them. Across the five application areas, the conditions for moving from pilot to scale point in a consistent direction.

SIX WAYS FORWARD

1
Fund the warning-to-action chain, not only the model

Forecasts protect people only when an institution owns the response and finance is arranged in advance. The funding ecosystem could back institutional ownership, response protocols, and pre-arranged finance as a continuum of solutions.

2
Agree a shared set of scaling-readiness signals

The signals in each application area converge on a common core: local validation, an institutional owner, pre-arranged finance, inclusive delivery, transparent triggers, data governance with human oversight, and a sustainable operating model.

3
Build delivery capacity during the pilot, not after it

Many teams are running their first serious AI build. Pilot funding that resources technical and product-delivery capacity, governance practice and offline design produces teams that are fundable at the next stage.

4
Design bridges for pilot-stage not-for-profits

Recoverable or milestone-based grants, adoption pathways into public and humanitarian operations, and co-funded handovers between funders could carry pilot-stage not-for-profits across the gap.

5
Generate evidence that informs decisions

Agree what “good enough” evidence looks like at each stage and ensure its production is funded: prospective evaluation of whether triggers lead to earlier action and reduced harm, disaggregated results, honest accounting of false alarms, and computational footprint.

6
Shift ownership towards those most exposed

Give affected communities and local institutions influence over problem definition, triggers, data and procurement, and invest in regional and local-language models, Global South research capacity and open standards.

OPEN QUESTIONS FOR THE FIELD

1. How might we develop and agree shared scaling criteria?
2. Which instruments can support a not-for-profit solution from a first grant to institutional adoption and integration?
3. What evidence is sufficient to unlock the next stage of funding or investment, and who should pay to generate it?

> *AI isn't going to build resilience on its own. Predictions, forecasts and warnings are nothing unless everyone, from government officials to service providers to community members, has the agency to act before a crisis unfolds.*
>
> **Mala Ram**, Digital Technology Programmes Specialist, GOAL Global

A CLOSING NOTE

The wider AI landscape is rapidly evolving and consolidating around a small number of dominant poles. Many Global South innovators and the communities they serve depend on these providers for models and infrastructure, which shapes the cost, language coverage, and adaptability of the tools available to them.

The AI divide need not become the next development divide. With deliberate investment, shared standards and coordinated action, AI can strengthen the resilience of those most exposed.

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Sentinel-2 captures
the aftermath of
the 2026 Nepal flash flood.
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