

# Connectivity as a Lifeline

Enabling Climate Resilience  
in a Disrupted World





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Powering the next era of climate resilience



**“As climate-related disasters become more frequent and severe, we recognise our responsibility as a connectivity provider and operator of critical national infrastructure to strengthen resilience, adapt to a changing climate, and support our customers and the communities in which we operate.”**

**Joakim Reiter,**  
Chief External and Corporate Affairs Officer,  
Vodafone Group

## Foreword

Climate change is no longer a distant risk. It is a systemic stress test of societies, economies and institutions, unfolding unevenly but relentlessly across regions and communities. Extreme weather events are becoming more frequent, more severe and more disruptive, placing growing pressure on the systems people rely on.

In this context, connectivity is no longer just an enabler of growth or convenience. It is critical infrastructure for resilience and, for many, a lifeline. When climate shocks hit, the ability to communicate, receive warnings, access services or move money can mean the difference between disruption and disaster, recovery and prolonged crisis.

*Connectivity as a Lifeline* explores what this looks like in practice and builds on the insights of Vodafone Foundation’s *Tech 1.5: Adapting digital solutions for a +1.5°C world (2025)* report, which calls on technology companies to act during climate disasters. Drawing on experiences from Europe and Africa, it shows how mobile networks and digital services support the full climate resilience cycle, from anticipating risk to enabling emergency communications and supporting recovery.

The lessons are clear. Resilient connectivity depends on sustained investment, intelligent network design, reliable power and coordination across the public and private sectors. It also requires policy and regulatory frameworks that recognise connectivity as part of a wider resilience ecosystem. Governments are rightly focused on adaptation, yet digital infrastructure is still often seen as peripheral. The evidence here points in the opposite direction. Mobile networks already reach far more people than most formal warning systems, digital platforms can deliver assistance faster and more locally, and resilient telecoms infrastructure can continue operating when other systems are under strain.

This report is offered as a contribution to that conversation. It is an invitation to policymakers, regulators and partners to work with us to ensure connectivity remains a lifeline, before, during and after climate shocks.





# The importance of connectivity in climate resilience and adaptation

In a world where climate-related disasters are becoming more frequent and severe, connectivity has become a lifeline for climate resilience.<sup>1</sup> Extreme weather events have increased significantly over the past decade, costing the global economy more than \$2 trillion and affecting 1.6 billion people across the world.<sup>2</sup> Floods, droughts, and wildfires can cause power to fail, roads to be cut off, and communities to need urgent assistance. In these moments, the first and most critical questions are “How can I get help?” and “Are my loved ones safe?” Being able to communicate is vital for helping people answer these questions and meet their most basic needs in the face of disasters.

Access to a mobile network can be truly transformative during climate-related emergencies. Reliable connectivity can determine whether people receive timely warnings, can call for help, and whether essential services continue operating.<sup>3</sup> As the immediate crisis subsides and communities begin to recover and rebuild,

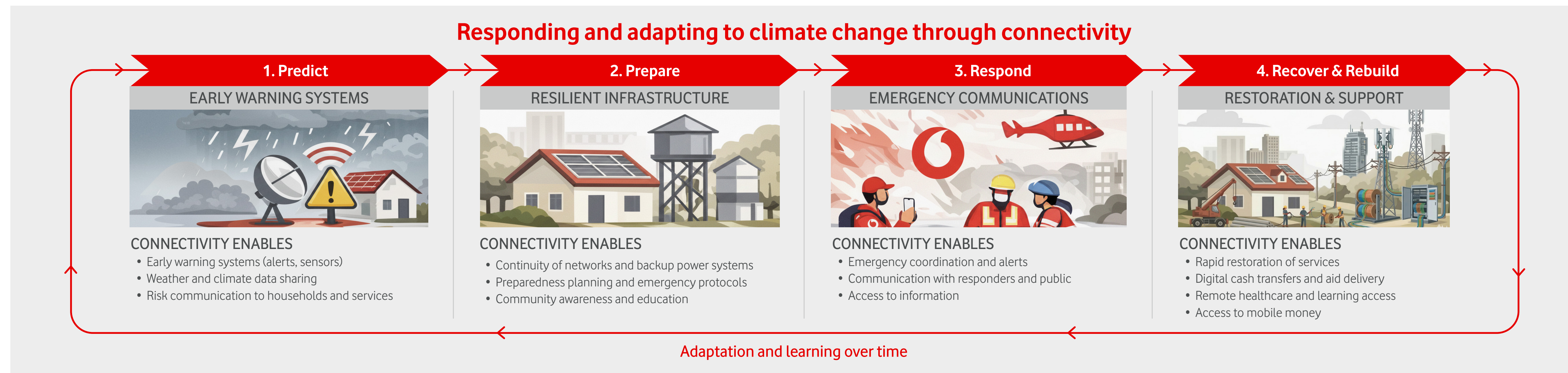
connectivity remains vital – allowing people to access assistance and resume social and economic activities while physical infrastructure is restored.

More broadly, connectivity and the digital technologies it enables are crucial for strengthening climate resilience, reshaping how systems operate under stress, and how they are designed to anticipate and respond to future and emerging climate risks.<sup>4</sup>

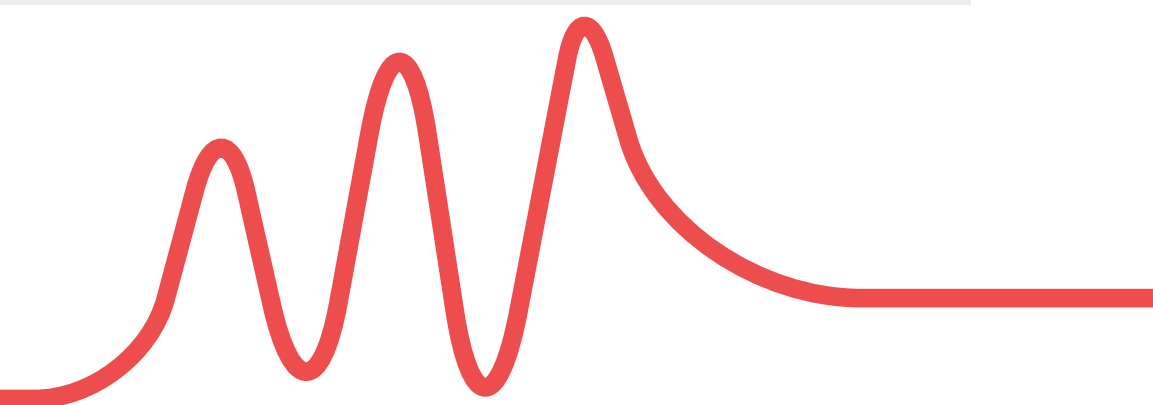
As demonstrated in Vodafone Foundation’s *Tech 1.5* report, Vodafone and other telecommunications companies (“telcos”) have both a responsibility and an opportunity to act as climate risks evolve. Our networks support hundreds of millions of people and must continue to function when other systems are under pressure. At the same time, they enable digital tools and services that strengthen resilience beyond the crisis moment, supporting longer-term adaptation as conditions change.

Climate change is placing sustained pressure on health, education and emergency response systems around the world.<sup>5,6</sup> Drawing on experiences from Vodafone in Europe and Vodacom in Africa in responding to climate-related disasters, this report illustrates what climate resilience and adaptation look like in practice. Crucially, it highlights how connectivity underpins each stage of the climate resilience cycle.

The following sections explore how connectivity (1) enables us to predict and anticipate through early warnings and risk communication; (2) supports preparation through resilient infrastructure and operational readiness; (3) enables response through emergency communications, coordination, and access to essential services; and (4) contributes to recovery and rebuilding by supporting services and livelihoods when physical systems are disrupted.



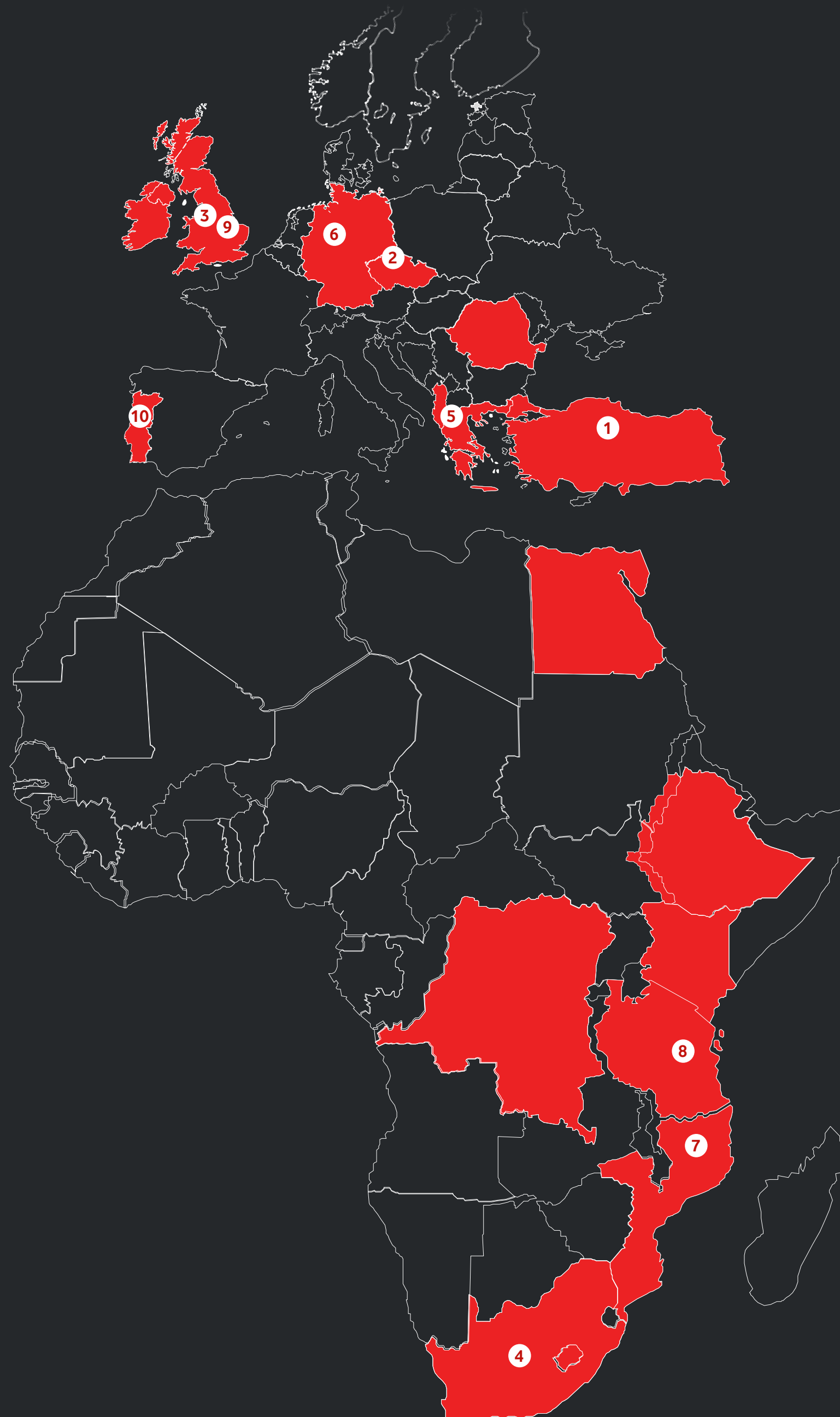
<sup>1</sup> Intergovernmental Panel on Climate Change. (2022). Climate change 2022: Impacts, adaptation and vulnerability (Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change). Cambridge University Press. Available [here](#).  
<sup>2</sup> International Chamber of Commerce. Available [here](#).  
<sup>3</sup> GSMA. (2025). Mobile Net Zero 2024: Adaptation and resilience. GSMA. Retrieved January 31, 2026. Available [here](#).  
<sup>4</sup> United Nations University Institute for Environment and Human Security. (2025, February 21). 5 insights into how digital solutions can enhance urban climate resilience. United Nations University. Available [here](#).  
<sup>5</sup> European Environment Agency. (2024). European climate risk assessment (EEA Report No. 01/2024). Publications Office of the European Union. Available [here](#).  
<sup>6</sup> World Meteorological Organization. (2025, February 24). Africa faces disproportionate burden from climate change and adaptation costs. Available [here](#).





# Natural and climate related events are increasingly testing network resilience across our footprint.

The growing frequency and severity of events, from earthquakes and floods to heatwaves and storms, are placing increasing strain on our networks across Europe and Africa.



1

**TURKEY | JUNE 2024**  
**Forest Fires**

A total of 3,800 forest fires broke out primarily across western and southern Turkiye, damaging 27,000 hectares of land.



2

**CZECH REPUBLIC | SEPTEMBER 2024**  
**Storm Boris Flooding**

Record rainfall triggered severe flooding across central Europe, affecting Austria, Poland, Romania as well as the Czech Republic.

Image Credit: Vodafone Foundation



3

**UNITED KINGDOM | 2023-2024**  
**Storms Babet, Ciarán & Isha**

Successive storms caused severe flooding, power outages and transport disruption, with widespread damage across the UK and Ireland.



4

**SOUTH AFRICA | APRIL 2022**  
**KwaZulu-Natal Floods**

Flooding triggered catastrophic mudslides in the coastal region of Kwazulu-Natal destroying critical roads, bridges and powerlines.



5

**GREECE | 2023-2025**  
**Wildfires in Greece**

Increased frequency and severity of wildfires in Greece, caused by heatwaves, droughts and seasonal winds.

**5x increase in reported weather, climate and water related disasters globally since 1970.**  
(WMO, 2021)

**Extreme weather events are costing the global economy more than \$2 trillion and affecting 1.6 billion people.**  
(ICC, 2024)

**Global temperatures reached record highs in 2024 at ~1.5 °C above pre-industrial levels.**  
(WMO, 2024)



6

**GERMANY | JULY 2021**  
**Ahr Valley Flooding**

Extreme rainfall caused rivers to rise rapidly, leading to severe flooding in the Ahr Valley.



7

**MOZAMBIQUE | 2024-2025**  
**Cyclones**

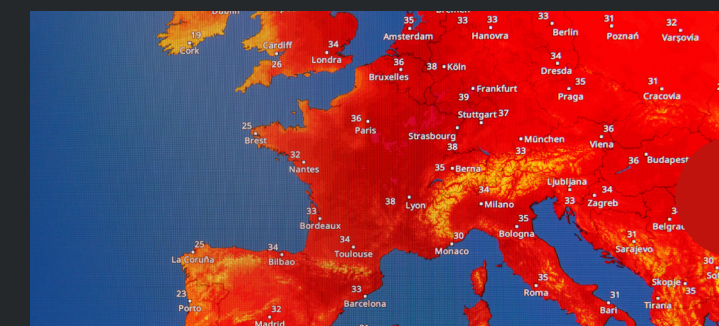
Successive tropical cyclones brought heavy rainfall and flooding across coastal Mozambique.



8

**TANZANIA | APRIL 2024**  
**Extreme Storms and Flooding**

Heavy rainfall linked to El Niño caused devastating flooding and landslides across parts of Tanzania.



9

**UNITED KINGDOM | 2026**  
**Record-breaking Heatwaves**

Successive heatwaves broke national temperature records across more than ten countries in Europe with the UK recording it's hottest June day since records began at 37.3°C.

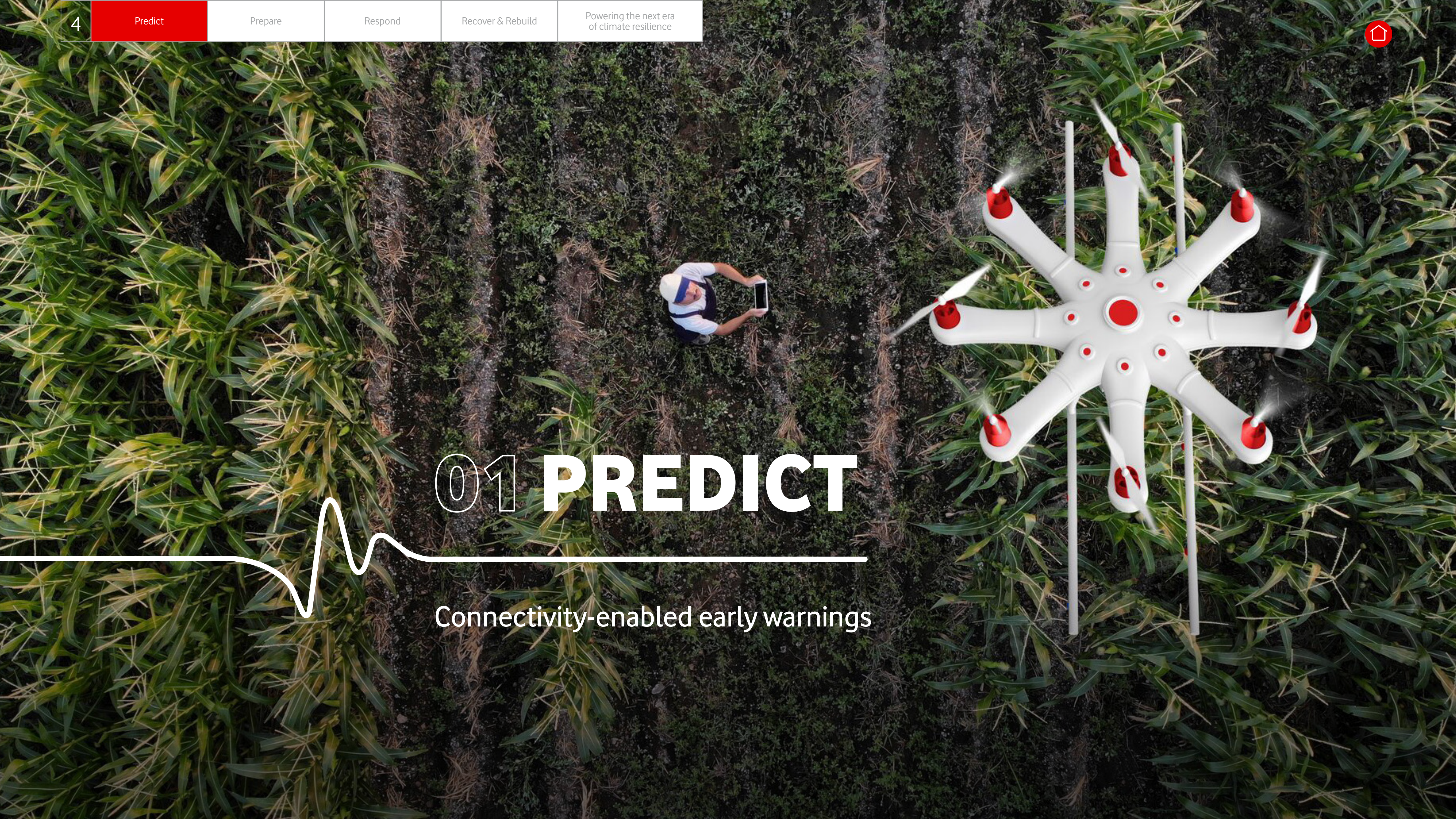


10

**PORTUGAL | JAN 2026**  
**Storm Kristin**

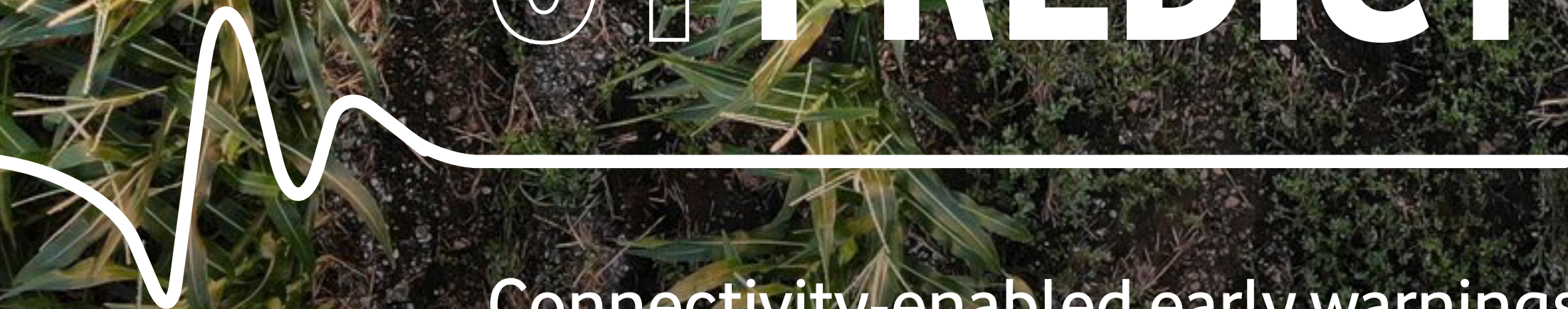
Triggered record winds and significant damage with more than 440,000 people left without power.

Image Credit: Vodafone Foundation



# 01 PREDICT

Connectivity-enabled early warnings





# 1 Predict: Connectivity-enabled early warnings

Climate-related disasters are most dangerous when people do not have enough time or information to act. Early warning systems reduce this risk by identifying potential hazards and alerting communities that may be affected. When issued within 24 hours of a hazard, early warning can reduce the damage caused by up to 30%.<sup>7</sup> For these warnings to be effective, risks must be detected early, and messages must reach the right people quickly and at scale. Mobile networks play a central role here, supporting the detection of emerging hazards and ensuring that warnings reach people when it matters most.

## Detecting risk early

Networks not only transmit information but can also generate it. Mobile networks continuously monitor the performance of the infrastructure that keeps people connected. In doing so, they generate data that reflects changing environmental conditions, effectively acting as a distributed sensor network. This capability underpins our pioneering network-as-a-sensor initiative.

We are applying this approach to wildfire detection in collaboration with the European Space Agency through the SAFEPLACE initiative. The platform integrates satellite imagery, navigation data and anonymised ground-level observations from Vodafone's network to support crisis management teams across Europe. By combining space-based intelligence with real-time network insights, it strengthens fire risk mapping and improves predictions of how fires may spread, enabling authorities to act earlier and more effectively.<sup>8</sup>

The same sensing capability can also help with flood prediction. Heavy rainfall affects the strength of microwave signals used to connect mobile masts. By analysing subtle changes in signal behaviour across the network, it is possible to infer where and when rainfall is intensifying, often at a highly localised level and in near real time.<sup>9</sup> In the UK, we are working with partners along the River Severn,

the longest river in the UK, to use network data to support short-term rainfall forecasting and flood risk monitoring. The data complements traditional sources such as radar and rain gauges, helping authorities build a more detailed picture of rapidly changing conditions along the river. When translated into mobile alerts, such as cell broadcast or SMS, they become warnings people can act on.<sup>10</sup>

## Communicating warnings at scale

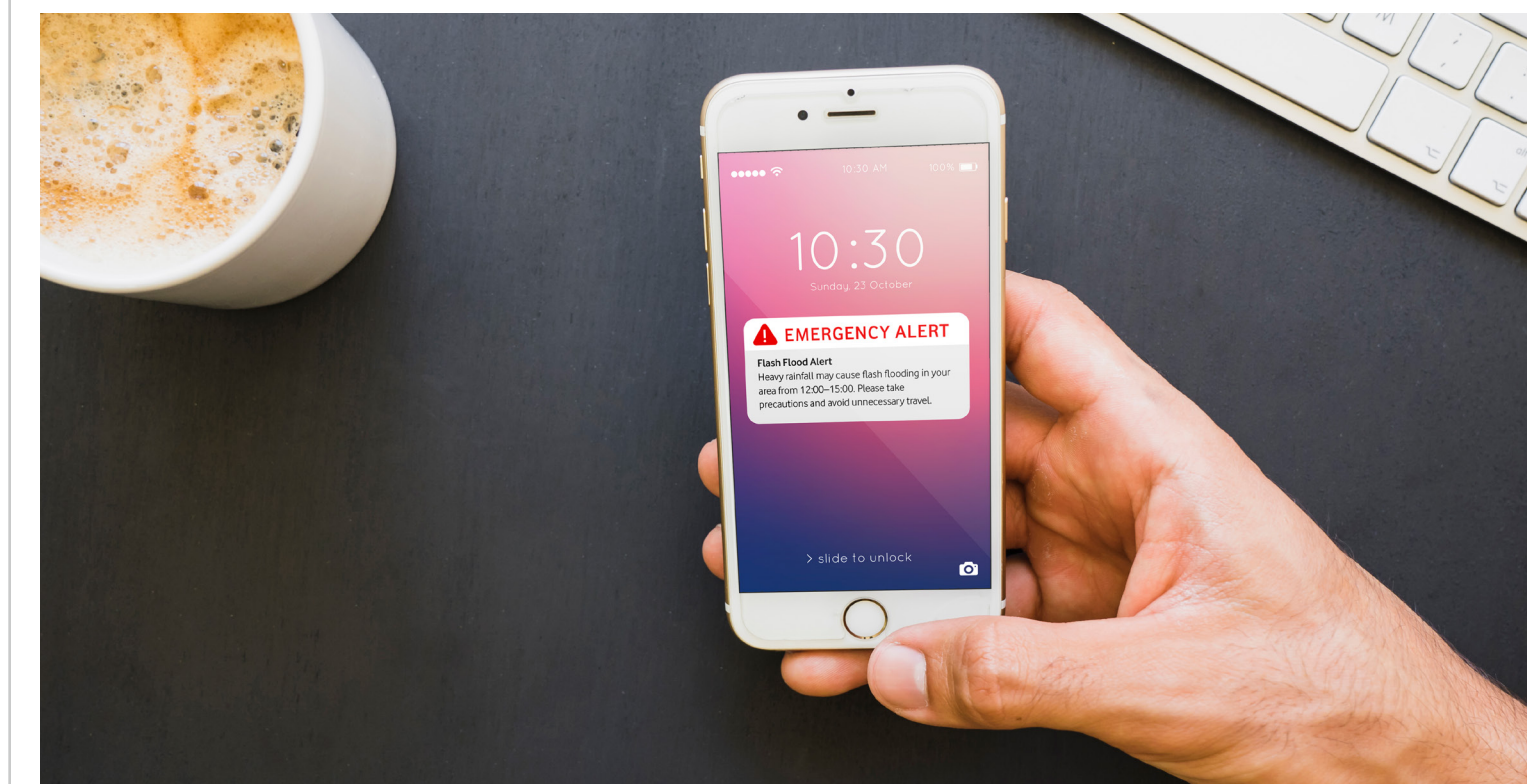
When devastating floods hit Germany's Ahr Valley in July 2021, they exposed critical gaps in early warning systems, especially the need for alerts that reach everyone, regardless of demographics or remoteness. The floods, the most severe in over 700 years, transformed local rivers into torrents more than five metres high, isolating communities and sweeping away bridges, roads and technical buildings. At least 188 people lost their lives, and entire villages and livelihoods were destroyed.<sup>11</sup>

At the time, Germany lacked a nationwide emergency alert system capable of sending alerts directly to all mobile phones in an affected area. Although authorities issued weather warnings, many did not reach people in a timely manner, nor did they provide clear guidance on what action to take to protect themselves from harm. Warning systems relied on a mix of traditional warning sirens, public radio and mobile apps. People had to actively check for these alerts, sign up to receive them in advance, or be in the right place at the right time.<sup>12</sup>

The severity of the flooding exposed the gaps and deficiencies of existing warning mechanisms and became a catalyst for change. Alongside other German telcos, we collaborated with government authorities to support the rollout of Cell Broadcast. In 2023, Cell Broadcast launched as a new telecoms-enabled national warning system,<sup>13</sup> allowing authorities to send alerts to all compatible phones within a defined geographic area, without requiring users to download an app or opt in. The alerts are transmitted directly through the mobile network using a built-in broadcast channel at the cell

tower level. Once an authorised authority triggers a warning, the message is sent through the operator's network and simultaneously broadcast from selected mobile base stations to every compatible device connected to those cells. Because it uses a broadcast channel rather than individual SMS messages, it can reach millions of phones at once without overloading the network. In the first year, Cell Broadcast was activated 219 times to deliver emergency alerts to smartphones across Germany.<sup>14</sup>

Similar telecom-enabled approaches are being embedded in disaster preparedness frameworks in climate-vulnerable countries. In October 2025, Mozambique launched the Big Data in Telecommunications platform, led by the country's telecommunications sector regulator, to strengthen disaster risk communication in the face of severe cyclones and floods. The platform enables geo-located SMS and Interactive Voice Response alerts to be sent across all participating networks before and during emergencies. We and other telcos support nationwide delivery by ensuring alerts are sent reliably to people's phones across the country.



<sup>7</sup> World Meteorological Organization. (n.d.). Early warning systems. Available [here](#).

<sup>8</sup> Starion Group. (2026). SAFEPLACE wildfire demo shows value of space data for emergency response. Available [here](#).

<sup>9</sup> Vodafone Group. (2025). Vodafone uses its mobile network as extreme weather early warning system. Available [here](#).

<sup>10</sup> Ibid.

<sup>11</sup> Kale, S. (2024, April 10). The German valley that was swept away: 'The cemeteries gave up their dead'. The Guardian. Available [here](#).

<sup>12</sup> Zurich Insurance Group. (2022). PERC flood event review: "Bernd" – Learning from the July 2021 floods in Europe. Zurich Flood Resilience Alliance. Available [here](#).

<sup>13</sup> Doe, J. (2025, March 1). Cell Broadcast now in operation across Germany. GA English. Retrieved [here](#).

<sup>14</sup> mecom Medien-Kommunikations-Gesellschaft mbH. (2024, February 20). One year of Cell Broadcast in Germany: 219 disaster alerts were transmitted through smartphones. mecom.de. Retrieved January 27, 2026. Available [here](#).



# 02 PREPARE

Climate-resilience for connectivity providers





## 2 Prepare: Climate-resilience for connectivity providers

### The importance of network resilience

Given the central role of connectivity in almost every aspect of modern life, from healthcare, education and public administration to business operations and emergency response, the consequences of network disruption can be far-reaching. When climate-related disasters occur, disruptions to these and other activities coincide with sudden spikes in connectivity demand, placing additional pressure on already strained networks. In these instances, people, services and authorities rely on fast communication and connectivity to respond, coordinate and seek help. Network resilience is therefore not only a technical requirement but a societal one, enabling essential services to continue operating during climate-related disasters.

Vodafone serves 87 million mobile customers in Europe and 228 million in Africa. As a provider of critical national infrastructure, it is imperative that our networks are resilient. In the context of a changing climate, this means withstanding extreme weather and recovering quickly when disruption occurs.

**“We know that our customers and the entire country depend on our services for communication with loved ones, access to information and financial services. Our teams take this responsibility very seriously and quite often personally. It is about serving the country and its citizens.”**

Kees van Peer, Chief Technology Officer, Vodacom Mozambique

Climate change poses physical risks to telecommunications infrastructure. Networks are geographically widespread, fixed in place and reliant on interconnected physical and power systems, making them vulnerable to local hazards. Floods, storms, extreme heat and wildfires can damage cables, towers and network control centres, leading to service disruptions that may be confined to a single area or, where redundancy is limited, extend more widely.<sup>15</sup> Consequently, the telcos industry is among the most exposed industries to climate-driven fixed asset loss, facing losses equivalent to a drop in yearly earnings of more than 20% by 2035 if no effective adaptation and resilience strategies are implemented.<sup>16</sup>

Network resilience entails designing, operating, and managing infrastructure so that services can be maintained during disruptions, restored quickly after incidents, and adapted over time as climate-related risks evolve.

Achieving this requires a coordinated set of technical and operational measures applied across the full lifecycle of the network, rather than reliance on one-off interventions.<sup>17</sup>

### Building climate-ready networks

To support network resilience, we map climate-related physical risks, including flooding, heatwaves, strong winds and wildfires, against the location of our network sites. This enables us to identify areas most exposed under different climate scenarios and plan targeted measures. We prioritise strengthening and upgrading vulnerable parts of our network to reduce disruption when climate-related disasters occur.

Resilience principles apply across the full asset lifecycle, from acquisition through maintenance and replacement, rather than as a one-off response. In KwaZulu-Natal, where Vodacom South Africa faces increasingly frequent flooding and

storm-related damage, resilience has become a core business investment.<sup>18</sup> Around 20% of regional capital expenditure is allocated to strengthening network resilience, a deliberate rebalancing of investment towards upfront risk reduction.

Power resilience is equally critical for network availability during extreme weather and grid disruption. A significant share of telecom network incidents is underpinned by power failures. In the UK, for example, approximately 25% of reported telecom network incidents have been linked to power outages.<sup>19</sup>

To address this critical dependency, we launched the Enhanced Power Initiative in Europe, a network resilience programme designed to sustain connectivity during power outages by extending backup power capacity and strengthening incident response. The programme focuses on reinforcing more than 10,000 critical mobile sites across the continent that support emergency services and other essential digital infrastructure. It combines enhanced battery backup and temporary power solutions with AI-driven power management, using intelligent software to predict outages, optimise energy consumption, and extend backup duration during incidents, while also contributing to climate change mitigation.<sup>20</sup> Our pilot of an AI-powered system, with real-time traffic and power demand data, resulted in increased battery operation by over 60% under low loads and 100% under heavy loads.

These resilience principles are not theoretical. They are being shaped in markets already operating on the front line of climate risk. Insights from our team in Greece, where wildfire risk is intensifying, and from Vodacom Mozambique, which faces recurrent cyclones, provide additional detail on how teams are adapting network planning and operations to this new reality.<sup>21</sup>

<sup>15</sup> World Bank (2024). Resilient telecommunications infrastructure: A practitioner's guide. World Bank Group. Available [here](#).

<sup>16</sup> World Economic Forum. (2024). Business on the edge: Building industry resilience to climate hazards (Insight Report). World Economic Forum. Available [here](#).

<sup>17</sup> Ibid.

<sup>18</sup> National Sea Rescue Institute. (2024, June 12). Climate change wreaks havoc: Major floods in KwaZulu-Natal and Eastern Cape. Available [here](#).

<sup>19</sup> Ofcom. (2024). Connected Nations UK report 2024 (Report). Ofcom. Available [here](#).

<sup>20</sup> Vodafone Group. (2025, November 28). Vodafone to boost resilience and extend power backup time at 10,000 plus mobile sites serving emergency services. Vodafone. Available [here](#).

<sup>21</sup> The frequency of tropical cyclone landfall and approach events in Mozambique has nearly doubled in the period 2000–2020 relative to 1980–1999. Chichava, D., Yu, J. H., King'uza, P. H., & Ekwacu, S. (2024). Change in the number of tropical cyclone landfall and approach over Mozambique from 1980 to 2020. *Journal of Geoscience and Environment Protection*, 12(1), 1–20. Available [here](#).



## Greece: Strengthening network resilience amid escalating wildfires

In addition to working on earlier and more effective wildfire risk detection and early warning, we are adapting our own operations to ensure our networks remain resilient if wildfires propagate. Connectivity is only a lifeline if it continues to function under pressure.

That is why our approach in Greece combines proactive risk intelligence with practical measures to protect, reinforce and rapidly restore critical infrastructure when fires occur.

Greece is facing more frequent and severe seasonal wildfires driven by record-breaking heatwaves, prolonged droughts, and strong seasonal winds<sup>22,23</sup> In the 2024 fire season, the country recorded 10,630 fires, resulting in the burning of approximately 42,000 hectares.<sup>24</sup> In this environment, wildfires are no longer exceptional emergencies but an ongoing threat that shapes how critical infrastructure must be designed and operated.

In August 2025, a fast-moving fire broke out near Patras, threatening critical telecommunications infrastructure. This event tested an “Always-Ready” operating model measured not by how quickly services were restored, but by whether disruption could be avoided altogether.

### Creating certainty in crisis

Maintaining connectivity during climate-related emergencies depends on clear continuity and recovery planning. In our Greece operations, each core network has a dedicated continuity plan that defines when to escalate an emergency, who is responsible for decisions, and how network traffic is switched to alternative, unaffected locations if a site is threatened or damaged.

Because these frameworks were already in place, teams could respond quickly and calmly as the fire approached Patras. They assessed exposure early, monitored conditions closely and prepared the network to switch traffic to backup locations if required.

Although rerouting was ultimately not needed, the key outcome was that no urgent decisions had to be made under pressure. By acting early, the team ensured the network would continue to operate even as conditions worsened.

### Designing networks to withstand fire, heat and power loss

Wildfires pose multiple risks to networks. The most significant risk is loss of power, as fires can damage electricity infrastructure or trigger precautionary shutdowns to protect public safety. Extreme heat can also affect equipment performance, while smoke and other hazards may restrict access to sites at critical moments.

To reduce these risks, we strengthened network resilience in several ways to support always-ready operations:

#### Network resilience | Emergency response pillars



##### BACK UP POWER

Batteries and generators keep critical sites live during outages.



##### FIRE-READY SITES

Cleared vegetation and maintained perimeters reduce fire risk in high-exposure areas.



##### RAPID ALTERNATIVE CONNECTIVITY

Mobile base stations and mobile-delivered fixed services are deployed when permanent infrastructure fails.



##### SAFETY-FIRST OPERATIONS

Teams are withdrawn when conditions worsen, with sites monitored remotely in real time.



##### EMERGENCY COORDINATION

Close coordination with fire and civil protection authorities supports response efforts.

In a world of recurring climate shocks, resilient connectivity is defined by avoided disruption, not speed of repair. Planning, site hardening and early action allow networks to keep working when emergencies escalate.



<sup>22</sup> Intergovernmental Panel on Climate Change (IPCC) (2022) AR6 Working Group II: Impacts, Adaptation and Vulnerability. Geneva: IPCC. Available [here](#). (Accessed: 26 January 2026).

<sup>23</sup> European Environment Agency (2023) Wildfires in Europe, Middle East and North Africa 2022–2023. Copenhagen: EEA. Available [here](#).

<sup>24</sup> Ntasiou, Z. (2025, January 22). Lessons learned from the 2024 fire season in Greece. Union Civil Protection Knowledge Network. Available [here](#).



## Mozambique: Building network resilience in a multi-hazard environment

Mozambique is highly vulnerable to the impacts of climate-related disasters.<sup>25</sup> According to the ND-GAIN index, which measures a nation's vulnerability to climate change and readiness for adaptation, Mozambique has a high climate vulnerability and ranks 173<sup>rd</sup> out of 192 countries for climate readiness.<sup>26</sup> This indicates that while the country faces escalating climate risks, its institutional and infrastructural capacity to respond remains constrained.



The intensification of tropical cyclones since 2019 has further deepened this cycle of vulnerability, creating cascading risks that threaten connectivity, service delivery and long-term resilience. These acute shocks are compounded by underlying structural fragilities, including weak energy infrastructure, and ongoing conflict in Cabo Delgado, where over 1 million people have been displaced since 2017.<sup>27</sup>

Between December 2024 and March 2025, Mozambique experienced a triple shock as tropical cyclones Chido, Dikeledi, and Jude struck in rapid succession.<sup>28</sup> The overall impact was devastating, affecting over 687,000 people and claiming 120 lives across the northern coastal regions.<sup>29</sup> In total, approximately 118,000 houses were destroyed and 250 schools were severely disrupted.<sup>30</sup>

In the face of repeated climate-related disasters, a clear shift has emerged: cyclones and flooding are no longer isolated incidents requiring ad hoc responses; they are now an unavoidable part of the operating environment in Mozambique.

**“Since Idai in 2019, we’ve been learning how to operate in a crisis. It’s like we switch on this mode, and everything happens fast — the work flows.”**

Christina Azevedo, ESG & Sustainable Business Lead,  
Vodacom Mozambique

### Cyclone response strategy | Early warning to rapid restoration



#### WARNING & PREP

- **Enhanced Warnings:** Leveraging improved national systems to secure vital lead times before landfall.
- **Pre-emptive Action:** Conducting preventative maintenance and refueling generators in high-risk zones.
- **Positioning:** Moving operational teams and suppliers as close as safely possible to impact areas.
- **Distribute Warnings:** Sending emergency alerts to customers when instructed by authorities.



#### PARTNERSHIPS

- **Utility Coordination:** Working with the nation's power utility, EDM, to understand and predict outage durations.
- **Strategic Fuel:** Using EDM data to prioritise critical sites and manage fuel and generator resources.
- **Safety First:** Coordinating cut-offs in flooded areas to prevent electrocution risks for staff.



#### ALERT TO ACTION

- **Structured Triage:** Utilising a data-driven framework and thresholds to authorise response actions.
- **Crisis Readiness:** Annual simulations and testing of critical states to ensure rapid, efficient service restoration.
- **Operational Focus:** Shifting from reactive repairs to managed recovery with minimised data loss.



#### CRISIS RESILIENCE

- **Internal Comms:** Equipping critical staff with satellite phone to maintain essential command lines.
- **Connectivity:** Using other operators for backup connectivity to mitigate our own network failures.
- **Staff Protections:** Protecting our people while driving rapid service restoration for customers.

<sup>25</sup> Chichava, D., Yu, J. H., King'uza, P. H., & Ekwacu, S. (2024). Change in the number of tropical cyclone landfall and approach over Mozambique from 1980 to 2020. *Journal of Geoscience and Environment Protection*, 12(1), 1–20. Available [here](#).

<sup>26</sup> Notre Dame Global Adaptation Initiative. (n.d.). Country rankings. ND-GAIN Index. Available [here](#).

<sup>27</sup> UNHCR. (2025, January 16). Climate change, conflict and political unrest: Mozambique's triple crisis explained. Available [here](#).

<sup>28</sup> Vodacom Group Limited. (2025). Climate and Nature Report for the year ended 31 March 2025.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.



# 03 RESPOND

Emergency communication  
and coordination



## 3 Respond: Emergency communications and coordination

The value of resilient connectivity is ultimately realised in what it enables on the ground: the ability of people, businesses, emergency responders and public institutions to communicate, coordinate and continue operating during crises. When climate-related disasters strike, connectivity is no longer just a convenience but a lifeline.

### Germany: When connectivity becomes a lifeline in the Ahr Valley Floods

In the 2021 Ahr Valley floods, described previously, floodwaters caused widespread destruction to telecommunications infrastructure, physically tearing away underground fibre cables and submerging mobile stations. As the scale of the catastrophe became increasingly evident overnight, we activated an emergency crisis management team. The most immediate challenge was the loss of network connectivity, preventing rescue and cooling.

**“When the true scale of the disaster became clear, we did everything possible to re-establish connections. We knew every single hour without a network could have cost lives. That’s precisely why our crisis team were empowered to make decisions that would normally only be taken at the Executive Committee level. But we simply couldn’t wait until morning to apply the normal escalation and decision-making process; there just wasn’t the time.”**

Volker Petendorf, Corporate Spokesperson at Vodafone Germany

#### Our emergency response

The flooding caused 13,000 fixed-line connections to be destroyed, 59 base stations to fail, and around 25,000 customers to temporarily lose mobile access. Because flood risk had already been anticipated, most sites were designed to withstand short-term disruption. Standardised protection measures and redundant power systems meant that, even amid unprecedented damage, around 85% of stations in the affected areas remained operational.

Within hours, crisis teams were mobilised to stabilise the network. Engineers reconfigured and boosted neighbouring sites to cover black zones, prioritising emergency areas and restoring core services. In areas unreachable due to destroyed roads, we worked with the Vodafone Foundation to deploy Instant Networks. These satellite-linked backpack units could provide temporary mobile coverage for emergency responders within hours. Thanks to rapid intervention and cross-sector coordination, almost 90% of mobile coverage was restored within 24 hours, ensuring communities and emergency responders could reconnect when it mattered most.

#### How the lifeline works in disaster response

During the floods and in the hours that followed, a working mobile signal often meant the difference between being able to call for help and being completely cut off. As roads collapsed and fixed-line communications failed, people trapped in homes or isolated by floodwaters relied on mobile connectivity to reach emergency services.

Once contact was established, speed became equally critical. A location-based emergency call function, introduced in Germany in 2019 and supported by us as one of the participating network operators, automatically transmitted callers’ precise locations to emergency control centres. This enabled rescue teams to reach people who were panicked, injured or disoriented, reducing delays when every minute mattered. At the same time, connectivity facilitated coordination among those responding to the crisis, allowing emergency services, local authorities, and aid organisations to share information, align efforts, and adapt plans as conditions changed.

Connectivity allowed families to confirm who was safe, who was missing and where help was still needed. As the immediate emergency began to stabilise, it continued to support recovery, helping residents find critical information about ongoing risks, available support and next steps.

The Ahr Valley floods taught us the importance of building trust. When networks continue to function under extreme pressure, when warnings reach people in time, and when emergency calls connect in moments of crisis, connectivity becomes something people rely on for their safety, not just for everyday communication.

**“Digital technologies also strengthen public trust, as people realise that modern networks do not just offer convenience but are true safety instruments.”**

Volker Petendorf, Corporate Spokesperson at Vodafone Germany





## Portugal: Recovering critical services in the wake of Storm Kristin

In January 2026, Storm Kristin struck Portugal with wind gusts exceeding 200km/h, causing widespread damage to power, transport and communications infrastructure. Nine people lost their lives, while communities across central Portugal faced prolonged power outages, blocked roads and disrupted essential services. At the height of the crisis, around 900 mobile sites were affected and more than 25% of Vodafone Portugal customers experienced disruption.

### Supporting communities and emergency services

Vodafone Portugal activated its Crisis Management Plan and rapidly mobilised engineers and recovery teams to restore connectivity. Working alongside Civil Protection authorities, the national regulator and electricity distribution operator e-REDES, Vodafone Portugal prioritised restoration in affected areas and deployed resilience solutions including mobile network trucks, generators, satellite-enabled connectivity and Vodafone Foundation Instant Network Emergency Response (INER) kits.

The response built on existing resilience measures, helping maintain communications where possible while damaged infrastructure was being restored. Working with public authorities, Vodafone Portugal helped identify affected areas and critical locations requiring support, including emergency services, fire stations, Civil Protection teams and communities most affected by the storm.

### Rapid emergency connectivity

Vodafone Foundation's INER teams helped restore vital communications for emergency responders and isolated communities. A Portugal-based INER hub, run by trained Vodafone volunteers, enabled local teams to deploy equipment quickly, with international teams providing additional support as the scale of disruption became clear. The response helped reconnect fire stations and restore communications for Isna, a remote community that had been left without connectivity and was at risk of being cut off from families, information and emergency services. Connectivity was installed at the local sports club, a central gathering point, so residents could stay connected and call for help if needed.



Image Credit: Vodafone Foundation

### Building resilience through disruption

Storm Kristin highlighted the importance of combining resilient networks with strong cross-sector coordination and rapidly deployable emergency communications capabilities. Close collaboration between Vodafone Portugal, Civil Protection authorities, the national regulator and electricity distribution operator e-REDES enabled restoration efforts to be prioritised and coordinated as conditions evolved. The response also demonstrated the interdependence communications and energy infrastructure, reinforcing the need for coordinated resilience planning across critical sectors.

When conventional infrastructure was under pressure, local readiness, trained volunteers and emergency connectivity helped support critical services, emergency responders and communities cut off by the storm.

### Flood risk mitigation at a critical site in Türkiye

Drought, water stress, flash floods and flooding are among Türkiye's most prevalent climate risks, with increasing temperatures, shifting rainfall patterns, urbanisation and pressure on infrastructure expected to intensify these risks.

In July 2025, municipal landscaping and road elevation works in Central Anatolia created an unintended resilience challenge. A critical Vodafone hub site was left significantly below the new road level, increasing its exposure to flooding during heavy rainfall. The site supported more than 100 connected sites, carried 50–60TB of data and served nearly half of the region's customer base, making its resilience essential to keeping communities connected during disruption.

Vodafone's Central Rollout and Regional Rollout & Planning teams, working with Regional Services Partners, assessed the risk and implemented a targeted mitigation solution. Over eight hours of continuous live operation, with no service disruption, the site was raised by two metres using a steel platform and temporary supports.

The intervention shows how preparation strengthens response. By protecting a critical hub before flooding caused wider disruption, Vodafone helped safeguard the network capacity that people, businesses and essential services rely on when extreme weather puts infrastructure under pressure. This reduced immediate flood risk and strengthened the site's resilience to future climate shocks.





# 04 RECOVER & REBUILD

Connectivity as a safety net



## 4 Recover and Rebuild: Connectivity as a safety net

The role of connectivity does not end when the immediate danger subsides. In the recovery phase, connectivity shifts from being an emergency lifeline to becoming an enabler of continuity. Connectivity and digital solutions allow essential services such as education to operate when in-person delivery is disrupted, and maintain financial flows through digital payments and voucher systems that don't depend on functioning transport routes or cash infrastructure.

### South Africa: Digital bridges to recovery after KwaZulu-Natal floods

In April 2022, while still recovering from the impacts of the COVID-19 pandemic as well as political unrest and riots in 2021,<sup>31</sup> the coastal region of KwaZulu-Natal in South Africa experienced one of its deadliest natural disasters on record. The floods triggered catastrophic mudslides that claimed more than 400 lives and displaced over 40,000 people. The scale of the environmental impact was vast, with critical roads, bridges, and power lines physically obliterated, leaving entire districts isolated from emergency services.<sup>32</sup>

As the region's largest mobile operator with around 7 million customers in the region, the floods posed an immediate challenge: the urgent need to keep people connected when they needed it most. During and after the floods, there was a sharp spike in both voice and data traffic, as emergency services coordinated rescues, community leaders shared information, and families checked on loved ones.

### Kwazilience

noun

Applies to those who dwell in KZN, South Africa.

Almost a numbing, a coping skill we have developed due to Covid, lockdowns, rioting, looting and flooding of excessive proportion.

Lesley van Straaten, KZN Resident

At the same time, our employees were experiencing the disaster. Some were injured while trying to protect their homes, while others were searching for missing family members. One engineer had to navigate flooded roads, mudslides and rising rivers for more than two hours to reach a site that would normally have taken ten minutes to access. Within hours, that same road had been completely washed away.

After ensuring the safety of our employees, the immediate priority was to determine what remained operational. Three major network facilities were affected by the floods almost immediately, leaving the entire province reliant on just one. Additionally, around 60% of the fibre infrastructure was lost. Reaching and stabilising that one facility required rapid deployment under extreme conditions.

Where terrestrial networks failed completely, satellites became essential. Satellite phones were deployed to emergency services, and in one case, a full satellite solution was mounted on a trailer and hoisted onto a flooded building to restore international communications. In practice, maintaining connectivity during the floods required difficult, practical decisions on the ground: protecting the remaining network infrastructure, restoring damaged sites as soon as conditions allowed, and keeping core parts of the network operational despite severe physical constraints. These actions laid the foundation for the subsequent recovery efforts.

### Digitalising businesses and public services to improve continuity

As the immediate danger of the flood passed, the scale of damage left many communities facing a prolonged and uneven recovery. Roads remained impassable, public services were slow to resume, and households struggled to access cash and basic goods. Education was also disrupted as 24 schools were damaged or unreachable due to the collapsed roads.<sup>33</sup>

In this context, recovery depended not only on rebuilding physical infrastructure but on finding ways to distribute support and maintain everyday economic and social activity while physical systems remained damaged.

**“As a telco, you have an amazing capability to help in a disaster, mainly because the most important component of recovery is communication.”**

Imran Khan, Managing Executive for Vodacom KwaZulu-Natal Region



### Maintaining learning during disruption

During this time, our free to access e-Learning platform saw increased usage, indicating that learners and families turned to digital education tools when in-person schooling was impossible. The platform allows educators to create and schedule lessons remotely, monitor progress and support learners from anywhere, while downloaded content remains available offline so students can continue studying without ongoing connectivity. This helped limit learning disruption and supported longer-term resilience by keeping children engaged in education during the crisis.

<sup>31</sup> Parliamentary Monitoring Group. (n.d.). Unrest in KwaZulu-Natal and Gauteng. Parliamentary Monitoring Group. Available [here](#).

<sup>32</sup> Inclusive Cities. (2024, February 2). Why are floods in South Africa's KwaZulu-Natal so devastating? Urban planning expert explains. SARChI Inclusive Cities, University of KwaZulu-Natal. Available [here](#).

<sup>33</sup> Daily Maverick. (2025, March 5). Twenty-four KwaZulu-Natal schools damaged after severe floods disrupt learning and destroy infrastructure. Available [here](#).



## Enabling financial access through digital services

Microfinance, which can be accessed digitally, also proved critical in these crisis conditions where transport, banking infrastructure, and incomes were disrupted. In the aftermath of the KwaZulu-Natal floods, platforms like VodaLend enabled eligible customers to apply for and receive microloans remotely, without visiting branches or providing physical documentation. Fully digital lending reduced issuance costs, making small loans affordable and practical for households and small businesses to meet basic needs or begin rebuilding.

### Supporting recovery through digital payments in Mozambique

The network also plays a critical role in recovery by enabling communication, fundraising, and the continued flow of money when traditional banking systems are disrupted. In Mozambique, this includes mobile money services such as M-Pesa, a widely used digital payment platform that enables users to send, receive, and withdraw money via mobile phones, often without access to banks or ATMs. In many remote areas where bank branches and ATMs are scarce or absent, access to cash depends on M-Pesa's network of local agents and super-agents. Operating from small shops and kiosks, these agents enable people to deposit cash into or withdraw cash from their mobile accounts, ensuring that digital funds can be converted into physical cash within local communities.

To maintain the continuity of financial services during cyclone events, we implemented a series of targeted M-Pesa interventions designed to protect livelihoods and support humanitarian assistance. For example, we temporarily waived fees on M-Pesa withdrawals, improving access to physical cash at a time when banks and ATMs were frequently offline. To assist with the flow of aid to vulnerable households, transfer fees were removed for humanitarian organisations such as Save the Children and GiveDirectly. In addition, we compensated M-Pesa agents for lost revenue during network outages, helping these small local businesses survive the crisis and maintain their livelihoods.

## Digitising emergency support distribution

After climate-related disasters, the shift from traditional cash to digital payments is more important than ever to build efficiency, transparency and resilience to security risks. eVouchers offer a way to move support without moving people or supplies. Traditionally, South Africa's emergency relief payments have relied on paper forms that had to be physically transported for processing, a system disrupted by flood-damaged roads. In response to the KwaZulu-Natal floods, we worked with government partners to issue emergency relief payments via eVouchers. Beneficiary data was captured in the field using our digital pen, which automatically uploads information when connectivity is available, allowing for remote approval. Households then received vouchers on their phones, redeemable at local shops for essentials, enabling faster, more resilient and more dignified access to support.

### Bridging the aid gap and securing livelihoods through Mezzanine

Through our Vodacom Group's subsidiary, Mezzanine, we have scaled the eVoucher model across sectors and geographies to ensure that even the most remote communities can recover from climate shocks and build resilience to future events.

In Kenya, Mezzanine's partnership with Oxfam and World Vision has redefined the mechanics of disaster response through digital eVouchers. As a result, communities across Kenya have adopted e-vouchers, giving them additional tools to adapt to climate crises. Since 2020, this platform has disbursed over KES 130 million (approximately \$1 million) across 11 climate-vulnerable counties. The system achieved a 100% redemption rate, proving that even in high-stress disaster zones, digital infrastructure remains a reliable bridge for aid.

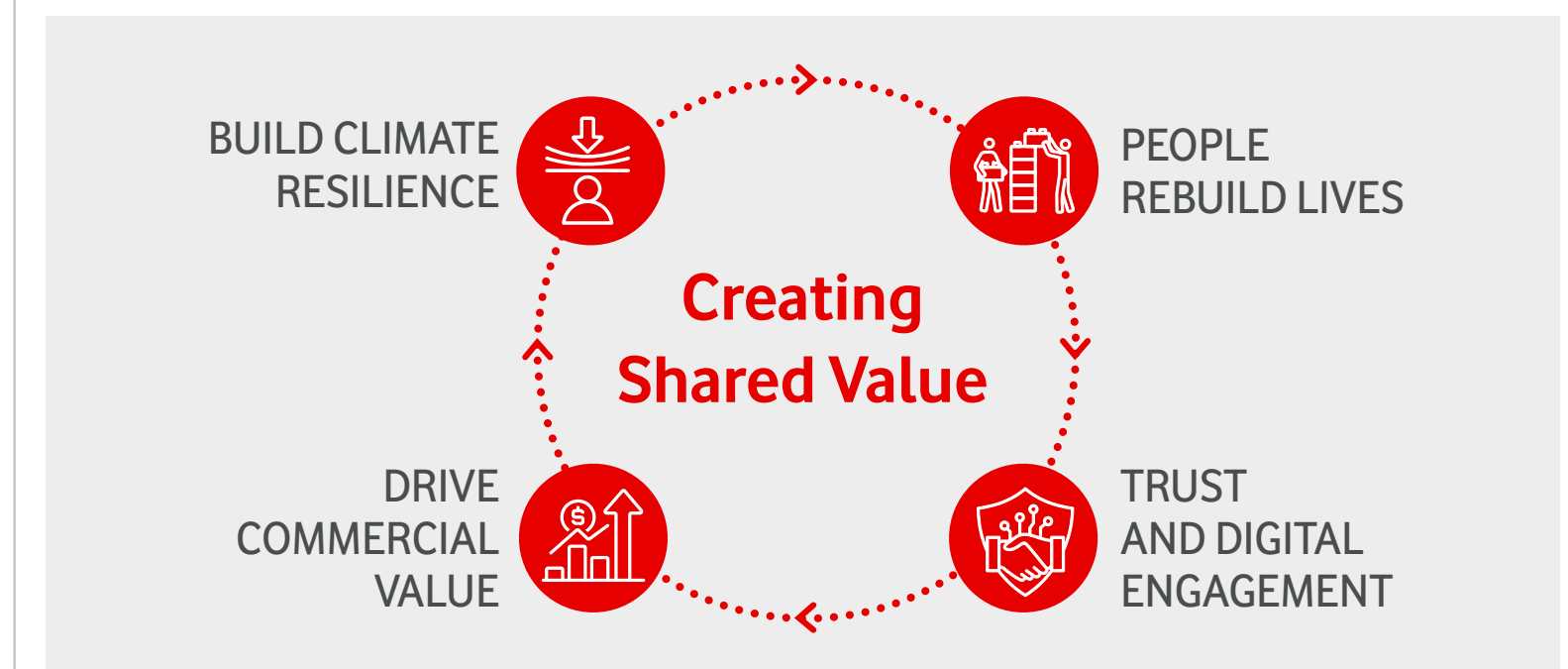
In a separate program with the Kenyan Ministry of Agriculture and Safaricom, Mezzanine's eVouchers were used to distribute 12 million bags of fertiliser for farmers, boosting their productivity and long-term resilience to shocks.

The experience in South Africa, our work through Mezzanine, and our interventions in Mozambique, show that recovery depends not only on rebuilding physical infrastructure, but on maintaining access to communication, education, financial services and public support systems while that rebuilding takes place.

## Investing in climate resilience unlocks shared value and accelerates digital adoption

Our response to the floods in South Africa also accelerated digitisation and learning. Digital tools introduced during the floods were adopted out of necessity but continued to be used once communities had recognised their value under disrupted conditions. In areas where we introduced digital vouchers, follow-up visits to communities such as Jozini showed sustained use of digital point-of-sale systems and reduced reliance on cash. Although the trigger was negative, the long-term outcome was greater digital inclusion and adaptive capacity, as households and local businesses retained practices that enhanced their resilience to future shocks.

In the months following the floods, we reviewed customer behaviour and found that approximately 300,000 new customers joined the network during and shortly after the crisis period. Most remained on the network well after the immediate disruption had passed. This suggests that reliable connectivity and the provision of digital solutions, which enabled critical services to continue and gave people access to digital guardrails for future disasters, shaped how people engaged with their mobile provider in its aftermath.



This experience illustrates the creation of shared value. Digital solutions such as e-vouchers and mobile emergency relief payments help households meet immediate needs and recover livelihoods more quickly, while the same investments built trust, encouraged sustained use of digital services, and strengthened longer-term customer relationships.



# CONCLUSION

Powering the next era  
of climate resilience





# Powering the next era of climate resilience

Together, these case studies show that connectivity is a lifeline across the full chain of response to climate-related disasters. They also highlight the conditions that determine whether connectivity can perform this role effectively, including scalable early-warning systems, resilient power infrastructure, strong multi-stakeholder coordination, and the use of digital services to support recovery. Building on these themes, this section sets out priority action pillars for strengthening and scaling connectivity and digital capabilities for climate adaptation, and considers what this implies for the roles of telcos and their partners.

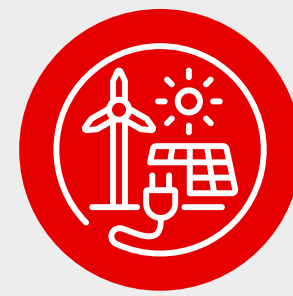


## 1 Enable investment in resilience

- Pro-investment frameworks
- Innovation accelerators
- Public-private partnerships

### ACTION

Create a pro-investment, pro-innovation environment



## 2 Scale emerging technologies

- IoT, AI & Satellite early warning systems
- Satellite coverage
- Device affordability

### ACTION

Apply emerging technologies to climate resilience and adaptation



## 3 Coordinate disaster responses

- National Emergency Telecom Plans
- Formal coordination mechanisms
- Cross industry approach

### ACTION

Increase coordination and partnerships during disaster responses



## 4 Embed digital finance in adaptation action

- Mobile money solutions
- Emergency aid disbursement
- Climate resilience tools

### ACTION

Integrate digital finance into adaptation plans



## ACTION PILLAR 1: PREDICT

### Enable investment in resilience

The case studies demonstrated that climate resilience outcomes depend on a pro-investment, pro-innovation framework that allows digital solutions to be developed, tested and scaled quickly. Where telecom infrastructure, digital platforms and data-enabled services are supported by enabling regulation and public-private collaboration, innovations such as early-warning systems, mobile money and digital vouchers can operate reliably even during crises and reach people at scale.

This illustrates that sustained investment in digital infrastructure and innovation ecosystems is not just a commercial priority, but essential for effective disaster response and long-term resilience. Without supportive policies, climate adaptation tools will fail when they are needed most. For governments, enabling regulation and pro-innovation frameworks are therefore foundational to disaster preparedness, economic continuity, and resilience.

**1.1 Powering the next era of climate resilience requires pro investment and pro innovation framework to enable private providers of critical infrastructure to invest ahead of climate risk and deploy more efficient and more resilient climate ready networks.**

This includes stable, long-term regulatory frameworks that give private operators confidence to invest ahead of climate risk, such as predictable spectrum licensing, streamlined planning approvals for resilient sites, and incentives for network hardening in high-risk areas. Pro-innovation frameworks could also be established through data-sharing for disaster risk management and regulatory spaces to pilot digital solutions like mobile money, e-vouchers and emergency communications.



## ACTION PILLAR 2: PREPARE

### Scale emerging technologies

Adaptation increasingly depends on the intelligent use of emerging technologies to anticipate risk and reduce exposure before disasters occur. These case studies showed the critical role that we as telcos play in ensuring availability of technologies such as the Internet of Things (IoT), Artificial Intelligence (AI) and satellite imagery to detect and forecast climate risks.<sup>34</sup> Our networks connect distributed sensors, process real-time data and broadcast alerts at scale, enabling telecoms to act as a digital nervous system that spots threats early and supports timely, coordinated response. Connectivity providers also play a role in scaling emerging technologies to improve network resilience. For example, Vodafone's joint-venture 'Satellite Connect Europe' enables direct to-device satellite coverage across Europe on existing unmodified 4G/5G smartphones, maintaining communication in high-risk or remote locations.

Despite technological advances, early warning coverage remains uneven, with around one-third of the world's population still unprotected, mostly in the least developed and most climate-vulnerable countries.<sup>35</sup> At the same time, 95% of the world's population has access to mobile broadband networks, and close to 80% own a mobile phone.<sup>36</sup> This device affordability gap means that innovative alert channels like direct-to-mobile satellite warnings must be paired with efforts to improve access to compatible handsets or alternative alert mediums, so that Early Warnings for All becomes a reality. In scaling early warning systems, Vodafone is helping bridge these gaps: extending coverage through both terrestrial and satellite networks, while also supporting digital inclusion initiatives to ensure that the most vulnerable can receive life-saving warnings in time.

**2.1 The expansion of systems to identify, prepare and warn for climate disasters can be accelerated by applying emerging technologies to disaster preparedness.**

Governments and telcos can contribute to expanding access to effective early warning systems by fostering policy and coordination environments that enable mobile-based solutions to operate at scale. This report highlights the importance of nationwide deployment of cell broadcast alerts through clear legislation and collaboration with operators, as demonstrated in Germany, as well as the growing role of IoT- and AI-enabled risk detection that combines network data with satellite and environmental information, including wildfire and flood monitoring initiatives in Europe and the UK. Addressing remaining coverage and affordability barriers, such as connectivity in hard-to-reach areas and access to compatible devices, can further help ensure early warnings reach communities most exposed to climate risk.

<sup>34</sup> Argyroudis, S. A., Mitoulis, S. A., Chatzi, E., Baker, J. W., Briakakis, I., Gkoumas, K., Vousdoukas, M., Hynes, W., Carluccio, S., Keou, O., Frangopol, D. M., & Linkov, I. (2022). Digital technologies can enhance climate resilience of critical infrastructure. *Climate Risk Management*, 35, 100387. Available [here](#).

<sup>35</sup> GSMA. (n.d.). Early warning systems. Available [here](#).

<sup>36</sup> International Telecommunication Union. (n.d.). ITU DataHub. Available [here](#).



## ACTION PILLAR 3: RESPOND

### Coordinate disaster responses

Connectivity as a lifeline is a collective outcome. While telcos are critical enablers of network continuity, resilience ultimately depends on coordinated investment across the wider ecosystem, including governments, regulators, utilities and humanitarian actors.

Strong public-private partnerships determine whether connectivity can operate at scale when climate-related disasters strike. Sustained investment in resilient network infrastructure must be paired with formal coordination mechanisms. Without them, operators risk concentrating resources in the same locations while other communities remain disconnected.

Likewise, across all case studies a critical dependency emerged: resilient communications depend on reliable electricity, yet national power systems are vulnerable to climate and technical shocks. During disasters, connectivity was often sustained through generators, batteries and emergency power systems when the grid supply failed, however, generators also presented limitations.

These insights show resilience is a system issue, not just a network one. Strengthening connectivity requires coordinated investment across telecoms and energy, supported by clear National Emergency Telecoms Plans to align response. Without reliable power and coordination, even advanced networks fail- highlighting the need for integrated, cross-sector action.

**3.1 Building partnerships during a crisis is exceptionally challenging; telcos, emergency responders, public authorities, and NGOs should strengthen coordination mechanisms to enable shared planning and more efficient resource use at the time of the crisis.**

National Emergency Telecommunication Plans play a key role by establishing roles and responsibilities for government agencies, private operators, and humanitarian actors working together during a crisis.<sup>37</sup> As approximately 40% of countries have not started establishing these plans, telcos can proactively advocate for their development and initiate industry-led coordination in the absence of formal frameworks.<sup>38</sup> Where possible, this should include the integration of emerging technologies such as satellite connectivity into NETPs to aid emergency teams on the ground.



## ACTION PILLAR 4: RECOVER

### Embed digital finance in adaptation action

Our case studies demonstrated how digital finance tools can sustain recovery and livelihoods when climate shocks disrupt physical systems. Digital vouchers, mobile money, and person-to-person transfers enable households to access essential goods, services, and remittances, while supporting humanitarian assistance and local market activity. These tools matter not only because they expedite payments but also because they enable individuals to make their own recovery decisions, such as what to buy, where to source it, and when to act.

Beyond emergency response, digital finance offers a broader set of adaptation benefits. By linking people to savings, credit, insurance and social protection,

digital financial services help households reduce vulnerability by smoothing consumption, enabling investment in adaptive livelihoods, and improving risk management over time.<sup>39</sup> When embedded into social safety nets, agricultural systems, and disaster risk financing, digital finance can shift adaptation from reactive response toward longer-term resilience.<sup>40</sup>

Closing the climate finance gap will depend on delivering finance directly to those most exposed to climate risk. With less than 10% of global climate finance reaching local climate activities, mobile payment systems provide a practical pathway to translate climate finance into household- and community-level resilience.<sup>41</sup>

**4.1 Recognise the digitalisation of financial services as a core part of national climate adaptation planning.**

Despite their demonstrated value, digital financial solutions remain underrepresented in Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). Integrating these services into adaptation planning is a pragmatic step toward more inclusive, effective, and people-centred climate resilience.<sup>42</sup>

**4.2 Scaling this impact depends on treating connectivity as a platform for critical services, not just communication.**

Telcos can significantly expand the reach and effectiveness of digital lifelines by extending network coverage, reducing access costs through zero-rated or reverse-billed services, supporting affordable device ecosystems, and partnering with governments to align digital infrastructure investment with climate and social protection priorities.

<sup>37</sup> International Telecommunication Union. (n.d.). National emergency the telecommunication plans (NETPs).

<sup>39</sup> United Nations Development Programme. (2024). Response to resilience: How digital financial services can advance climate adaptation. UNDP Sustainable Development Finance Hub. Available [here](#).

<sup>40</sup> Ibid.

<sup>41</sup> Soanes, M., Rai, N., Steele, P., Shakya, C. and MacGregor, J. (2017). Delivering real change: getting international climate finance to the local level. IIED, London. Available [here](#).

<sup>42</sup> United Nations Development Programme. (2024). Response to resilience: How digital financial services can advance climate adaptation. UNDP Sustainable Development Finance Hub. Available [here](#).

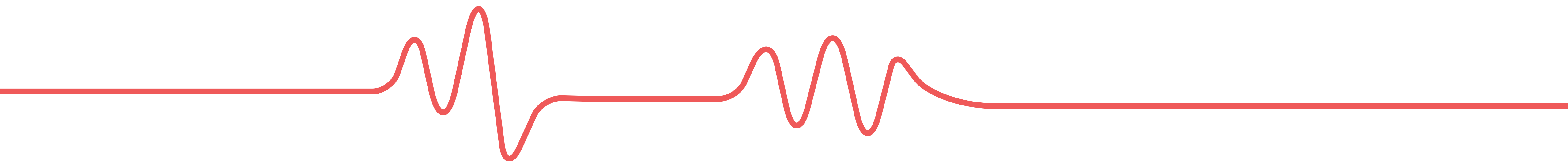


## CONCLUSION

Digital connectivity and digital tools are central to climate resilience. Telcos play an essential role in preparing our customers and communities (citizens, businesses and public sector organisations) for a future in which climate-related events are becoming more frequent and severe, and in supporting recovery in their aftermath. Delivering connectivity in the moments when our customers need it most directly shapes trust – the foundation of our global business.

We have already taken significant steps to play a stronger role in societies ability to anticipate, prepare, respond, recover, and rebuild in the face of climate-related disasters. At each stage of this resilience cycle, our actions are designed not only to address immediate disruption, but to leave our networks and partnerships stronger than before, embedding lasting improvements in overall resilience. As a global operator, we recognise both the opportunity and the obligation to do more, and work collectively to raise resilience standards across the telecommunications sector.

In a climate-challenged world, connectivity will increasingly be judged not by speed or coverage alone, but by its resilience when other systems fail. Powering the next era of climate resilience, therefore, means proactively investing in the systems, partnerships, and services that enable connectivity to remain a lifeline before, during, and after climate shocks.





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