




World Risk Poll 2024 Report: Resilience in a Changing World

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Foreword



Dr Ruth Bounphrey
Chief Executive
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2024 is a critical year for our planet and its people. More voters than ever before – about half the world’s population – will head to their national polls to vote. They will do this against the backdrop of a changing climate, technological transition, social unrest, war, and the lingering after effects of a global pandemic.

Every two years the Lloyd’s Register Foundation World Risk Poll gives a voice to people around the world, systematically gathering data so we can learn about everyday worries and experiences of risk and harm.

The Poll provides a voice to those globally who are often ignored or underrepresented, and the freely available data can and should be used to inform interventions that support the most vulnerable populations globally.

In the context of our changing world, the resilience of individuals, communities and countries has never been more important. Resilience helps people to live safely and to feel safe, and it is Lloyd’s Register Foundation’s mission to engineer a safer world.

Two years ago we released our first World Risk Poll Resilience Index, a global tool that allows policymakers and researchers to understand resilience from the perspectives of individuals, communities and countries, across the diverse demographics and regions the Poll covers.

In this report we present the second iteration of this Resilience Index, which, for the first time, shows how resilience is changing in the face of today’s challenges.

We want this report and the associated data to increase shared understanding and lead to meaningful improvements in the way resilience is nurtured and strengthened around the world – ultimately keeping people safe from harm.



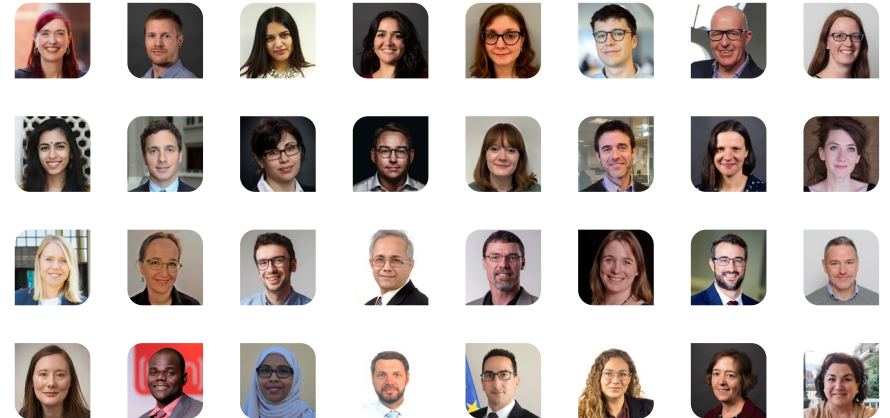
Acknowledgements

The World Risk Poll is a huge undertaking powered by multidisciplinary teams working across organisations. Lloyd’s Register Foundation is grateful to everyone who has contributed to this, and previous versions of the World Risk Poll, and the collaborative spirit in which they work.

We are continually inspired by the enthusiasm of our strategic impact partners who have invested time in developing the questionnaire and are now embedding the data in their work, inspiring and galvanising people to take action. You can follow their journeys, and the change created, through the Poll website at wrp.lrfoundation.org.uk.

The Technical Advisory Group for the World Risk Poll was first convened in early 2019, and we are indebted to the ongoing time and effort voluntarily invested by the members in the analysis, planning and reviewing of all our outputs.

Finally, our thanks are extended to the team at Gallup for their efforts in constructing and testing the Poll, and to the local staff in countries across the globe who undertook the fieldwork, often under difficult circumstances. We are particularly grateful to the World Risk Poll delivery and analytical team at Gallup for their ongoing contributions and support.



Executive summary

The World Risk Poll is the first and only global, nationally representative study of worry about, and harm from, risks to people's safety. The Poll is based on nearly 147,000 interviews conducted by Gallup in 142 countries and territories throughout 2023 and covers places where little to no official data on safety and risks exist. It measures 120 of the same countries surveyed in the previous Poll in 2021. The 2023 World Risk Poll provides the second edition of the World Risk Poll Resilience Index – a unique measure of how prepared people and communities worldwide are to handle adversity such as disasters based on their circumstances and perceptions of support systems.

The Poll is a unique resource for defining the nature and scale of safety challenges across the world, as reported first-hand by those who experience them. Governments, regulators, businesses, NGOs and international bodies can and should use this freely available data to inform and target policies and interventions that make people safer.

“The World Risk Poll is the first and only global, nationally representative study of worry about, and harm from, risks to people's safety.”

Key findings

Overall resilience remains similar to 2021, but results varied significantly across the four dimensions of the index

- Overall, the world's resilience remains largely similar in 2023 compared to 2021 (scoring 57 vs 55 on the Resilience Index, respectively). Three-quarters of countries and territories (90 of 120) measured in both 2021 and 2023 saw no significant change in Resilience Index scores.
- This general sense of stability belies more significant variation across the four resilience sub-indices – individual, household, community and societal.
 - More countries (20) saw significant declines of four points or more than saw significant increases (eight countries).
 - While overall resilience was stable at a global level from 2021 to 2023, resilience at the individual level fell, with significant drops in over a third (42) of countries measured in both years. Many of the largest declines were observed in Eastern Europe.
 - This decline in individual resilience was driven by a global increase, from 36% to 43%, in the percentage of people who say they can do nothing to protect themselves and their families from the impact of a future disaster, suggesting a global loss of agency and growing sense of helplessness.
 - The index shows that individual and household resilience have positive associations with each other, as do community and societal resilience – improving one can potentially positively affect the other.
- Many countries that saw the largest increases in overall resilience have experienced profound instability since 2021, including Russia, Burkina Faso, Ukraine, Mali and Lebanon. These increases in overall resilience were driven by increases in the community and societal dimensions.

Drivers of resilience: Work, income, age all important factors

- We found several demographic variables to be most strongly associated with resilience. Controlling for other factors such as region and GDP, these include:
 - Employment status: Being employed full time (not including self-employed) was most strongly associated with a higher Resilience Index score.
 - Household income: Individuals living in households whose earnings fell in the poorest 20% of their country's income distribution were disproportionately more likely to have lower Resilience Index scores than those living in financially better-off households.
 - Age: Adults aged 15 to 29 years old had greater resilience scores than those over the age of 50.

Resilience and disaster experience: A complex relationship

- In 2023, 30% of people worldwide said they had personally experienced a disaster related to a natural hazard in the past five years, compared with 27% in 2021, primarily driven by increased experience of flooding. Findings from the latest World Risk Poll shed additional light on the complex relationship between experiencing a disaster and resilience.
 - Looking at the 120 countries measured in both 2021 and 2023, increases in experience of disaster are positively correlated to increases in planning for future disasters. This finding supports existing academic literature that suggests a link between surviving a natural disaster and being more prepared to face one in the future.
 - However, experiencing a disaster did not significantly affect feelings of agency – that is, feeling able to protect oneself and family from a future disaster.
- Major natural disasters that occurred between the 2021 and 2023 editions of the World Risk Poll highlight the complex relationship between disaster and resilience. Experiencing a disaster can have diverse impacts on resilience in different places.
 - Morocco stands out for its decline in individual and household resilience after the major earthquake in September 2023. Pakistan and New Zealand – which both experienced major floods – stand out for different reasons. In regions of Pakistan and New Zealand most directly affected by the floods, community and societal resilience declined sharply, while individual and household resilience remained stable.

More work to do on early warnings

- The Poll's resilience module also includes data on if and how people who experienced disasters received any warning, providing a crucial indicator of how the UN's Early Warnings for All initiative is doing. According to the 2023 Poll, 30% of people globally who experienced a disaster in the past five years received no warning, in line with the figure from 2021 (31%).
 - People in Central Asia, Northern Africa and Central/Western Africa were particularly unlikely to be warned.
 - So too were people living in rural areas, the least educated and those with the lowest levels of household financial resilience.
 - Of everyone in the world who experienced a disaster within the last five years, and were NOT warned of it in advance, over three-quarters (77%) have a mobile phone, representing a clear opportunity to improve and deploy mobile-first early warning systems.

Policy implications

The World Risk Poll data and insights highlight several policy interventions which could be implemented to improve people's resilience in the face of disasters. These include:

1. **Early warnings:** Significant inequalities remain in access to early warnings. The data show that certain global regions, such as Central, Western and Northern Africa, should be particular areas of focus to improve early warnings to people, and within countries, people with the lowest levels of education, those who live in rural areas, and those with the lowest levels of financial resilience have the greatest need for more early warning dissemination. Mobile phones and digital early warning systems could represent a key opportunity to narrow these gaps in access to early warning systems.
2. **Focussing on the most vulnerable demographic groupings within countries:** The data and analyses show that some demographics have much stronger associations with high scores on the Resilience Index than others. People not in full-time employment for an employer, the poorest 20% of income earners and the elderly should be of particular focus for support to improve their resilience.
3. **Financial safety nets:** There is a clear link between resilience and how long households could cover their basic needs if they lost their income. Strengthening people's financial safety nets, particularly for women, is therefore likely to help people survive and recover better from disasters in the future.
4. **Targeted interventions starting at the individual and household levels to improve the sense of agency:** Interventions to improve resilience need to engage with people and communities to reinforce messages that there are measures people can adopt to reduce the risks of harm from disasters and strengthen their resilience.

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1. Introduction

Changing resilience in a changing world

The first World Risk Poll resilience report, *A Resilient World?*¹, was published in 2022 and based on survey data collected from 121 countries and territories in 2021. This unique global survey revealed the extent to which communities around the world felt the effects of natural and human-made hazards and took the world's pulse during a once-in-a-generation pandemic that upended lives globally.

Since then, the world has faced a host of new challenges. The year 2023 was the warmest on record by a significant margin, according to the World Meteorological Organization². As the world reopened after the worst of the pandemic, inflation started to rise, squeezing household incomes and discretionary spending³. Russia's invasion of Ukraine in February 2022 had massive geopolitical and macroeconomic implications. The West imposed extensive sanctions on Moscow and, in turn, felt the impact in their own pockets as global energy prices rose. Global inflation, which was already inching up before the war, rose sharply above 8% for the first time since the financial crisis of 2008⁴. The Israel–Hamas conflict in Gaza, which started in October 2023, added more severe hardship and serious challenges as its effects spilt into the wider region.

All these major global systems – climatic, economic or geopolitical – directly affect people everywhere. In a changing world, it is vital to continue measuring and strengthening people's capacity to cope with adversity and disasters.

As such, the first iteration of the World Risk Poll resilience module in 2021/2022 created the World Risk Poll Resilience Index. This index acknowledges that people's capacity for resilience depends on many factors, from the individual and personal to societal and structural, and is based on a synthesis of other resilience frameworks^{6,7,8,9}. It follows an exploratory approach to creating an indicator of how well-equipped people are to cope with adversity and shocks based on personal circumstances and perceptions.

The Resilience Index calculates an overall score (between 0 and 100, with higher values indicating greater resilience) and is based on four levels of resilience: individual, household, community and societal. Such a multilayered approach to measuring resilience helps unpack differences in resilience between groups of people and how these differences vary across countries and regions and over periods of time. Full methodological details about the index can be found in Appendix i.

According to the United Nations Office for Disaster Risk Reduction (UNDRR), resilience is a process, not an outcome¹⁰. Because risks – and the complex systems that produce risk and uncertainty – are dynamic, so is resilience. It is because of this dynamic nature that resilience must be measured first as a baseline, and then repeatedly, for governments and policymakers to design interventions that make people safer and help them cope with the difficulties of a changing world. This second iteration of the World Risk Poll Resilience Index is, therefore, a valuable tool that measures whether people around the world are becoming more or less resilient over time, and what is driving that change in resilience for people in different countries and regions.

In recent decades, the importance of resilience has markedly climbed up the agenda for the mitigation of risks, hazards and disasters. Previously, the study of natural hazards focused on the technical or geophysical nature of events and their impact on infrastructure, largely overlooking the social dimensions of vulnerability that turn natural hazards into disasters. Over time, this paradigm has shifted to focus more on the related concepts of resilience and vulnerability, placing greater emphasis on the complex underlying factors that drive resilience.

Different organisations and academics define resilience in various ways. Yet most find consensus around the idea of the ability to absorb – and bounce back from – 'shocks' (that is, instances when risks become disruptive events that threaten people's safety). Klein et al. (2003)⁵ argue that the concept of resilience must be measurable to be useful.

Accordingly, much of the rest of this report is framed around change over time. Not only change in the Resilience Index and its constituent parts but also external changes in the wider world – be they geophysical, economic or geopolitical. Examining the links between these external high-level trends and shifts in public perceptions of risk and resilience helps shed light on the nature of resilience itself and, therefore, hints at how resilience may continue to evolve in a changing world. This is only the second iteration of the World Risk Poll Resilience Index, and we hope that future iterations will help discern longer-term trends as we gather more data. This should provide valuable insights to policymakers and organisations working to improve people's resilience in the face of disasters.



2. The state of global resilience

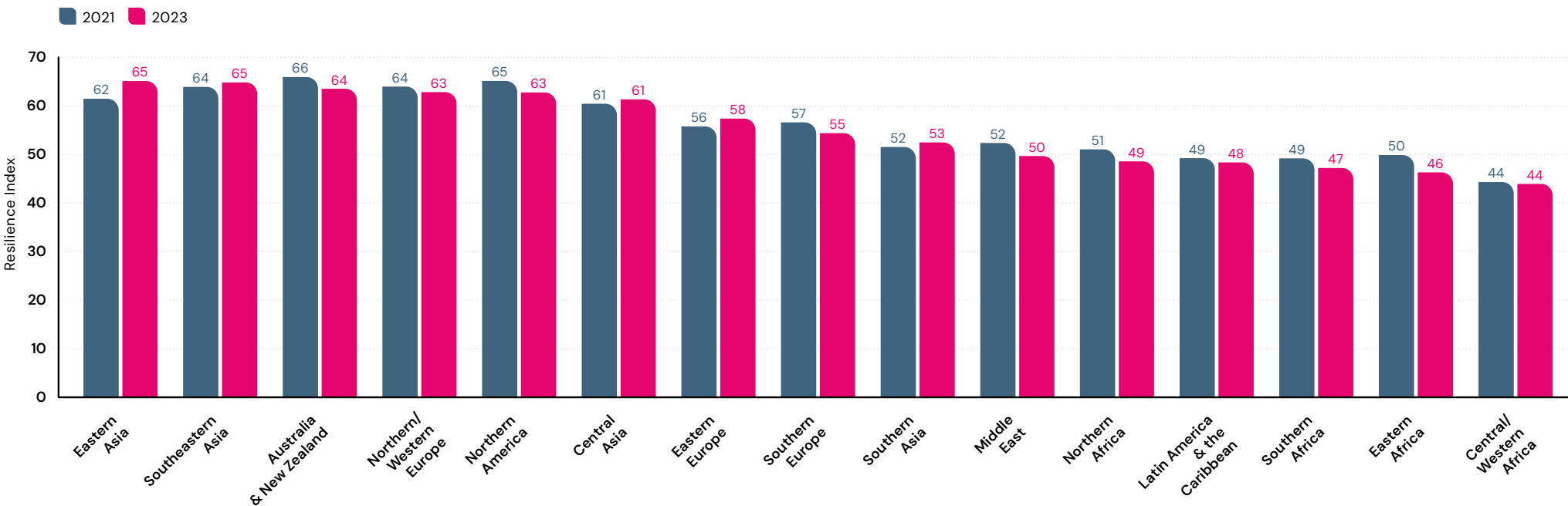
World Risk Poll data from 2023 reaffirm that resilience is a complex phenomenon that changes in uneven ways. While global Resilience Index scores were mostly stable compared to 2021, this belies important shifts at the regional and national levels as well as across different elements of the index, from the individual to the societal. This chapter describes critical global-, regional- and country-level resilience patterns and trends, and the subsequent chapters examine possible drivers of resilience and patterns of experience of natural hazards, as well as potential policy implications that the data suggest.

The world map of resilience in 2023 is relatively comparable to 2021ⁱ. Eastern Asia joins Southeastern Asia as the world's two most resilient regions because of a three-point increaseⁱⁱ driven by the inclusion of China in the 2023 Resilience Index (see the adjacent box for details regarding measurement and analytical caveats in relation to China). All four of Africa's subregions score just below 50 on the Resilience Index, making them the least resilient regions in the world, with Latin America and the Caribbean also among the lowest.

CHINA'S CONTRIBUTION TO GLOBAL RESILIENCE INDEX SCORES

When analysing global changes in total resilience, looking at country-by-country variation rather than taking an average of the whole world gives a more accurate read on how resilience is changing. This is because the global figure is skewed by China, which was not given a score in 2021ⁱⁱⁱ and was measured using a different interviewing mode, which can cause some differences in estimations (see the box on Page 5 for details on the impact of China on global and regional figures). Using the global average, resilience increased from 55 in 2021 to 57 in 2023. However, as Chart 2.2 demonstrates, this masks the fact that more than twice as many countries saw significant decreases (20) as increases (8) in resilience in 2023 compared to 2021. At a time when the world was hoped to have overcome the most immediate and severe consequences of the COVID-19 pandemic and was supposed to be on a renewed upward trajectory, these findings appear to reflect that the past two years have not fared well for hundreds of millions of people globally.

Chart 2.1. Resilience Index scores, by region (2021–2023)

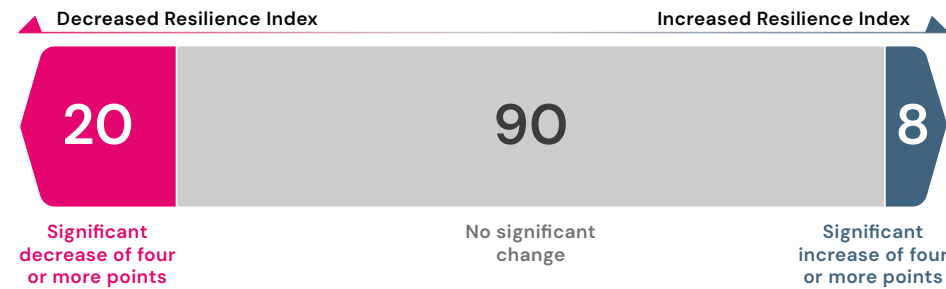


i - Not all global regions comprise equivalent numbers of countries. For instance, ANZ contains just Australia and New Zealand. Calculations are done using projection weights, meaning respondents in countries and territories with bigger populations represent a bigger proportion of that region.
 ii - Point changes between 2021 and 2023 that are presented in the main body of this report are based on rounded index figures. In some cases, these rounded changes may vary slightly from the unrounded figure but have been included for ease of understanding so as not to have a discrepancy between the absolute index figures and the differences between them.

iii - China was not given a score on the Resilience Index as certain survey questions used to calculate it could not be asked.

The 2023 iteration of the World Risk Poll surveyed 142 countries and territories, including 120 of the 121 measured in 2021. At the country level, the total Resilience Index score remains largely unchanged in 90 of the countries measured in both editions of the World Risk Pollⁱ, meaning that the index scores changed by less than four points in those 90 countries (i.e., country-level scores did not increase or decrease outside of the average country-level margin of error, which is +/- 4, compared to their 2021 values; see the box below for more details).

Chart 2.2. Number of countries with significant increases and decreases in Resilience Index scores between 2021 and 2023



WHY WE USED FOUR PERCENTAGE POINTS AS A THRESHOLD FOR ‘SIGNIFICANT’ CHANGE IN SCORES

In surveys (as well as other data contexts), a margin of error is a statistical concept that quantifies uncertainty in survey estimates, in particular relating to random sampling error. Because surveys only take a sample of a population, how much the characteristics of the sample differ from the population as a whole is reflected in the margin of error. The larger the margin of error, the more likely it is that the sample results are further away from the ‘true figures’ for the whole population. Many factors affect margins of error, such as the sample size, variability (standard deviation) of the responses and the confidence level used (95%). A larger margin of error around a survey statistic (e.g., average number of people who answered a question one way or another) means a lower level of confidence in the precision of the results.

In the case of the changes in the Resilience Index scores between 2021 and 2023, we examined the margins of error calculated for the Gallup World Poll surveys and have made the analytical decision to use a global margin of error of four percentage points, which is the average on the World Poll, for a change to count as a ‘significant’ change. This means that if the Resilience Index score for a country was 60 in 2021 and 62 in 2023, it has only moved by two points. As this is less than the four-point global boundary we have set for analytical purposes, it is not considered to be a statistically significant increase and could be down to sampling variation, rather than an underlying real change. That said, each country has its own specific margin of error detailed in Appendix ii, and at the country level, these specific values should be appliedⁱⁱ.

LLOYD’S REGISTER FOUNDATION WORLD RISK POLL RESILIENCE INDEX: A QUICK REMINDER...

The Resilience Index quantifies people’s capacity for resilience and ability to deal with adversity, based on their personal circumstances and perceptions. The overall score ranges between 0 and 100, with higher values equating to higher resilience. The Resilience Index is a composite score based on four underlying dimensions: individual, household, community and societal resilience. By measuring resilience at these four levels, the index provides a holistic assessment of resilience. More details about the index can be found in Appendix i.

Table 2.1. Dimensions and indicators in the World Risk Poll Resilience Index

Dimension	Indicators
Individual	Agency/Self-efficacy: If a disaster were to occur near you in the future, do you think there is anything you could do to protect yourself or your family from its impact?
	Educational attainment: What is your highest completed level of education?
Household	Financial assets: Suppose your household suddenly lost all income and had to survive only on savings and things that could be sold. How long would your household be able to cover all the basic needs, such as food, housing, and transportation?
	Planning: If a disaster were to occur near you in the future, do you have a plan for what to do that all members of your household who are over 10 years old know about?
	Access to communications: Does your home have access to: 1) the internet, 2) a cellular phone?
Community	Social capital: <ul style="list-style-type: none"> How much do you think most of your neighbours care about you and your wellbeing? Do you feel safe walking alone at night in the city or area where you live? Have you done any of the following in the past month? Helped a stranger or someone you didn’t know who needed help.
	Local infrastructure: In the city or area where you live, are you satisfied or dissatisfied with: <ul style="list-style-type: none"> The roads and highways? The educational system or the schools? The availability of quality healthcare?
	Discrimination: Have you, personally, ever experienced any discrimination because of any of the following? The colour of your skin? Your religion? Your ethnicity/nationality? Your gender? A disability, if you have one?
Societal	Safety net: How much do you think the government of [country] cares about you and your wellbeing?
	National Institutions Index: In [country], do you have confidence in each of the following, or not? <ul style="list-style-type: none"> The military? The judicial system or courts? The national government? The honesty of elections?

Total scores for each of the four Index dimensions listed in Table 2.1 above were derived by averaging the scores of the individual items in each dimension. The final overall Resilience Index score is computed as the arithmetic mean of the scores of the four dimensions.

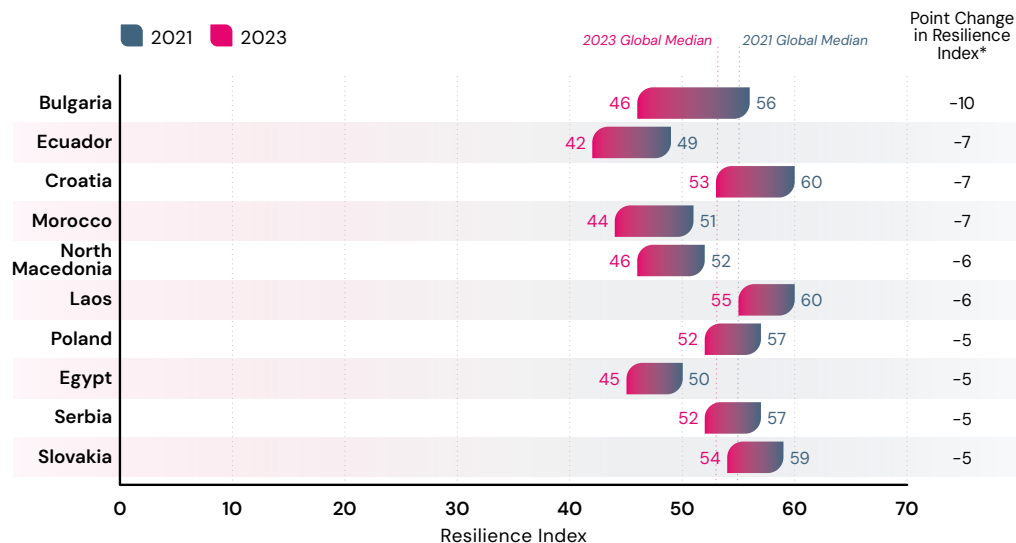
ⁱ - Jamaica is the only country measured in 2021 but not 2023, hence why only 120 countries are consistent between both years, and not the full 121 measured originally in 2021.

ⁱⁱ - Chart 2.2 only shows comparison data for 118 countries and territories measured in both iterations (2021 and 2023) that have scores on the Resilience Index. The total number of countries measured in 2023 was 142, with 120 measured across both years. Of the 120 countries surveyed across both years, Saudi Arabia does not have a Resilience Index in either year and China only has a score in 2023. As a result, 118 countries have comparable Resilience Index scores across 2021 and 2023.

Eastern Europe features heavily among the 10 countries with the greatest declines in resilience: Bulgaria experienced the biggest drop (10 points), and Croatia, North Macedonia, Poland, Serbia and Slovakia also ranked among the largest declines globallyⁱ. Several factors could be playing into these declines in Eastern Europe, from high rates of inflation (which hit 14% in 2022¹²), to the nearby conflict in Ukraine.

Ecuador and Morocco also experienced significant declines (seven points each), likely for very different reasons. Since the previous World Risk Poll, Ecuador has been gripped by a sharp increase in drug-related gang violence, homicides and political assassinations¹³, while Morocco experienced a large earthquake in September 2023¹⁴. Changes in both countries are examined in more detail later in this report.

Chart 2.3. Countries with the biggest decreases in overall resilience (2021–2023)

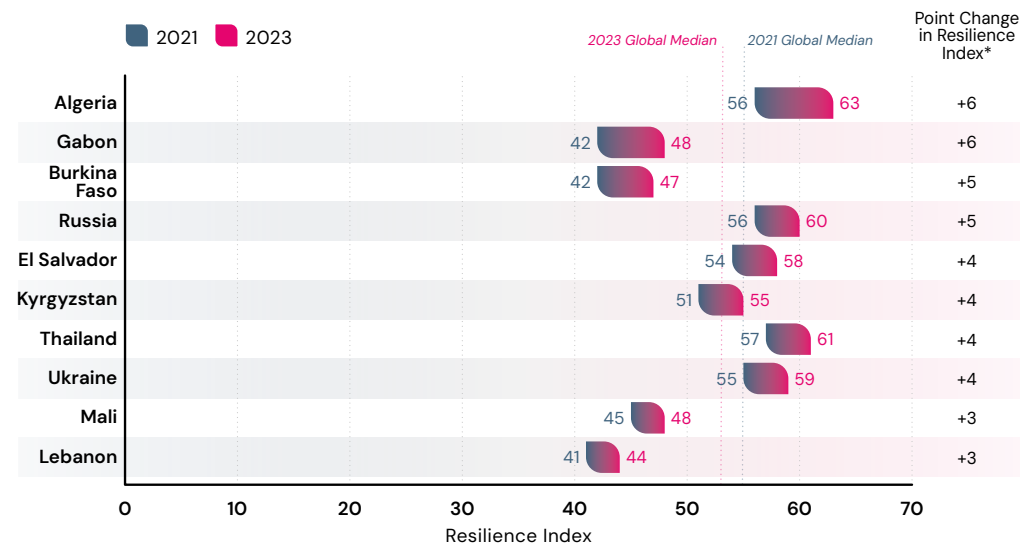


*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.

Far fewer countries saw significant increases in overall resilience between 2021 and 2023. Algeria and Gabon were top of the list, increasing by six points each. However, the change in Gabon's score should be caveated, as certain questions could not be asked in the country in 2023, affecting the calculation of its indexⁱⁱ.

Burkina Faso, Russia, Kyrgyzstan and Ukraine saw increases of at least four points. All four of these countries experienced some form of conflict-related instability in 2022, with Burkina Faso experiencing two coups, Russia invading Ukraine and Kyrgyzstan fighting a border conflict with neighbouring Tajikistan. The relationship between conflict and resilience is explored later in the report on Page 20. Mali and Lebanon were also on the list of top 10 increases in resilience, although these uplifts were only three points each and, therefore, not classed as statistically significant, as they failed to meet the four-point analytical threshold used in this report.

Chart 2.4. Countries with the biggest increases in overall resilience (2021–2023)



*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.

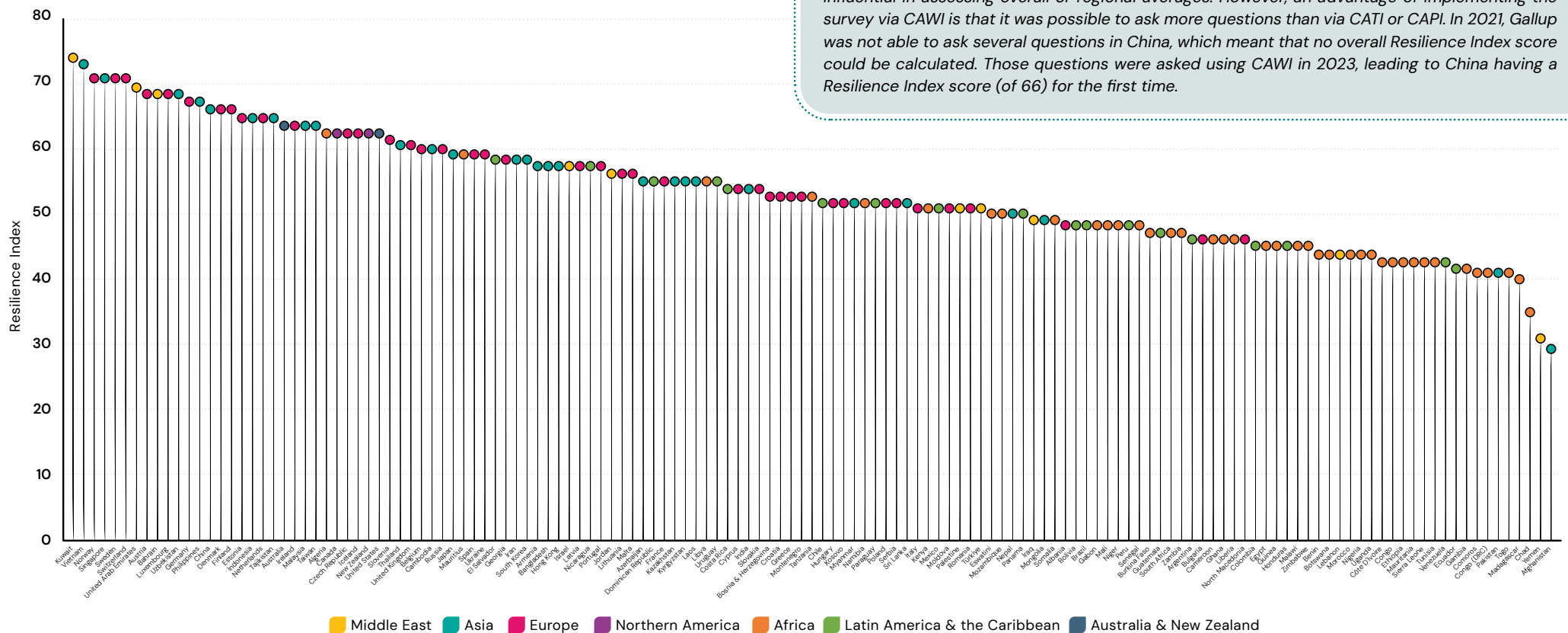
ⁱ - Ukraine bucked the trend in Eastern Europe in 2023 and saw an increase in Resilience Index score compared to 2021. This will be discussed later in the report.

ⁱⁱ - The Resilience Index for each country is calculated if it has a score across each of the four resilience dimensions (individual household, community, societal). Each dimension receives a score as long as enough of its composite variables do not have missing data. In other words, every single variable that makes up a resilience dimension does not have to be asked for a country to receive a score. Even though certain questions could not be asked in Gabon in 2023, it still had enough composite variables to calculate each sub-index domain (at least one variable per sub-index is needed to be available), and therefore the Resilience Index overall.

Overall, rankings of the top 10 most resilient countries in the world remain largely unchanged from 2021. Kuwait (not measured in 2021) and Vietnam ranked highest, at 74 and 73, respectively. Switzerland, Norway, Sweden and Austria remained in the top 10, as did the United Arab Emirates. Uzbekistan – the only other non-high-income country alongside Vietnam to make the top 10 – saw a modest three-point increase in resilience last yearⁱ.

Several countries that rank in the bottom 10 for total resilience were not measured in 2021 (Yemen, Madagascar, Chad, Democratic Republic of the Congo, Comoros and Gambia) and are classified as low-income by the World Bank. Afghanistan remains the least resilient country in the world (29) following a four-point decline since 2021. Ecuador also ranked in the bottom 10 in 2023 after a seven-point decrease.

Chart 2.5. Country-level Resilience Index (2023)



DIFFERENT SAMPLING APPROACHES IN CHINA

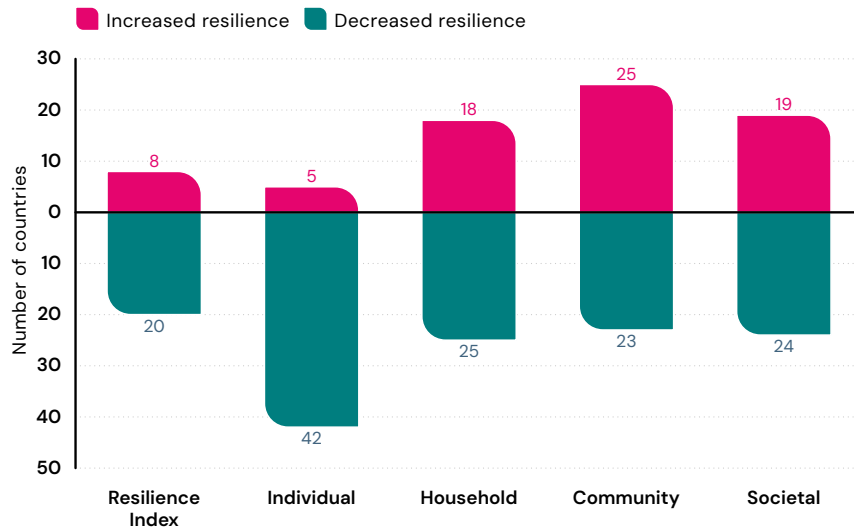
In 2023, Gallup was only able to survey China using computer-assisted web interviewing (CAWI) as opposed to computer-assisted telephone interviewing (CATI), which was used in 2021 due to COVID-19 restrictions, or computer-assisted personal interviews (CAPI) in 2019. As such, across the three iterations of the World Risk Poll, China has been measured via three different modes.

While CATI and CAPI methods provide nationally representative samples because of their probability-based random sampling approaches, the 2023 CAWI survey was conducted through an opt-in panel – i.e., respondents sign up for a system in which they can complete the surveys. China was the only one of the 142 countries and territories surveyed in 2023 that used CAWI. As this was the only method possible to implement in China and given China’s importance to global perceptions and experiences of risk and resilience, it is included in the analysis throughout this report.

Because this report adjusts global and other cross-country statistics to account for differences in the age 15+ populations, results from China – one of the two most populous countries – are influential in assessing overall or regional averages. However, an advantage of implementing the survey via CAWI is that it was possible to ask more questions than via CATI or CAPI. In 2021, Gallup was not able to ask several questions in China, which meant that no overall Resilience Index score could be calculated. Those questions were asked using CAWI in 2023, leading to China having a Resilience Index score (of 66) for the first time.

ⁱ – Kuwait and Bahrain were not asked national institutions questions and, therefore, have no societal index scores feeding into their overall resilience scores.

Chart 2.6. Number of countries that saw significant changes of four points or more in the Resilience Index and its four components between 2021 and 2023



As shown in Chart 2.6, many more countries saw significant change in the four resilience dimensions than the overall Resilience Index, where eight countries have increased significantly, and 20 have decreased. Details of each resilience dimension follow.

Individual resilience

Individual resilience consists of the following two variables:

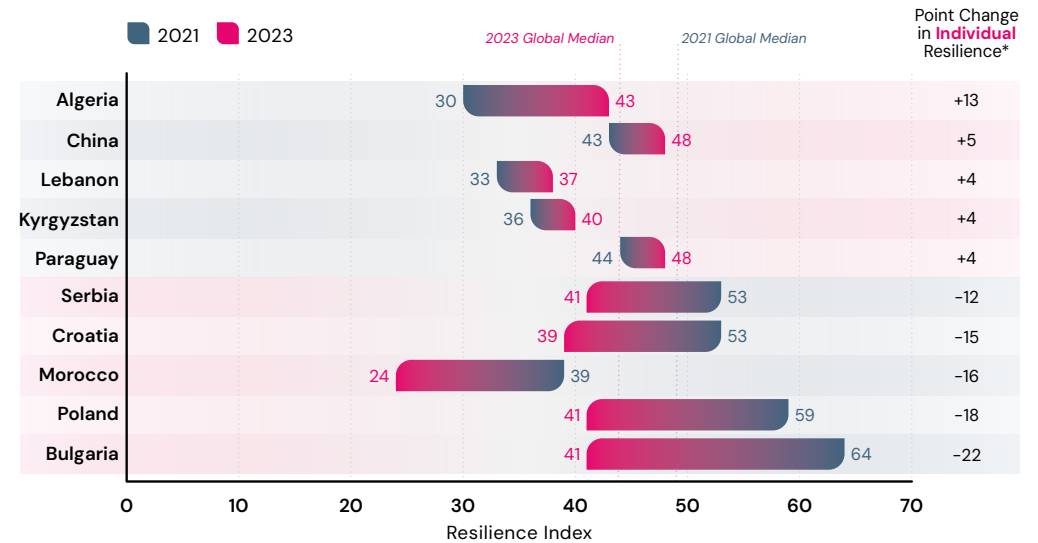
1. Highest completed level of education.
2. Whether a respondent thinks there is anything they could do to protect themselves or their family from the impact of a future disaster (i.e., agency).

While the overall landscape of global resilience remains largely unchanged from 2021, this stability belies more significant variation in each of the four resilience dimensions (individual, household, community, societal).

Individual resilience fell significantly across many parts of the world. Forty-two countries and territories saw declines of more than four points on the individual resilience dimension (compared to 20 on the overall Resilience Index). While 73 countries remain relatively stable, just five – Algeria, China, Lebanon, Kyrgyzstan and Paraguay – saw increases of four points or more in their individual resilience scores.

The countries that have experienced the largest declines in individual resilience dimension scores are, in many instances, the same as those that saw the largest declines in their overall Resilience Index: Bulgaria (-22 points), Poland (-18 points), Morocco (-16 points) and Croatia (-15 points) experienced the greatest declines in individual resilience.

Chart 2.7. Countries with the biggest changes in individual resilience (2021–2023)



*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.

Most of the changes in individual resilience measured between iterations of the World Risk Poll can be ascribed to variation in individual perception of agencyⁱ. Globally, 43% of people in 2023 believed that if a disaster were to occur near them in the near future, they would not be able to do anything to protect themselves and their families from its impact, up from 36% in 2021. Irrespective of age, gender, education or income level, all demographic groups feel they have less agency in 2023 than they did in 2021.

ⁱ - Highest completed level of education is used in the data weighting process and is therefore comparable at a national level between years.

Household resilience

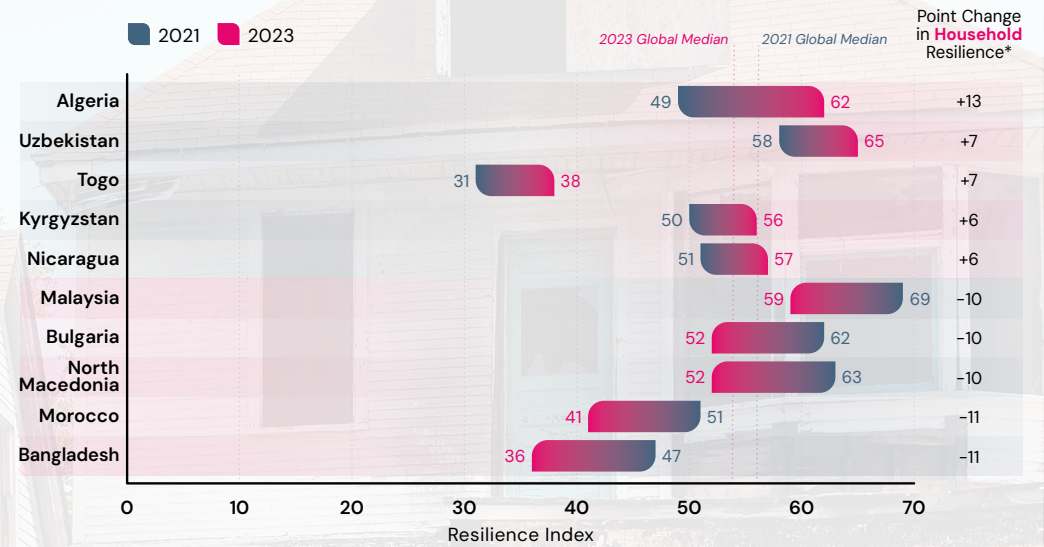
Changes in the household resilience dimension tell a somewhat different story to individual resilience. Household resilience consists of three component variables:

1. How long households would be able to cover their basic needs, in case of loss of all incomeⁱ.
2. If a disaster occurs in the future, whether households have a plan for what to do that is known by all members of the household over the age of 10.
3. Access to communications, including the internet and a cellular phone.

At a country level, household resilience is stable, with 77 countries or territories moving by three points or fewer. Twenty-five countries have decreased by four points or more, while 18 saw similarly meaningful increases.

Countries and territories with the largest increases in household resilience are highly dispersed geographically and include Algeria and Togo in Africa; Uzbekistan and Kyrgyzstan in Central Asia; Georgia, Russia, Sweden and Norway in Europe; and Taiwanⁱⁱ. The list of countries that experienced the largest declines was equally varied, including Bangladesh, Morocco, North Macedonia, Bulgaria, Croatia and Malaysia – all of which saw double-digit drops.

Chart 2.8. Countries with the biggest changes in household resilience (2021–2023)



*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.

ⁱ – In other words: financial resilience.

ⁱⁱ – China was measured using computer-assisted web interviewing (CAWI) in 2023 and computer-assisted telephone interviewing (CATI) in 2021. In 2021, it did not receive an overall index score and so has been excluded from this 2021 vs 2023 analysis.



Community resilience

The community resilience dimension spans dimensions of social capital as well as satisfaction with elements of local communities:

1. How much people think their neighbours care about their wellbeing.
2. Whether people feel safe walking alone in their area at night.
3. Whether respondents have helped a stranger who needed help in the past month.
4. Satisfaction with basic community infrastructure in the local area, including roads and highways, the education system, and healthcare.

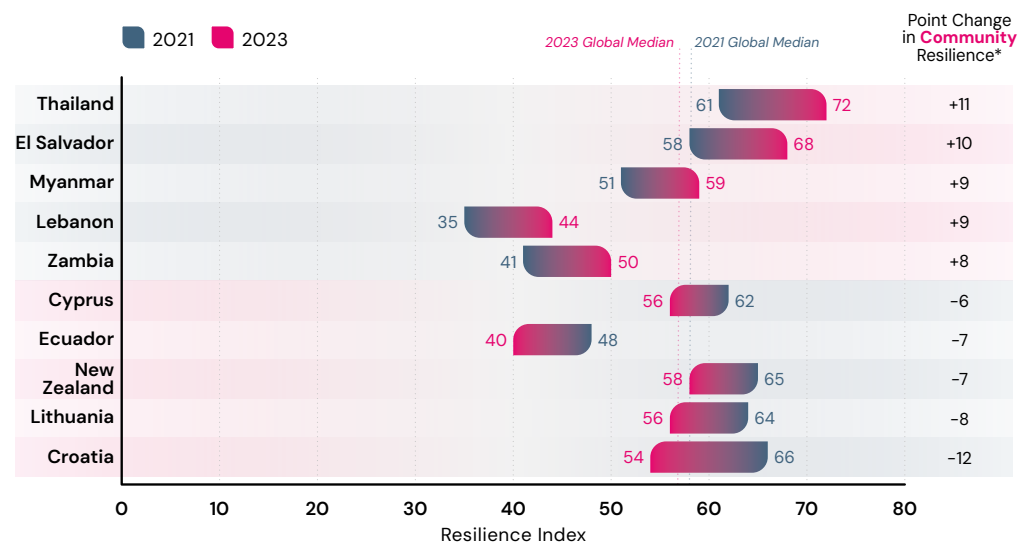
Between 2021 and 2023, 23 countries saw significant decreases (of more than four points) in community resilience, while 25 saw significant increases.

Many countries that have become more resilient at the community level may, on first reading, appear surprising. Myanmar, Lebanon, Russia, Mali, and Burkina Faso all feature in the top 10 list for the biggest increases in community resilience despite the different forms of geopolitical and economic crisis in these countries over the last two years (see Page 20 for more detail). But a significant finding emerges: countries can undergo immense shocks – such as coups, wars and economic crises – and come together as stronger communities in the face of such adversity.

Several countries with the largest declines in community resilience are classified as high- or upper-middle incomeⁱ. Six are in Europe (Croatia, Lithuania, Cyprus, Portugal, Malta and France), with New Zealand and Canada also seeing significant declines in community resilience.

ⁱ – Overall, community resilience index scores increased in low-income (46 to 48) and lower-middle-income (60 to 63) countries, while they fell slightly in upper-middle (67 to 66) and high-income (63 to 62) countries.

Chart 2.9. Countries with the biggest changes in community resilience (2021–2023)



*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.



Societal resilience

The societal resilience dimension is the final element of the Resilience Index. It consists of the following variables:

1. Personal experiences of discrimination for any of the following reasons: skin colour, religion, nationality, gender or disability.
2. Perceptions of how much the government cares about people’s wellbeing.
3. Confidence in national institutions, the national government, judicial system, military and the honesty of elections.

As with the other four resilience dimensions, most (75) countries remain statistically unchanged compared to 2021. Twenty-four had declines of four points or more, and 19 saw increases of four points or more.

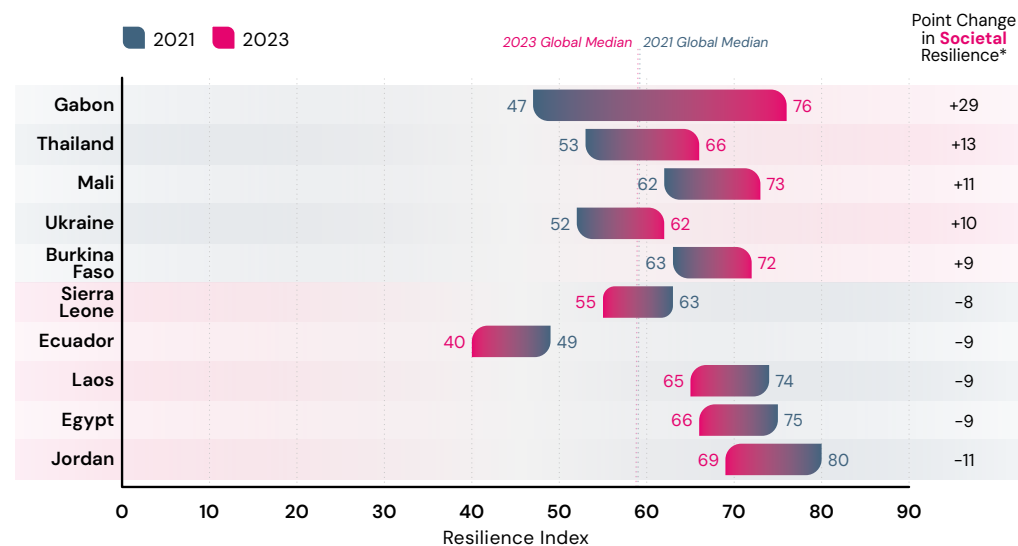
Countries that saw the largest increases in societal resilience are similar to those with increases in community resilience: Mali, Ukraine, Burkina Faso and Russia feature in the top 10 list across both resilience dimensions. Gabon – which tops the list – saw the largest increase as a result of certain components of the Resilience Index not being asked in 2023 and is, therefore, a somewhat artificial riseⁱ. In Brazil, where general perceptions improved across a range of life, economic and wellbeing indicatorsⁱⁱ – coinciding with a change in political leadership and President Luiz Inácio ‘Lula’ da Silva’s first year (back) in power – societal resilience also rose by six points.

The largest declines in societal resilience occurred in Jordan, Ecuador, Laos, Egypt, Malta, Peru and Sierra Leone, which saw slightly greater declines than measured in higher-income countries like Iceland and the United Arab Emirates.

ⁱ – See Footnote ii on Page 4 for more detail on Gabon.

ⁱⁱ – Data from the Gallup World Poll in 2023 shows that Brazilians are more optimistic about their living standards and local economy than they have been for a decade. The 61% of Brazilians who feel their local economy is getting better is higher than all other countries in the G7 or BRICS (Brazil, Russia, India, China, South Africa).

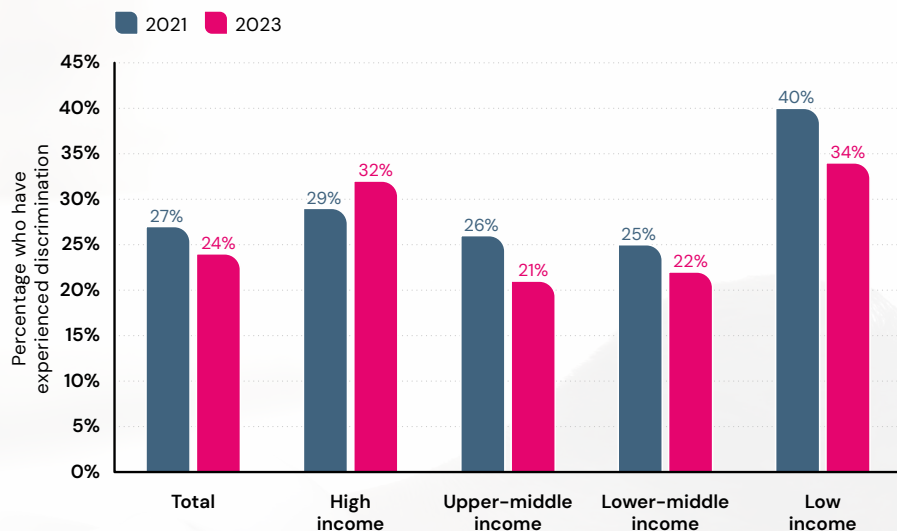
Chart 2.10. Countries with the biggest changes in societal resilience (2021–2023)



*For some countries, data in this column do not add up to the difference between the two chart values due to rounding.



Chart 2.11. Changes in perceived experience of any form of discrimination, by World Bank income classification (2021–2023)



Survey question: Have you, personally, ever experienced any discrimination because of any of the following? a) The colour of your skin, b) your religion, c) your nationality/ethnic group/race, d) your gender, e) a disability, if you have one.

In 2023, people in the United States were among the likeliest to say they experienced some type of discrimination, with over half (55%) experiencing discrimination at some point in their lives. The U.S. is followed by Chad (53%), Afghanistan and Liberia (52%), the first two of which are among the least resilient countries in the world. The U.S. scores poorly on the experience of most forms of discrimination, ranking among the worst (either outright or tied with another country) in the world on discrimination by nationality, ethnic or racial group (30% experienced), gender (30%), skin colour (27%) and disability (12%).

As the data in this chapter show, different forms of resilience have shifted across much of the world since 2021, even if overall global resilience remains mostly unchanged. When examining the country-by-country data, it becomes clear that different scales of resilience tend to move together. For instance, country-level increases in individual resilience are strongly associated with increases in household resilienceⁱ but share no meaningful relationship with community or societal resilienceⁱⁱ. Conversely, country-level increases in community resilience are related to increases in societal resilience – albeit slightly less strongly than individual and household resilience – but have no relationship to changes in either individual or household resilience.

ⁱ - R=0.65
ⁱⁱ - R=0.40

DISCRIMINATION RISES IN HIGH INCOME COUNTRIES

Experience of different types of discrimination forms a key part of the societal resilience dimension. Societies that have higher rates of discrimination are generally less cohesive, an obstacle to building resilience.

The global proportion of people who say they have ever experienced any form of discrimination dipped slightly from 27% in 2021 to 24% in 2023. Less affluent countries drove this global decline: perceived experience of discrimination declined notably in low-income (40% to 34%), lower-middle-income (25% to 22%) and upper-middle-income (26% to 21%) countries. However, discrimination in high-income countries increased from 29% to 32%, driven primarily by the United States, as well as Singapore, Belgium, South Korea, Slovenia, Estonia, Canada and Latvia – all of which saw increases of eight percentage points or more.

“Different forms of resilience have shifted across much of the world since 2021.”

These preliminary findings suggest that movement in micro- and macro-levels of resilience is often unrelated. When individuals become less resilient, it is likely that the households they live in also become less resilient, yet this is not necessarily true of the wider community and society they live in. Conversely, communities and societies can grow more resilient over time without the underlying resilience of individuals and households changing in turn.

It is important to examine changes in resilience not only because of its dynamic nature but also because of the links between resilience and profound changes in global systems – be they environmental, geopolitical or economic.

Table 2.2. Top- and bottom-ranking countries/territories across resilience dimensions (2023)

Rank	Individual	Household	Community	Societal
Top 10 >>	Sweden	Vietnam	United Arab Emirates	Tajikistan
	United States	Austria	Kuwait	Algeria
	Kuwait	Sweden	Saudi Arabia	Kuwait
	Vietnam	Taiwan, PoC	Tajikistan	Bahrain
	Norway	United States	Singapore	Uzbekistan
	Saudi Arabia	Norway	Indonesia	Tanzania
	Estonia	Germany	Bahrain	Niger
	New Zealand	New Zealand	Switzerland	Singapore
	Switzerland	China	Bangladesh	Gabon
	Australia	Canada	Malaysia	Indonesia
<< Bottom 10	Pakistan	Chad	Liberia	Bulgaria
	Yemen	Somalia	Madagascar	Argentina
	Côte d'Ivoire	Democratic Republic of the Congo	Democratic Republic of the Congo	Colombia
	Malawi	Egypt	Togo	Afghanistan
	Burkina Faso	Pakistan	Greece	Venezuela
	Morocco	Yemen	Tunisia	Ecuador
	Niger	Afghanistan	Ecuador	Peru
	Somalia	Niger	Gabon	Bolivia
	Ethiopia	Ethiopia	Venezuela	Comoros
	Afghanistan	Madagascar	Afghanistan	Yemen

Examining each of the four resilience dimensions individually and the countries that rank highest and lowest in 2023 highlights the fact that resilience – at all levels – is a complex phenomenon (Table 2.2). Not all types of resilience necessarily go hand-in-hand, and countries can score highly on some components but not others. With the exceptions of Kuwait (top 10 in three of four dimensions), Afghanistan (bottom 10 in all) and Yemen (bottom 10 in three of four dimensions), no other countries rank in the top or bottom 10 globally on more than two resilience dimensions. This suggests that measures to improve resilience need to be tailored and targeted to individual countries and populations within them.

Having described the patterns of resilience globally, the following chapters in this report examine what might drive resilience and changes in resilience, focussing particularly on the relationship between natural hazards and resilience. First however, the next chapter will give a relatively brief update about the state of early warning systems in the face of natural hazards.



3. Early warnings

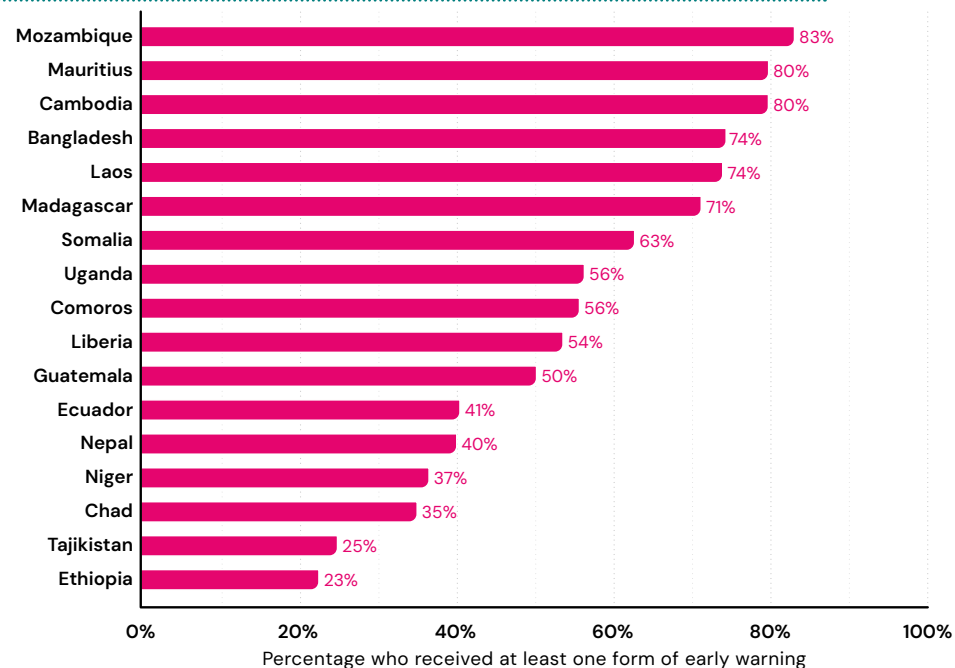
Early warning systems are an important component of disaster preparedness. They not only help save lives from natural hazards by alerting people, but also minimize damage to key infrastructure and reduce the overall economic effects¹⁵.

Time matters before any disaster strikes, even just a few seconds¹⁶. As such, expanding early warning systems around as much of the world and covering as many types of hazards as possible, is crucial in improving outcomes from future disasters. Building resilience from early warnings requires preparedness, early action and anticipatory measures. In this regard, the UN Early Warnings for All¹⁷ initiative seeks to enhance the world's capacity to warn people in advance of natural hazards, protecting as many lives and livelihoods as possible. As was noted during Lloyd's Register Foundation's 'Resilience Series' of events with the Under2 Coalition of sub-national governments, "the World Risk Poll is the closest we have to a proxy indicator of how the Early Warnings for All initiative is doing"¹⁸.

Data from 2023 show that of people who have experienced a disaster in the past five years, the majority (70%) received at least one warning, while 30% received no warnings. This is virtually unchanged from 2021, when the split was 69% vs 31%. As the timeframe for this early warning figure is five years, but there have only been two years between each measurement, this stability is unsurprising given the overlap in years. Measuring this statistic again in 2025 will therefore help shed more light on how early warning systems are spreading compared to 2021 and 2023.

The Early Warnings for All initiative has 30 priority countries of initial focus. Of these, 17 were measured by the 2023 World Risk Poll. These countries vary significantly in their experience of early warnings. In Mozambique, Mauritius and Cambodia, four in five people who experienced a disaster in the previous five years received at least one form of early warning. In contrast, Tajikistan and Ethiopia drop to closer to one in five people, demonstrating the wide discrepancies within these priority countries.

Chart 3.1. Rates of receiving at least one form of early warning, among people who have experienced disaster in the past five years (2023; Early Warnings for All priority countries)



Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response – i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' – to each mode of early warning were excluded from analysis.

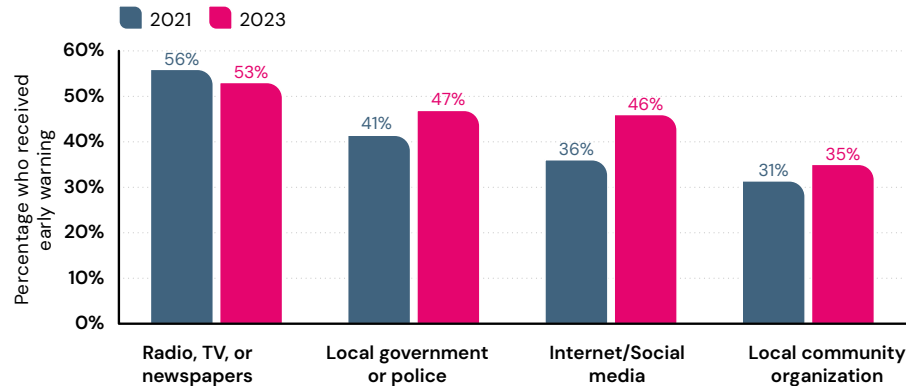
Early warning systems are particularly relevant to some hazards. Earthquakes – which occur with very short lead times – are the most challenging in this regard, as borne out by World Risk Poll data. Globally, slightly under half (49%) of people who experienced an earthquake in the past five years received no warning, on par with the figure for mudslides and landslides (50%), although the latter were experienced by significantly fewer people.

In contrast, meteorological events saw far higher rates of early warning. Ninety-four per cent of those who experienced a heatwave received at least one advance warning, slightly ahead of other hazards such as hurricanes (86% had at least one warning), blizzards (86%) and tornados (80%). As these meteorological hazards take much longer to form than the time it takes an earthquake to strike and can be forecast in advance, it allows more time for early warnings to be broadcast. Two-thirds of people who experienced the most common form of disaster – flooding – received at least one warning beforehand.

Among people who experienced a disaster in the past five years, 53% received a warning about the disaster through radio, TV or newspaper. While this represents a slight decline from 2021 (when 56% of people who experienced a disaster were warned by radio/TV/newspaper), it is still the most common form of early warning, as shown in Chart 3.2. Just under half of those who experienced a disaster received warnings from the local government or police (47%), an increase from 41% in 2021.

A similar percentage of those who experienced a disaster received a warning from the internet or social media (46%). The prevalence of hearing about an impending disaster online or via social media increased significantly between iterations of the World Risk Poll, more than any other early warning method. In 2021, only 36% of people who had experienced a disaster were warned in this way.

Chart 3.2. Global sources of early warning among those who experienced a disaster in the past five years (2021-2023)



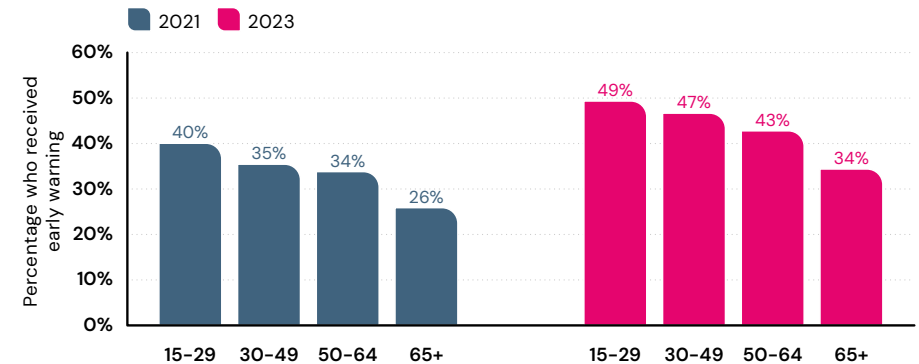
Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

ONLINE EARLY WARNINGS

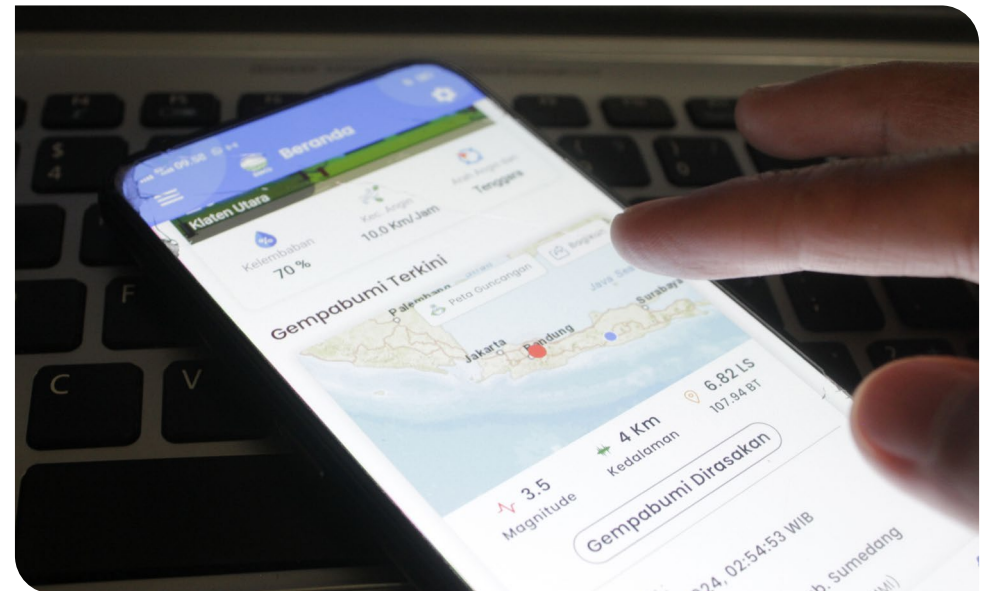
Overall, there appears to be a trend away from ‘traditional’ media sources of radio, TV and newspapers for early warnings, towards the internet and social media. There are likely several reasons at play for this shift. Global rates of internet access have risen in recent years. In 2023, 71% of the world’s population had access to the internet in some way, up significantly in a few years, according to the Gallup World Poll. In 2017, just half of the world’s population had internet access. Yet at a country level, the picture gets more complex. For example, Zambia and Kyrgyzstan both saw increases in the rates of early warnings through the internet or social media, as well as significant national increases in internet access over the same period. However, Serbia and Romania saw increases in early warnings via the internet or social media, but internet access declined slightly compared to 2021. Data from the 2025 World Risk Poll will shed more light on whether the rise in online early warnings is sustained over time.

Access to early warnings via the internet or social media is not equal across age groups. People aged between 15 and 29 and who experience disaster are most likely to be warned via the internet or social media (49%), while those over the age of 65 are least likely (34%). However, compared to 2021, all age groups have seen increasing rates of receiving early warnings in this way. While overall access to digital early warnings is still uneven, there are at least encouraging signs that the rate of uptake is relatively similar across age groups.

Chart 3.3. Percentage who received advance warning of a disaster via the internet or social media among those who experienced a disaster in the past five years, by age group (2023)

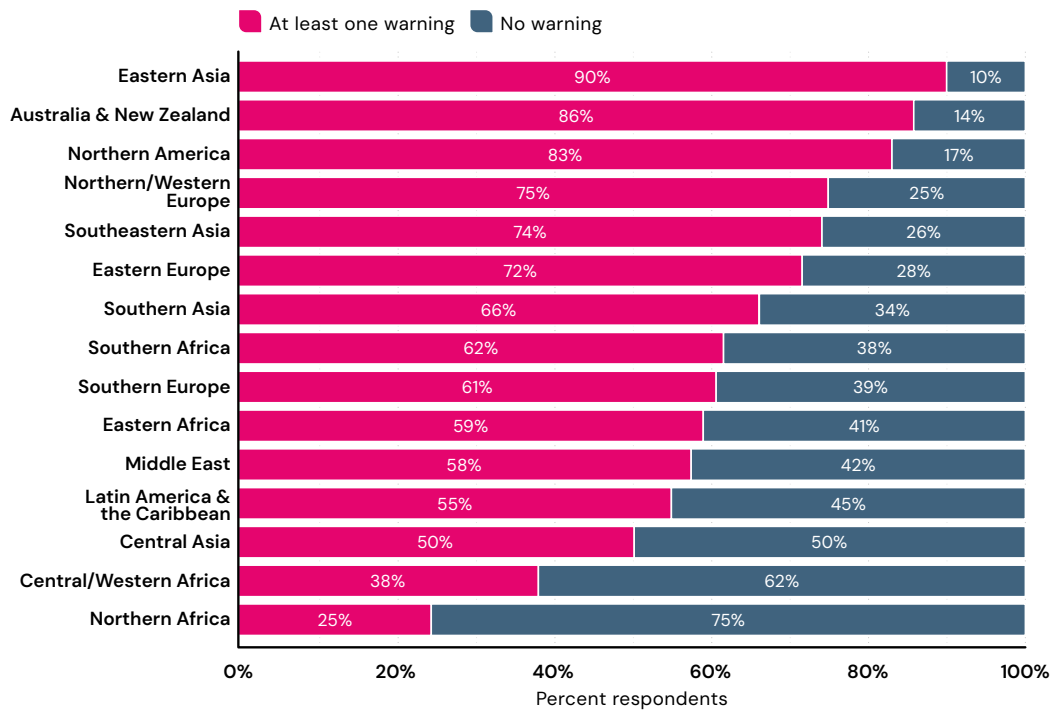


Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? Internet or social media.



Even though 70% of people who experienced a natural hazard between 2018 and 2023 received a warning, there is still a considerable way to go in closing gaps in access to early warning systems around the world. As Chart 3.4 shows, not all regions of the world are equally equipped to warn their people of impending disaster. People who received at least one early warning before disaster are disproportionately likely to live in Eastern Asia, Australia and New Zealand, or Northern America. By contrast, Northern Africa, Central/Western Africa, and Central Asia have the lowest rates of early warning before disaster.

Chart 3.4. Global rates of 'received warning' among those who have experienced any disaster in the past five years, by global region (2023)

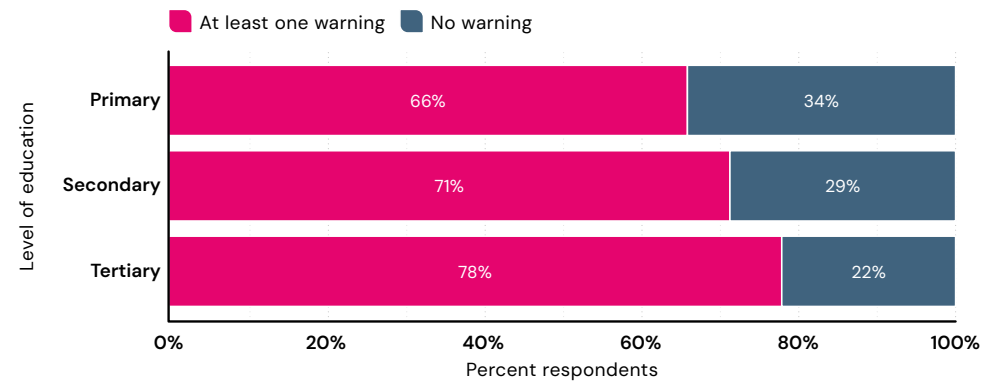


Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response - i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' - to each mode of early warning were excluded from analysis.

Beyond global region, significant inequalities in early warning effectiveness are brought into sharp focus when looking more broadly at personal characteristics. Among those who experienced a disaster, people with tertiary education were significantly more likely to receive at least one early warning (78%) than people with secondary (71%) or primary (66%) education. As education level increases, so too does the likelihood of receiving early warnings.

Chart 3.5. Global rates of 'received warning' among those who have experienced any disaster in the past five years, by education (2023)

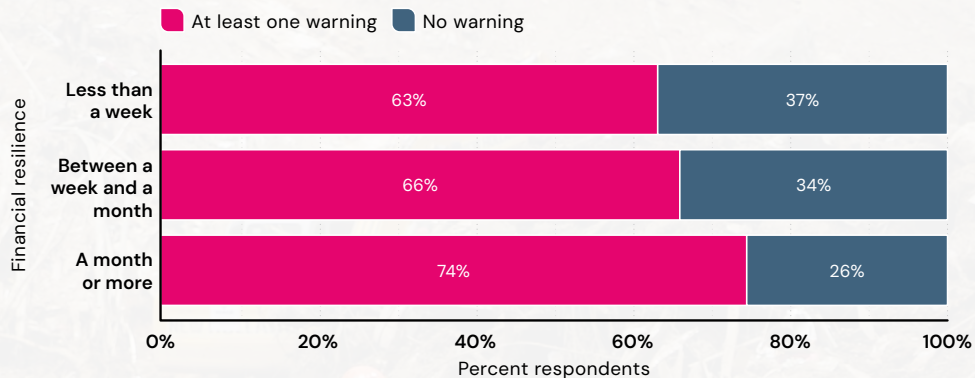


Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.
 Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response - i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' - to each mode of early warning were excluded from analysis.

“ There is still a considerable way to go in closing gaps in access to early warning systems around the world. ”

A similar pattern to education holds when looking at financial resilience. Among people who are most financially resilient (could last for a month or more with no income) and experienced a disaster, three-quarters (74%) received at least one warning, compared to 63% of people who could only last a week or less on no incomeⁱ.

Chart 3.6. Global rates of 'received warning' among those who have experienced any disaster in the past five years, by financial resilience (2023)

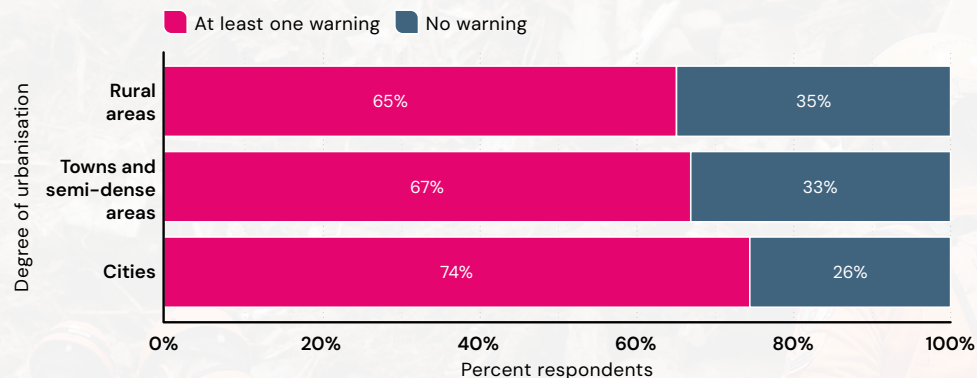


Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response - i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' - to each mode of early warning were excluded from analysis.

The World Risk Poll also highlights the need to ensure early warning systems reach less populous areas. Just because rural areas have smaller populations than cities does not mean they are less exposed to potential natural hazards. People in rural areas, towns and semi-dense areas are significantly less likely than people in cities to receive any form of early warning about impending disaster. Globally, the more urbanised the area, the more likely it is that its residents will be able to access early warnings.

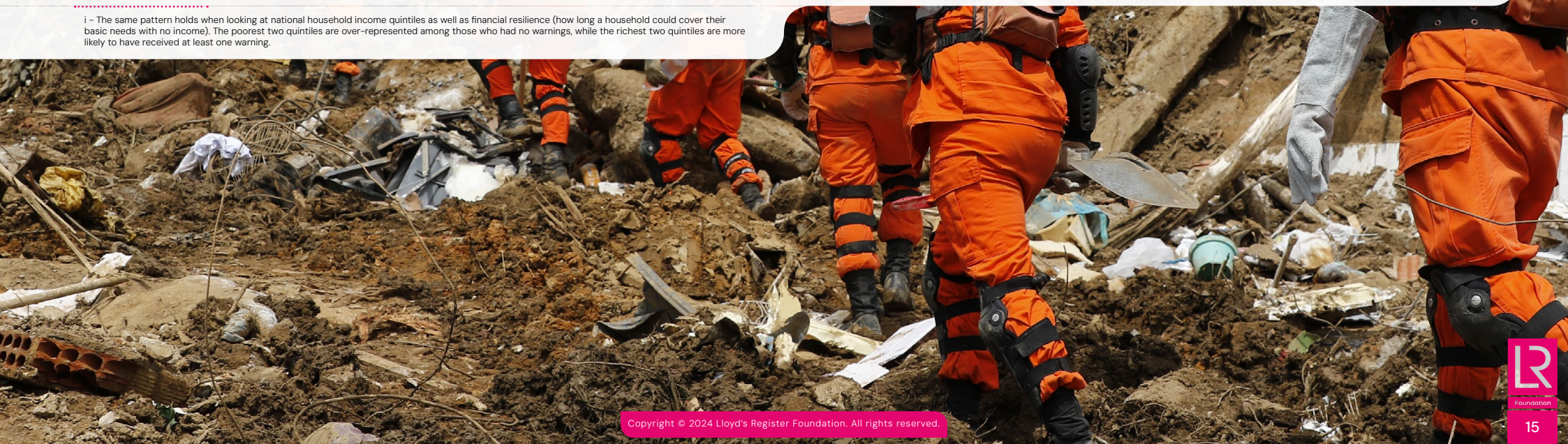
Chart 3.7. Global rates of 'received warning' among those who have experienced any disaster in the past five years, by degree of urbanisation (2023)



Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response - i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' - to each mode of early warning were excluded from analysis.

ⁱ - The same pattern holds when looking at national household income quintiles as well as financial resilience (how long a household could cover their basic needs with no income). The poorest two quintiles are over-represented among those who had no warnings, while the richest two quintiles are more likely to have received at least one warning.



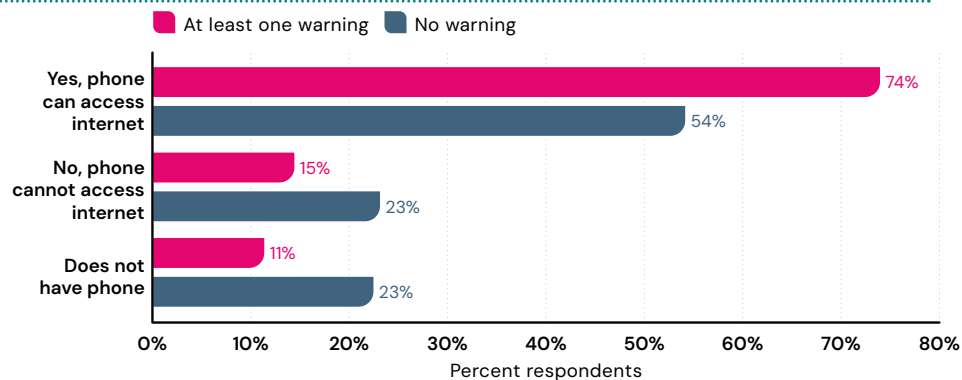
In terms of two other important demographic categories – gender and age – men are slightly more likely than women (71% vs 68%) to say they receive early warnings, even though they are equally affected by disaster. In lower-middle-income and low-income countries, men are more likely to receive early warnings than women, compared to upper-middle and high-income countries. Age has little to no relationship with receiving early warnings. At a global level and across all four country income classifications, young and old alike are equally likely to receive early warnings.

In an increasingly digital world, mobile phones are a powerful tool in alerting populations to imminent hazards¹⁹. Globally, 68% of the world’s population owns a mobile phone with internet access. A further 17% own a mobile phone without internet access (or don’t know it has internet access), and 15% do not own any form of mobile phone.

Previous analysis in this chapter has already shown how certain groups – for example, people with higher education, who live in cities and are more financially resilient – are more likely to receive early warning of impending hazard than other groups. Many of these demographics are also more likely to own smartphones than those with less education and in poorer urban areas. Nevertheless, there is a stark difference in experience of hazard early warning by levels of mobile phone ownership.

Three-quarters (74%) of people who experienced a disaster and received an early warning own a smartphone, far more than among those who didn’t receive an early warning (54%). In contrast, people who own mobile phones without internet access or don’t own any kind of mobile phone are relatively overrepresented among those who receive no warning before an impending disaster.

Chart 3.8. Global rates of warning among those who have experienced any disaster in the past five years, by mobile phone ownership (2023)



Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response – i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' – to each mode of early warning were excluded from analysis.

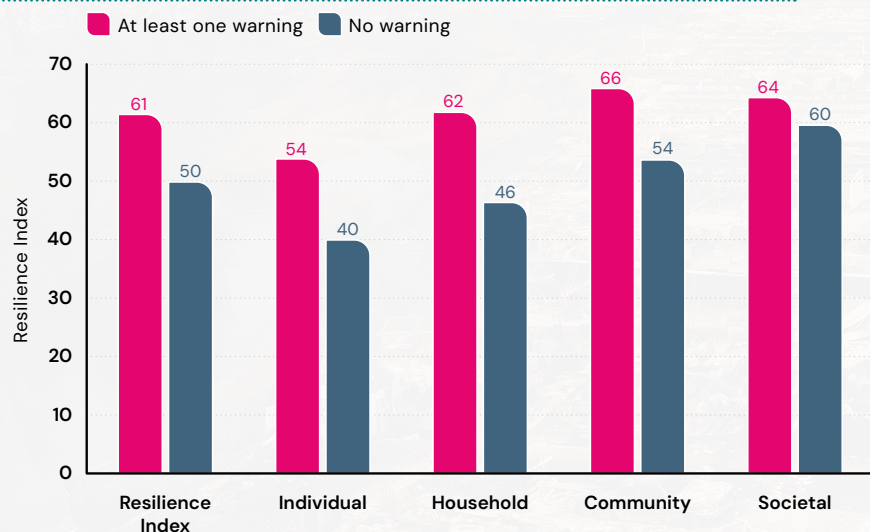
Taken together, just over three in four (77%) people who have not been warned about an impending disaster in the past five years own a mobile phone, most of which have internet access. This represents a significant opportunity for the Early Warnings for All initiative and policymakers in general to promote and implement mobile-first early warning systems so that people can receive alerts on their phones.

Providing people with early warning of incoming disasters is critical to building resilience and increasing the chance of surviving natural hazards and disasters. Yet many of the most vulnerable people in the world with low levels of education and financial resilience are significantly less likely to be given early warnings in the case of disaster. Many of them also own mobile phones, devices that can receive alerts before disasters reach populations, as long as the existing early warning infrastructure is in place. These inequalities need to be addressed to ensure that the most vulnerable have the best chance of taking pre-emptive measures to protect their lives and livelihoods and reduce the need to recover afterwards.



In this sense, early warnings form a crucial element of building resilience against future hazards. Among those who experience disasters, people who receive at least one early warning score significantly higher on the Resilience Index than those who receive no warnings. The divide is particularly stark across individual, household and community dimensions of resilience, and applies across all levels of country income classification. This is not to imply causality that receiving early warning before disaster alone makes people more resilient. The relationship likely goes both ways. Groups who score higher on the Resilience Index (the educated, employed, more affluent) are also more likely to receive any form of early warning. This finding also highlights the need to focus attention on getting any form of early warning to people before disasters. Those who don't receive any warnings are more likely to be less resilient, and early warnings, when coupled with household planning and a sense of agency, could make a crucial difference in helping them cope with, and survive, disasters.

Chart 3.9. Resilience Index and dimension scores among people who have experienced a disaster and were/not warned (2023)



Survey question: Still thinking about the last disaster you experienced, did you receive any advance warning about the event from any of the following, or not? a) Internet or social media, b) Local government agency, c) Radio, TV, or newspapers, d) Local community organization.

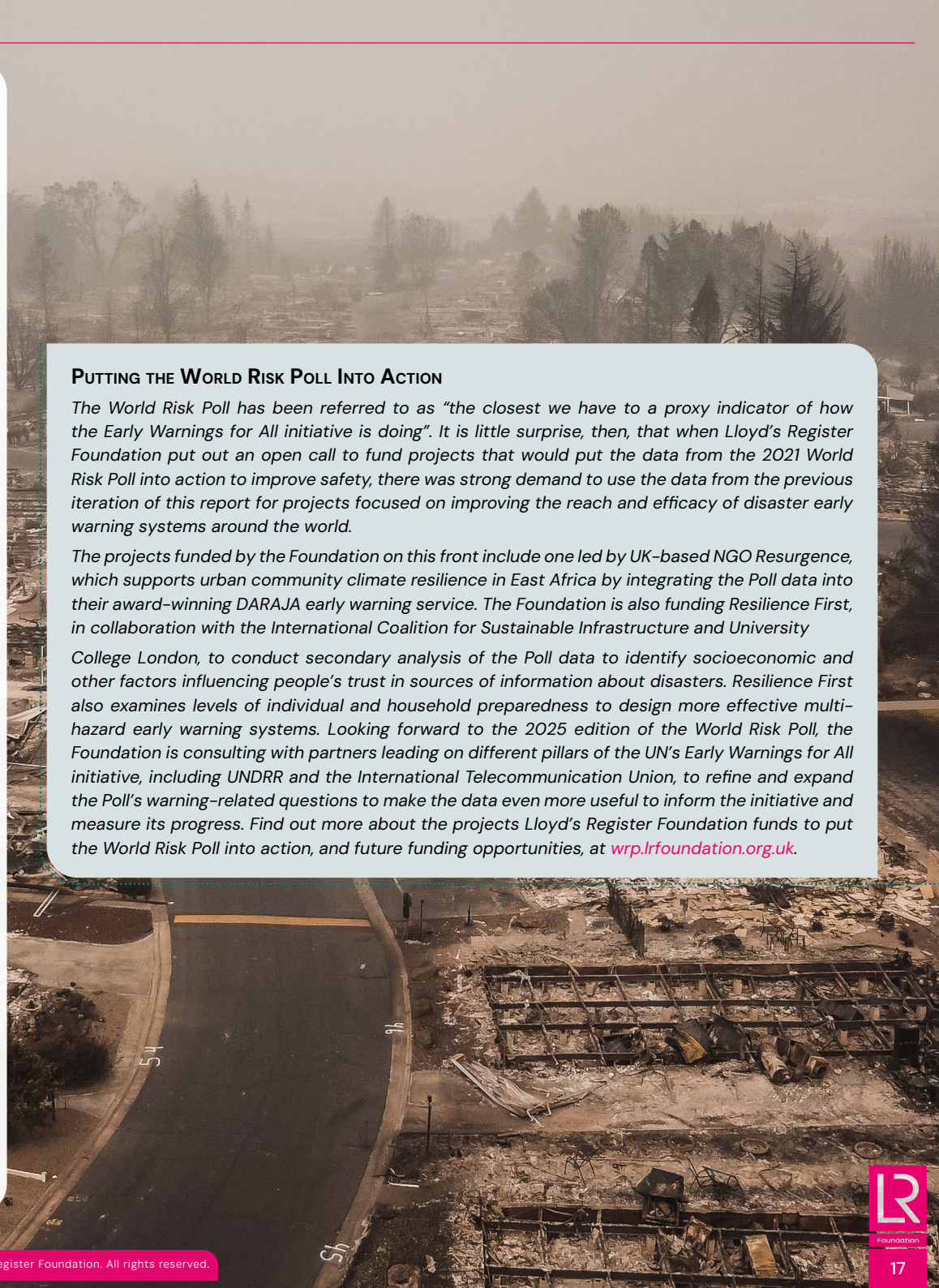
Respondents are classified as having received 'no warning' if they do not answer 'yes' to all modes of early warning, and also answer 'no' to at least one of the modes. Respondents who offered no substantive response - i.e. gave a volunteered response of 'does not apply', 'don't know', or 'refused' - to each mode of early warning were excluded from analysis.

The rest of this report will examine the complex relationships between natural hazards (of different kinds) and resilience across all dimensions, from the individual to societal. However, before delving further into hazards in particular, it is important to step back and examine the factors that make people more resilient in the first place.

PUTTING THE WORLD RISK POLL INTO ACTION

The World Risk Poll has been referred to as “the closest we have to a proxy indicator of how the Early Warnings for All initiative is doing”. It is little surprise, then, that when Lloyd’s Register Foundation put out an open call to fund projects that would put the data from the 2021 World Risk Poll into action to improve safety, there was strong demand to use the data from the previous iteration of this report for projects focused on improving the reach and efficacy of disaster early warning systems around the world.

The projects funded by the Foundation on this front include one led by UK-based NGO Resurgence, which supports urban community climate resilience in East Africa by integrating the Poll data into their award-winning DARAJA early warning service. The Foundation is also funding Resilience First, in collaboration with the International Coalition for Sustainable Infrastructure and University College London, to conduct secondary analysis of the Poll data to identify socioeconomic and other factors influencing people’s trust in sources of information about disasters. Resilience First also examines levels of individual and household preparedness to design more effective multi-hazard early warning systems. Looking forward to the 2025 edition of the World Risk Poll, the Foundation is consulting with partners leading on different pillars of the UN’s Early Warnings for All initiative, including UNDRR and the International Telecommunication Union, to refine and expand the Poll’s warning-related questions to make the data even more useful to inform the initiative and measure its progress. Find out more about the projects Lloyd’s Register Foundation funds to put the World Risk Poll into action, and future funding opportunities, at wrp.lrfoundation.org.uk.



4. What makes people more resilient?

Resilience is a multifaceted concept underpinned by many factors. These factors can be unique to an individual, such as personality traits and attitudes, but wider social conditions are also important – for instance, the provision of services in a country that determine levels of economic opportunity or social and institutional support. These factors can all contribute to people's ability to recover from periods of adversity or hazardous events.

Statistical analysis of the World Risk Poll data was conducted to understand which factors are most closely associated with resilience. The analysis examined the association of personal characteristics such as age, gender, employment status, income level and degree of urbanicityⁱ with resilience, as well as the apparent role of being in a particular world region, GDP per capita, economic growth and inflation. Overall, the analysis found that these factors partly explain variance in the Resilience Index across countries. The remainder of this section examines the characteristics and traits most closely associated with resilience.

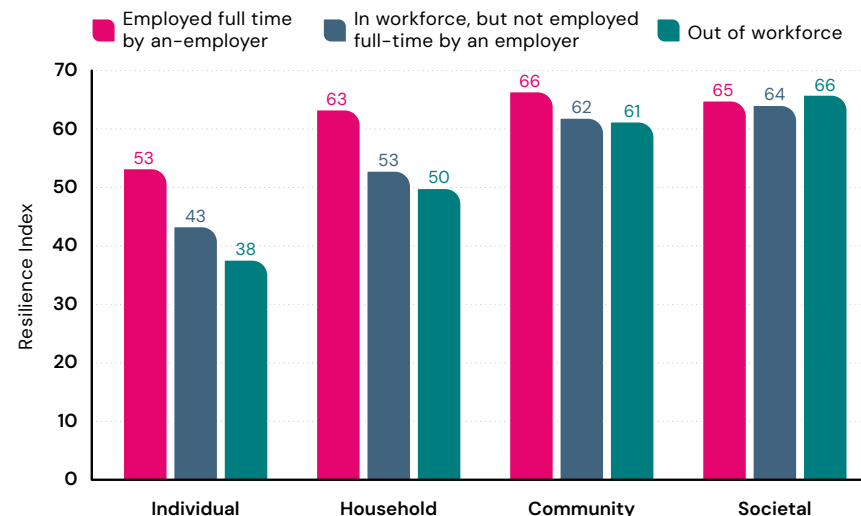
Employment

Employment is a contributing factor in building resilience. More specifically, being employed full time by an employer is most strongly associated with a higher Resilience Index score (four-point increaseⁱⁱ) relative to being out of the workforceⁱⁱⁱ. Full-time employment for an employer has the strongest effect on resilience, while other employment categories, such as self-employment, part-time employment and unemployment, have roughly half the same effect compared to being out of the workforce. This finding could be an important dimension for policymakers to consider, not just in aiming to provide the macroeconomic conditions that would support stable employment but also in considering how workplaces can better equip workers to deal with adverse events.

Full-time employment is a particularly important correlate of resilience in Afghanistan, where the 17-point difference in Resilience Index scores between those employed full time by an employer and those out of the workforce was the widest in the world. There is also a clear overlap between gender and employment in Afghanistan, with women far more likely than men (73% vs 27%, respectively) to be out of the workforce. Comoros (14 points) and China (13 points) also saw vast differences in resilience between the full-time employed and those out of the workforce.

People who are not employed full time by an employer are particularly disadvantaged at the individual and household levels of resilience. Those employed full time by an employer have similar levels of household, community and societal resilience, whereas those not employed full time and those out of the workforce perform better as we move up the resilience dimensions towards the societal level.

Chart 4.1. Global resilience dimensions, by employment status (2023)



At a global level, half (50%) of people who are out of the workforce feel they have no agency to protect themselves or their families in case of a future disaster^{iv} – a core component of individual resilience. This is a significant increase compared to 2021 (41%). Among people who are in the workforce but not employed full time by an employer, 41% say there isn't anything they could do to protect themselves or their families from the impact of a future disaster, also up from 39% in 2021. People in full-time employment for an employer feel most able to protect themselves, with that section of the population registering the highest individual and household resilience scores. Fewer people in this group (35%) say there isn't anything they could do to protect themselves or their families from the impact of a future disaster, a figure unchanged from 2021.

ⁱ – Education was excluded from this model as it is a constituent of the individual resilience component.

ⁱⁱ – This means that holding all other variables constant, full-time employed people, on average, score four points higher on the Resilience Index than people who are out of the workforce.

ⁱⁱⁱ – 'Out of the workforce' excludes people who are unemployed and might be looking for work.

^{iv} – Exact question wording: If a disaster were to occur near you in the future, do you think there is ANYTHING you could do to protect yourself or your family from its impact?

Household income

Household earnings also play a role in building resilience and are often related to forms of stable (or not stable) employmentⁱ. The poorest 20% of people in each country are disproportionately more likely to have lower Resilience Index scores than higher-income groups. Targeted policymaking focussed on the lowest income groups, regardless of which country they live in, is therefore necessary to give the most vulnerable people a boost in coping with adversity, in particular at the individual and household level.

Income inequality (between top and bottom quintiles) in resilience applies to most countries worldwide across all country income categories. As Table 4.1 demonstrates, income gaps in resilience are sharpest in Eastern Asia (with a 12-point difference between the wealthiest and the poorest 20% of the population) and Northern Africa (with an 11-point gap), and lowest in Southern Europe (with a seven-point gap).

Table 4.1. Resilience Index scores and gaps between top and bottom income quintiles, by region (2023)

Global region	Poorest 20%	Richest 20%	Point change in Resilience Index*
Eastern Asia	57	69	12
Northern Africa	44	55	11
Northern America	58	67	9
Southern Africa	45	54	9
Middle East	46	55	9
Southern Asia	49	57	8
Southeastern Asia	60	69	8
Latin America & the Caribbean	46	54	8
Central Asia	57	65	8
Australia & New Zealand	59	67	8
Northern/Western Europe	58	65	7
Eastern Europe	54	61	7
Eastern Africa	44	51	7
Central/Western Africa	41	47	7
Southern Europe	51	58	7

*For some countries, data in this column do not add up to the difference between the data in the previous two columns due to rounding.

i – A question about a related topic, household financial assets, is one of the elements of the model. Exact question wording: Suppose your household suddenly lost all income and had to survive only on savings and things that could be sold. How long would your household be able to cover all the basic needs, such as food, housing and transportation? Would you say less than a month or a month or more?

Age and gender

Among people aged 15 and older, the younger a person is, the more likely they are to be resilient. This is particularly true of those aged 15 to 29, who were most strongly associatedⁱⁱ with increased resilience. People aged 30 to 49 are also more resilientⁱⁱⁱ compared to those over 50. While this contrasts with some academic literature that shows older adults typically fare better in their emotional and mental responses to natural hazards²⁰, it is important to consider that resilience in this case is broadly defined and spans four dimensions, from individual to societal.

The highest gaps in resilience between people under 30 and those over 65 are seen in countries in Southern and Southeastern Asia, including Malaysia, Sri Lanka (both with a 13-point gap) and the Philippines (with a 12-point gap). These countries, like many others, are facing aging populations^{21,22,23}. As societies worldwide continue to see this demographic shift, policymakers need to take steps to support the resilience of older people.

When analysing the overall data by sex^{iv}, women score equal to or lower than men on the Resilience Index in all countries or territories measured by the World Risk Poll. Significant gender inequalities in resilience are present in dozens of countries, irrespective of location or affluence. For example, the biggest gender gaps on the Resilience Index are in Afghanistan (12 points), Pakistan (nine points), the Czech Republic (eight points) and South Korea (eight points). Some academic literature suggests that gender gaps in resilience are in part related to sociocultural norms, institutional contexts and environmental factors, all of which impact the ability to earn income and feel empowered. Moreover, these differences are highly specific to local contexts²⁴.

Overall, the analysis shows that many demographic factors, such as income, age, employment status and gender, are associated with people's resilience. Policymakers and governments, therefore, need to focus on boosting resilience levels among more vulnerable sections of society, including the lowest income earners, people out of the workforce and older people. Without such interventions, hazardous events, disasters and other shocks will likely continue to disproportionately harm these groups, driving further inequality in safety, hardship and, potentially, instability.

While the personal demographic characteristics described in this chapter are associated with resilience, external factors such as GDP and global region are also important elements in shaping resilience. At a higher level, where you are born and live – and the income level of your country – continues to play a significant role in determining people's resilience levels. While these higher-level factors are largely out of the control of policymakers, they form an important backdrop to the other, more actionable demographic drivers of resilience, such as age, income and employment status.

ii – (+4 points). This means that holding other variables equal, 15-29-year-olds scored four points higher on the Resilience Index than those over the age of 50.

iii – (+2 points)

iv – The specific question was framed as sex as the demographic, but this report refers to gender (men and women) as opposed to sex (males and females) for general readability.

Resilience and geopolitical risk

There are currently more armed conflicts taking place globally than at any time since World War II²⁵. Conflicts between or within states highlight the associations between instability, conflict and resilience. The examples below demonstrate how conflict can have an immediate but inconsistent impact on resilience.

After two years of a grinding war, Ukraine and Russia were more resilient in 2023 than in 2021. However, they have achieved this in different ways. Ukraine saw a significant decline in individual resilience, whereas this measure was stable in Russia compared to 2021. This is perhaps unsurprising given the differing immediate threats to life in both countries^{26,27}. However, both countries have seen increased resilience at the community and societal levels, as shown in Table 4.2 below. Gallup measured 'rally effects' (i.e., signs of people coming together during times of danger or crisis) in both countries, since the war began that help shed light on how each country has become more resilient overall even as the death toll continues to rise.

A similar pattern can be observed in Burkina Faso and Mali, which have experienced coups since the last World Risk Poll. In both countries, overall resilience was either stable or higher in 2023 than in 2021, driven by increased resilience at the community and societal levels. That said, total resilience in these countries is still low when compared globally. Myanmar – which experienced a coup in 2021 and has been plagued by instability and conflict ever since – has seen a similar, albeit slightly different trend. Individual and household resilience fell significantly, whereas community resilience increased, leading to total resilience in Myanmar remaining unchanged.

The Taliban (re)took power in Afghanistan in 2021, driving its society into economic ruin and stripping basic rights from women and children. The country's individual-, household- and community-level resilience have all declined precipitously to the lowest levels of all the countries and territories covered by the World Risk Poll. Yet societal resilience has nudged up by four points.

Ecuador also shows how instability has impacted resilience scores. Booming cocaine production in neighbouring Colombia and Peru has made Ecuador – and its port of Guayaquil – key nodes in the global drug trade. As cartels have expanded their presence in Ecuador, prison riots, homicides and political assassinations have become grim parts of daily life. No other country in the world scored lower than Ecuador in 2023 for feeling safe walking alone at night²⁸. It also experienced some of the sharpest overall declines in resilience compared to 2021 across all four dimensions of the index.

As these examples demonstrate, conflict and instability often directly impact the resilience of the people living through – or affected by – it. In many cases, either through external invasions or internal uprisings, resilience drops at a more micro-level, affecting individuals and their households. However, times of trouble can also bring communities and societies together, rallying them around an issue and, in many cases, resulting in greater levels of community and societal resilience. These relationships are not always uniform, nor do they manifest evenly across different parts of the world. However, the World Risk Poll indicates that geopolitical risk can at once make individuals less but societies more able to deal with adversity and danger.

Table 4.2. Changes in Resilience Index and dimension scores due to conflict and instability (2021–2023)

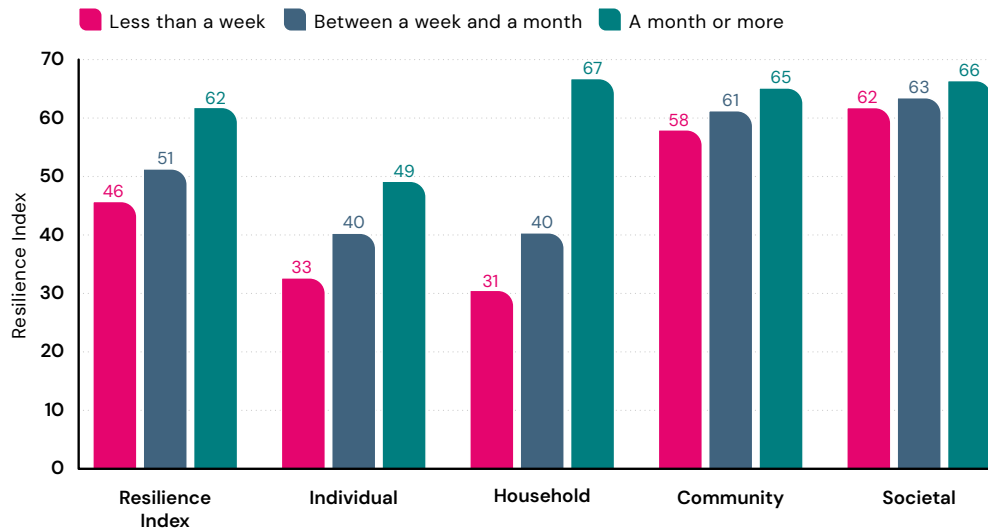
Country	Total Resilience Index score 2023	Total Resilience Index score 2021	Individual resilience 2023	Individual resilience 2021	Household resilience 2023	Household resilience 2021	Community resilience 2023	Community resilience 2021	Societal resilience 2023	Societal resilience 2021
Ukraine	59	55	57	61	61	59	56	50	62	52
Russia	60	56	59	59	63	58	54	47	65	58
Burkina Faso	47	42	24	24	38	35	54	48	72	63
Mali	48	45	31	34	38	40	52	45	73	62
Myanmar	52	52	42	46	54	60	59	51	54	53
Afghanistan	29	33	16	23	30	38	27	33	44	40
Ecuador	42	49	38	44	49	56	40	48	40	49

Resilience and the macroeconomy

The shock of COVID-19 – and associated societal shutdown in many countries – saw global GDP contract by -3.1%, the biggest annual drop ever measured by the World Bank²⁹. As countries lifted restrictions at differing rates, the global economy rebounded unevenly. Then, almost two years on from the start of the pandemic, Russia's invasion of Ukraine triggered another shock, further compounding existing challenges of rising inflation and slowing growth. Global inflation rose to 8.7% in 2022, up notably from 4.7% in 2021³⁰. Such economic turbulence offers another useful lens through which to examine the relationship between resilience across all dimensions and economic change.

Of the three main external economic indicators included in this analysis (annual real GDP growth rate, inflation rate and unemployment rate), one has some meaningful association with changes in resilience: real GDP growth. GDP is a measure of the combined value of goods and services within a country's borders. The real element of GDP growth is important in this regard, as it is adjusted to account for inflation (how much prices are rising or falling)³¹. While real GDP growth shares a significant relationship with increases in the community resilience dimension, it is not related to changes in the other three resilience dimensions.

Chart 4.2. Resilience dimensions, by financial resilience (2023)



Survey question: Suppose your household suddenly lost all income and had to survive only on savings and things that could be sold. How long would your household be able to cover all the basic needs, such as food, housing, and transportation? Would you say less than a month or a month or more?

i - R=0.25

A different picture emerges when analysing people's economic perceptions, as opposed to external macroeconomic indicators. Globally, financial household resilience – how long a household could cover basic needs with no income – is associated with resilience across the different dimensionsⁱⁱ. Households that could only last less than a week with no income saw lower resilience across all resilience dimensions than those that could last longer, although this effect was weaker on the community and societal resilience dimensions (see Chart 4.2).

Changes in household financial resilience show no significant relationships with changes in macroeconomic indicators such as real GDP growth, inflation or unemployment rates. In most countries, longer-term macroeconomic trends are largely detached from a household's changing ability to meet basic needs in the short term.

There is, however, a stronger association between increases in household financial resilience and increases in individual resilienceⁱⁱⁱ. When households are less able to meet their basic needs financially, the individuals within that household become less resilient. The inverse is also true: when households build larger financial savings to fall back on in an emergency, the individuals within the household become more resilient. Yet changes in a household's ability to meet basic needs share no meaningful relationship with changes in higher levels of community or societal resilience.

While macro-level change in real GDP growth is most closely related to changes in community resilience, macroeconomic change does not necessarily trickle through to households, especially the most vulnerable sections of society. Of any economic indicator, the changing ability of households to cover their basic needs was most strongly related to changes in the components of the index. When people's financial safety net diminishes, their individual resilience also declines. Therefore, as a precautionary measure, as well as at times of disasters or large shocks, policymakers could support the most vulnerable sections of society through the provision of financial safety nets^{iv}.

Having considered many of the underlying drivers of resilience, we now turn to the complex relationship between resilience and natural hazards and how this relationship varies over time, across countries and among different types of natural hazards.

ii - The financial resilience question is included in the household resilience dimension, hence why this dimension shows the greatest variation by how long households could cover their basic needs without income.
 iii - R=0.55
 iv - Such financial safety nets were implemented as part of the response to the COVID-19 pandemic, when several countries gave assistance in various forms, such as the furlough scheme in the United Kingdom and the social assistance program in the Philippines.

5. Natural hazards and resilience

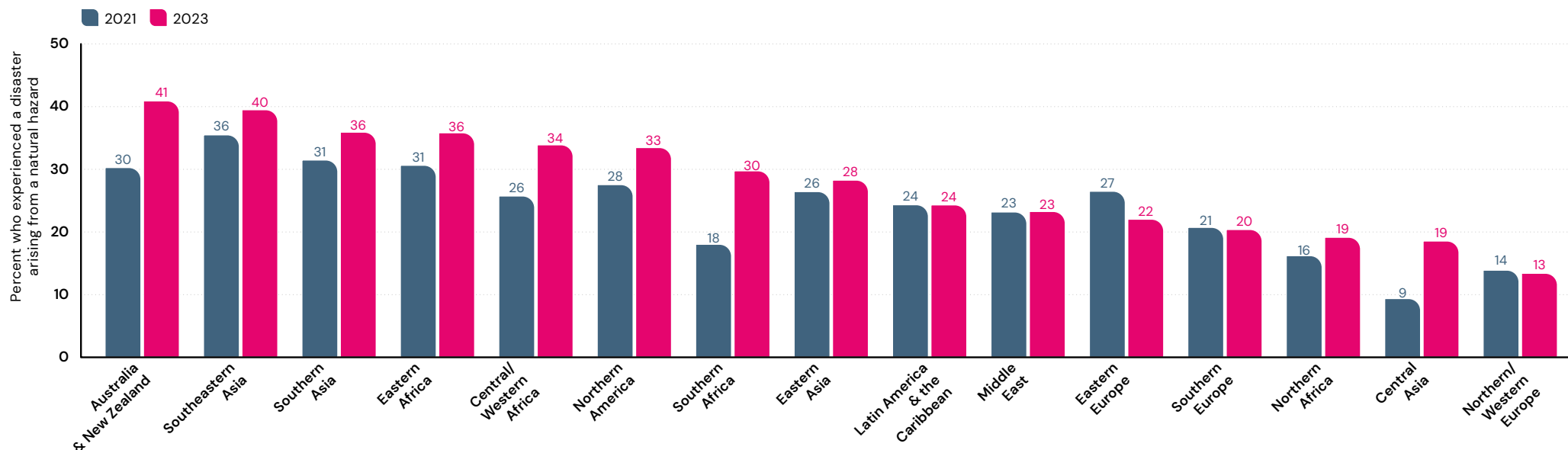
As the World Risk Poll data and the literature indicate, there is a need for coordinated international and national action to build resilience, especially among the world's most vulnerable populations and in the face of the rising incidence of extreme weather events due to climate change. Since the 2021 iteration of the World Risk Poll, the rate of change in surface air temperature has accelerated sharply.

At the time of writing, the past 12 months have all set records as the warmest on record for their respective month of the year, most of which are more than 1.5 degrees Celsius above pre-industrial levels³². As climate change and global warming worsen, the frequency and severity of many natural hazards – from droughts to severe floods and tropical storms – will intensify.

Experience of natural hazards

The World Risk Poll data show that at a global level, under a third (30%) of people said they experienced a disaster related to a natural hazard in the past five years, up from 27% in 2021. Globally, the same three types of disasters stand out in 2023 as did in 2021: flooding (42%), hurricanes (19%) and earthquakes (16%) are by far the most common types of disaster experienced among those who have experienced any in the past five years.

Chart 5.1. Experience of disaster in the past five years, by region (2021–2023)



Survey question: In the past 5 years, have you personally experienced a disaster, such as floods or violent storms? Please do not think of coronavirus for this question.

In 2023, among the world's entire population (not just those to have experienced a disaster), 13% experienced a flooding-relatedⁱ disaster in the past five years, up from 10% in 2021.

In several regions of the world, the experience of disaster was stable or marginally higher compared to 2021. Yet a few regions stand out. Australia and New Zealand (ANZ) have seen a significant increase in the percentage of people experiencing disaster, up to 41% in 2023. No other region ranks higher for recent experience of disasters. New Zealand saw a significant rise in experiencing disaster, with twice as many people affected in 2023 as in 2021 (52% vs 26%), and Australia also increased from 31% to 39%. Both countries saw many more people affected by flooding than in 2021, with major events taking place in each country between iterations of the World Risk Poll. Southern Africa and Central Asia have also seen increases of a similar magnitude to ANZ (12- and 10-percentage-point increases, respectively), with many other regions seeing increases compared to 2021.

Southeastern Asia is top alongside ANZ as the other global region with the highest experience of disasters in the past five years. The region is among the most prone to natural hazards in the world, sitting on the Pacific Ring of Fire, with most countries situated on archipelagos or peninsulas, where large urban populations along the coast are vulnerable to flooding from cyclones and monsoon rains.

The other stand-out regional finding in changing experience of disasters was in Eastern Europe, the only region to decline significantly. Many countries in the region saw significant dips in experiencing disaster, chief among which was Ukraine (23%, down from 42% in 2021). Since 2019, very few natural hazards have occurred in Ukraineⁱⁱ.

ⁱ – Categorised in the dataset as Flood/Heavy Rain/Rainstorm.

ⁱⁱ – Across all hazards in Ukraine recorded between 2019 and 2023, the total death toll from five events – two storms, two wildfires, one flood – stood at 32 people.

Relationship between experience of disasters and future preparedness

This second iteration of the World Risk Poll module on resilience sheds light on changes in the experience of disaster and feelings of preparedness for the first time. Research indicates that planning and other elements of preparedness are important components of resilience in the face of disasters³³. Having contingency plans that all household members know can help provide certainty in the immediate aftermath of chaotic, hazardous events. As such, enhancing disaster preparedness is one of four key priorities in the UN's Sendai Framework for Disaster Reduction³⁴.

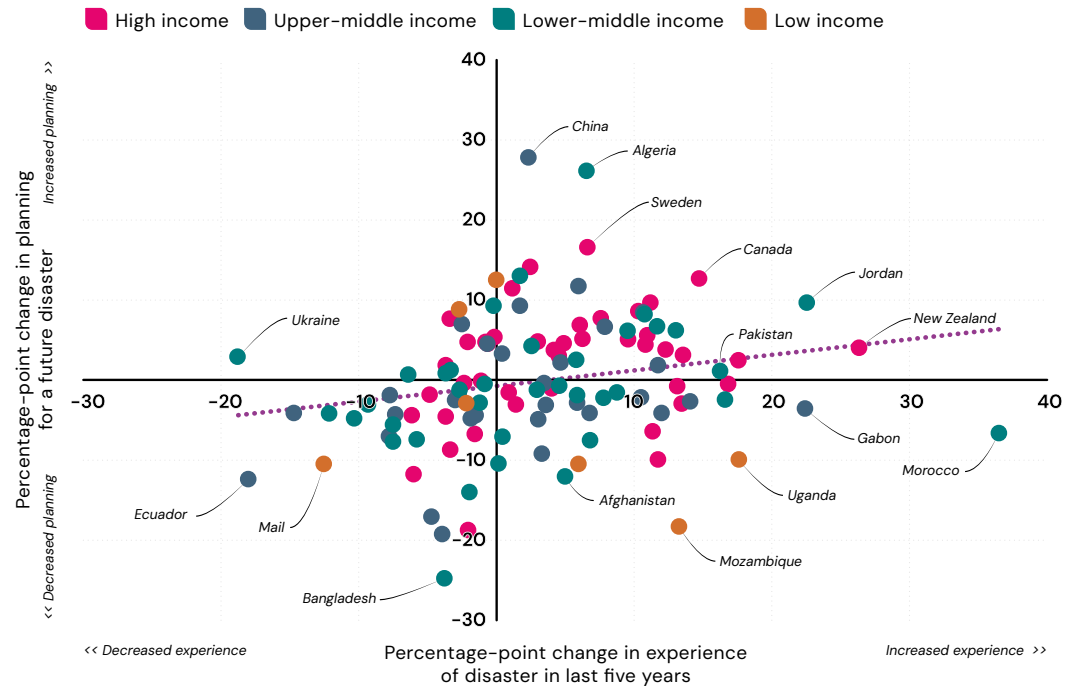
Research suggests that past experience of disaster is related to an increase in future awareness of potential disasters and preparedness for them^{35,36}. Data from both iterations of the World Risk Poll tentatively support this theory. At a global level in 2023, people who experienced a disaster in the past five years feel they have more agency and are more prepared than those who have not experienced a disaster. Many more think they could protect themselves or their families from a future disaster (62% vs 46%, respectively). The same is true of having plans for future disasters known by all household members (48% vs 34%, respectively). Yet these high-level relationships do not tell the full story of the relationship between experiencing disaster and future perceptions of planning and agency.

Analysing data across iterations of the World Risk Poll is helpful in this regard. Looking at the 120 countries measured across both 2021 and 2023, the positive relationship between changes in experience of disaster and changes in planning (a plan for future disasters that all household members know) is relatively weakⁱ but still notable at a global level (see Chart 5.2). In other words, as the number of people who experience disaster in a country increases, so too do rates of household planning in that country (although this varies by country).

The relationship with country income level is somewhat unclear. Countries in all income groups saw changes in experience of disaster and preparedness in both positive and negative directions. However, of the low-income countries measured in the World Risk Poll in both 2021 and 2023, the three that saw significant increases in experiencing a disaster (Uganda, Afghanistan and Mozambique) also saw significant declines in planning. Morocco, which has seen the greatest increase in experiencing disaster compared to 2021 – driven by the major earthquake – also declined by seven percentage points in planning for future disasters. The Morocco earthquake, and its impact on resilience, are detailed on Page 26.

ⁱ R=0.22

Chart 5.2. Relationship between changes in disaster experience and planning for future disasters (2021–2023)



Survey questions: In the past 5 years, have you personally experienced a disaster, such as floods or violent storms? Please do not think of coronavirus for this question.
If a disaster were to occur near you in the future, do you have a plan for what to do that all members of your household know about?

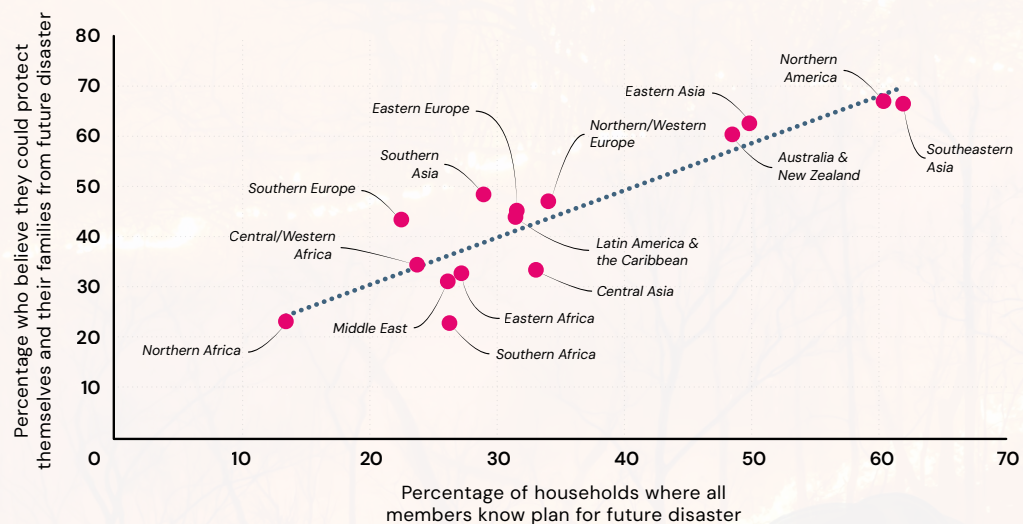
No significant country-level relationshipⁱ exists between changes in experience of disaster and changes in people's perceptions of their ability to protect themselves and their families from future disasters, otherwise referred to as agencyⁱⁱ. This finding suggests a complex relationship exists between experiencing a natural disaster, forming a plan to cope with the next disaster and feeling that one has agency to cope with it (at least to some extent) when it arrives. While there is a significant relationship in the first step of that process (disasters and planning), the association between experiencing a disaster and a sense of agency seems weaker and shows no significant relationship.

Irrespective of experiencing a disaster, there continues to be a strong associationⁱⁱⁱ between regions where people have plans for future disasters and where they believe that they have the agency to protect themselves. Northern America and Southeastern Asia continued to rank as the regions where the highest percentage of households had plans for future disasters, and where people felt most confident in taking some measures to protect themselves from them.

In Southeastern Asia, there is a heavy regional focus on responding to natural hazards through large-scale initiatives from the Asian Development Bank, the World Bank and the Association of Southeast Asian Nations. Meanwhile, Africa's regions all ranked among the 'least prepared' in the world.

i - R=0.12
 ii - Exact question wording: If a disaster were to occur near you in the future, do you think there is ANYTHING you could do to protect yourself or your family from its impact?
 iii - R=0.90

Chart 5.3. Relationship between disaster planning and agency, by region (2023)



Survey questions: If a disaster were to occur near you in the future, do you think there is ANYTHING you could do to protect yourself or your family from its impact?
 If a disaster were to occur near you in the future, do you have a plan for what to do that all members of your household know about?

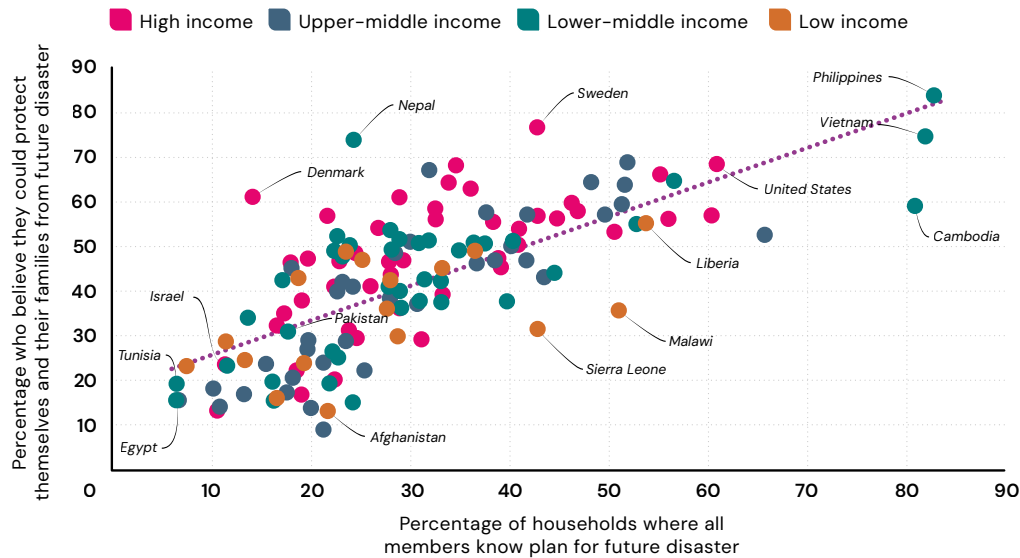


“ There continues to be a strong association between regions where people have plans for future disasters and where they believe that they have the agency to protect themselves. ”

While resilience correlates with country income and region, several countries do buck this trend and demonstrate that resilience can be improved regardless of national income. As Chart 5.4 shows, several countries with the highest rates of planning and the highest levels of agency, such as the Philippines, Vietnam and Cambodia, are classified as lower-middle-income countries. So, too, are Tunisia and Egypt, where disaster planning and agency are on a similar footing as the high-income countries of Israel and Poland.

Regardless, the same pattern holds at a national level as a regional level: the more people have a plan in place, the more agency they say they haveⁱ. Household plans are important in and of themselves from a practical perspective. But they are also important in the knock-on benefits to feelings of agency, which should lead to exponentially better outcomes for people when disaster strikes.

Chart 5.4. Relationship between disaster planning and agency, by country (2023)



Survey questions: If a disaster were to occur near you in the future, do you think there is ANYTHING you could do to protect yourself or your family from its impact?
 If a disaster were to occur near you in the future, do you have a plan for what to do that all members of your household know about?

In sum, disaster planning and feelings of agency that there is something people can do to protect themselves against future disasters often go hand-in-hand; regions that score highly in one typically score highly in the other. This relationship also holds over time. As highly disaster-prone regions (such as North America, Southeast Asia and East Asia) suffer more disasters, they grow more prepared to face disasters and also feel a greater sense of agency in being able to protect themselves, including increased participation of women in the process.

Increasing participation of women in the process is another important step. Globally, men report higher levels of agency in the face of disasters than women (53% vs 48%, respectively). More women than men do not participate in the labour market – a key predictor of resilience outlined on Page 18 – in part explaining why women have less financial resilience, and feel they have less agency, than menⁱⁱ. Therefore, one policy response could be to encourage and provide avenues for more women to enter the workforce and secure full-time employment.

DOES EXPERIENCING A CLIMATE-RELATED DISASTER INFLUENCE PEOPLE’S ATTITUDES TOWARDS CLIMATE CHANGE?

The 2021 World Risk Poll found that people who experienced serious harm from severe weather events were more likely to describe climate change as a ‘very serious threat’. In a similar vein, this most recent Poll finds that individuals who experienced any form of disaster in the past five years were more likely to view climate change more seriously than those who have not had such an experience, with 45% of the former group describing climate change as a ‘very serious threat’, compared to 37% of the latter group. However, views on the seriousness of climate change varied considerably by the type of disaster experienced.

Among those who have experienced the three most-experienced disasters worldwide – flooding, earthquakes and hurricanes (the first and last being climate-related hazards, earthquakes being geophysical hazards) – views on climate change were very similar. Forty-seven per cent of those who have experienced an earthquake viewed climate change as a very serious threat, compared to 45% for both hurricanes and flooding. People who have experienced heatwaves – often discussed alongside the impact of climate change and global warming – were among the least concerned by climate change, with just 34% viewing it as a very serious threat. In contrast, the hazard with the closest association to viewing climate change as a serious threat is mudslides/landslides: two-thirds (66%) of people who experienced one in the past five years view climate change as a serious threat, twice the rate of heatwaves.

ⁱ – Globally, men report higher levels of agency in the face of disasters than women (53% vs 48%, respectively). The same is true, albeit to a lesser degree, for household planning (39% vs 37%).

ⁱⁱ – Globally, 62% of men say their households could cover their basic needs for more than a month if income were lost, compared to 56% of women.

Disaster and resilience: A complex relationship

Comparing two iterations of resilience data enables us to isolate specific hazardous events that have taken place in the interim. Therefore, analysing some of the biggest natural disasters from around the world, such as in Morocco, Pakistan and New Zealand, helps shed light on the complex relationships between hazardous events and their impact on resilience.

It is worth noting that the World Risk Poll generates a Resilience Index by measuring public risk perception, and these perceptions can be heavily influenced by disastrous events. Irrespective of the success or not of the response to such disasters, the changes in perception they bring about with regard to risk can be independent of the population's longer-term ability to bounce back from future disasters. Even so, major disasters that took place in between iterations of the World Risk Poll are a useful lens through which to interrogate public perception of risk and resilience.

In Morocco, on 8 September 2023, an earthquake registering a 6.8 magnitude hit the country in the Atlas Mountains, southwest of Marrakesh. It was the strongest earthquake to hit Morocco – a country not used to experiencing such events – in over a century. According to the Center for Disaster Philanthropy, 380,000 people were severely affected because of their proximity to the epicentre, and the death toll stood at just under 3,000 people³⁷. In total, 6.6 million people were affected directly or indirectly.

Morocco's experience stands out in the World Risk Poll for several reasons. Primarily, the country saw the biggest absolute increase in experiencing any disaster of any country measured in both iterations of the Poll. In 2021, 23% of people in Morocco had experienced a disaster of any kind in the previous five years, mostly floods (35% of those who had experienced a disaster), drought (28%) or wildfires (19%). In 2023, a majority (59%) in Morocco have experienced a disaster, among whom 87% experienced an earthquake. This equates to 51% of all adults in Morocco saying they have experienced an earthquake in the past five years.

Given the lack of earthquake events that took place in Morocco between 2019 and 2023 – with the exception of 8 September – this suggests that around half of Moroccans felt that they experienced this particular event, even if they weren't among the estimated 380,000 people (around 1% of the country's entire population) directly affected.

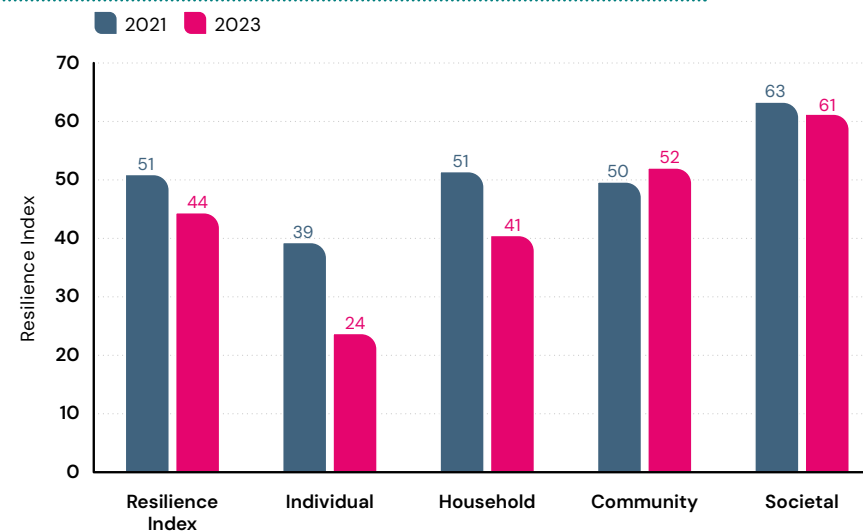
As such, the disaster significantly impacted the whole of Morocco, not just the regions surrounding the epicentre. At a national level, those who experienced the disaster have a Resilience Index score of 43, compared to 47 among those who did not experience disaster – in opposition to the global finding that experience of disaster was related to slightly higher Resilience Index scores.

³⁷ – It should be noted that Türkiye and Syria also experienced a major earthquake between iterations of the World Risk Poll, killing many thousands. However, Gallup was not able to field the survey in Syria and could not access many regions in Türkiye that were most affected by the earthquake. As a result, our data underestimate the disaster experience rate in Türkiye in 2023.

Morocco's Resilience Index score also saw significant shifts between 2021 and 2023. Overall, the Resilience Index declined by seven points to 44, which was among the largest declines measured worldwide. However, this significant decline has not been uniform across all sub-indexes.

Individual resilience and household resilience index scores both saw double-digit declines (16 points and 11 points, respectively), while community and societal resilience did not change in a statistically significant way.

Chart 5.5. Morocco Resilience Index scores (2021–2023)



A collapse in agency drove the decline in individual resilience. Just 23% of Moroccans said 'yes' when asked if they thought there was anything they could do to protect themselves or their families from the impact of a disaster if it were to occur near them in the future. This compares to 52% in 2021, before the earthquake. Of those who experienced a disaster, this figure falls further to just 19% (compared to 29% who did not experience a disaster). The percentage of people who said they have a household plan for what to do in case a disaster occurs near them also fell to 12% in 2023 from an already relatively low 18% in 2021.

These findings suggest that in countries where certain types of natural hazards are rare, suddenly experiencing one can act as a form of reality check for people's sense of agency. The 2023 earthquake in Morocco was the biggest magnitude earthquake to hit the country for well over a century³⁸. Those who experienced it saw a collapse in agency, perhaps because of the highly unique and rare circumstances of the earthquake. This also raises an important challenge for policymakers: if disasters like the Morocco earthquake can wipe out people's sense of agency and preparedness for facing future disasters, how can that confidence and agency be rebuilt alongside the rebuilding of infrastructure?

The survey in Morocco took place between 14 September and 18 October, shortly after the earthquake struck. In addition to the human and physical destruction it caused, the earthquake also shook the foundations of people’s sense of agency and vulnerability in the face of disaster. This trend follows a similar pattern to that observed in countries experiencing conflict and instability, as summarised on Page 20. While different events, both demonstrate how disasters and shocks affect various aspects of resilience differently. The impacts on individual and household resilience vary, while higher levels of community and societal resilience appear to stay relatively stable, or even increase. In 2022, the Gallup World Poll found that Morocco had one of the lowest rates of people donating money to charity in the past month (2%). This figure jumped to 18% in 2023 after the earthquake, far higher than any point on record since 2010, showing how communities and society rallied to support one another in the aftermath of the disaster.

Another example is in the major flooding events that have taken place around the world since 2021, such as in Pakistan and New Zealand – both of which were among the countries with the highest increases in experience of disaster (see Chart 5.2).

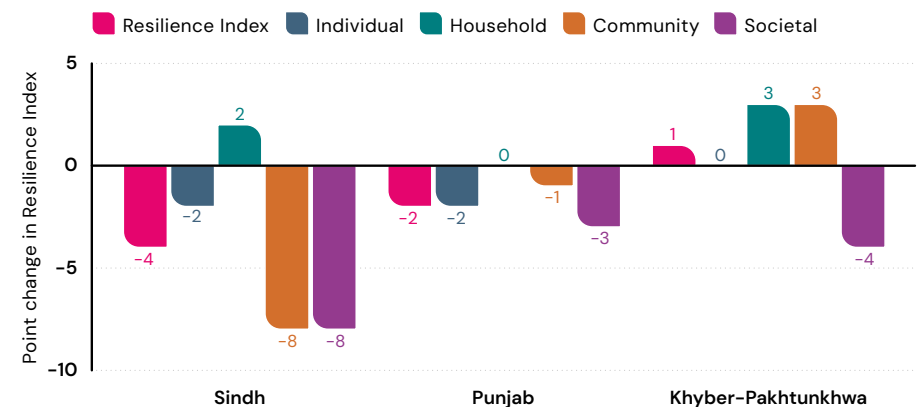
Between June and November 2022, Pakistan was hit by extensive flooding following monsoon rainfall, affecting regions containing about 15% of its population and killing at least 1,700 people³⁹. The flooding is estimated to have displaced around 8 million people from their homes. Against this backdrop, the proportion of adults in Pakistan who said they experienced any disaster in the past five years rose to 27%, up from 11% in 2021. This increase was driven almost entirely by flooding events, which 26% of all adults said they had experienced in the previous five years in 2023 (in 2021, this figure stood at just 6%).

In New Zealand, the floods that hit Auckland on 27 January 2023 were unprecedented in scale and became the biggest climatic event in New Zealand’s history⁴⁰. The record levels of rainfall that caused the floods were driven by the La Niña climate pattern, which resulted in higher sea and air temperatures. Similar to Pakistan, the proportion of adults across New Zealand who have experienced a disaster in the past five years doubled from 26% to 52%. In total, 28% of New Zealand’s adult population experienced flooding between 2018 and 2023.

Unlike in Morocco, where majorities in most regions experienced the earthquake, there was significant regional variation in experiencing flooding in Pakistan and New Zealand. In Sindh province, 54% of all adults experienced flooding, compared to 20% in Khyber-Pakhtunkhwa and 12% in Punjabⁱ. Similarly, 44% in Auckland experienced flooding, well above the rest of the country. Isolating these two main regions – Sindh and Auckland – helps show how the resilience of a specific region changes after experiencing a major natural disaster.

In Pakistan, Sindh province stands out for its significant declines in community and societal resilience compared to 2021. In Punjab, these two resilience dimensions saw slight but insignificant decreases, while in Khyber-Pakhtunkhwa, the three-point increase in community resilience was balanced out by the four-point decrease in societal resilience. By contrast, at the micro-levels of resilience (individual and household), all three major provinces saw no significant changes between 2021 and 2023.

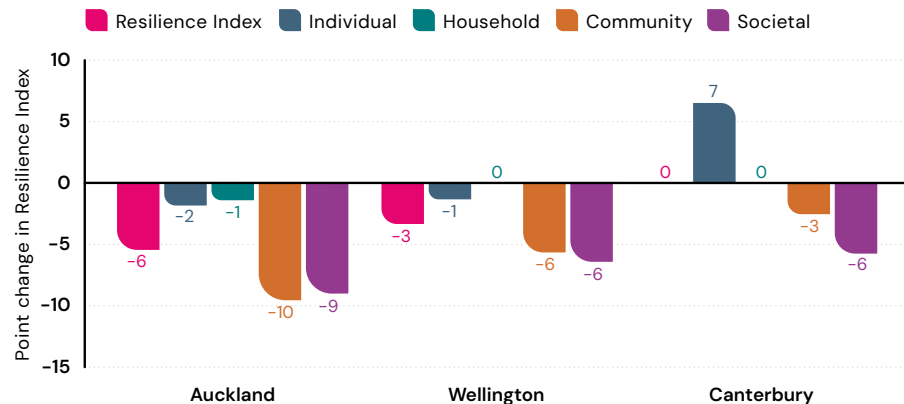
Chart 5.6. Regional Resilience Index changes in Pakistan (2021-2023)



ⁱ – Focus is on Pakistan’s three main regions due to having adequate base size for analysis: n>100.

A similar pattern holds in New Zealand’s main regions. Auckland saw the greatest declines in community (10 points) and societal (nine points) resilience compared to 2021. While Wellington and Canterbury also saw declines in these sub-indexes, they were not as steep as in Auckland. Much like in Sindh province, Pakistan, Auckland had no significant changes in individual or household resilience.

Chart 5.7. Regional Resilience Index changes in New Zealand (2021–2023)



These three natural hazard disasters in Morocco, Pakistan and New Zealand were among the most significant that took place since the 2021 iteration of the World Risk Poll, not only in terms of the number of people affected but also in terms of global media attentionⁱ. Together, they represent useful case studies that shed light on the complex relationship between experiencing disaster and levels of resilience. In Morocco, where most regions were affected by the earthquake to varying degrees, micro-resilience decreased sharply at the individual and household levels. By contrast, the regions hit hardest by the floods in Pakistan and New Zealand became far less resilient at the community and societal levels, while individual and household resilience remained statistically unchanged.

The diametrically opposed relationships to changes in resilience related to the earthquake in Morocco and floods in Pakistan and New Zealand may be related to the nature of the events. The Morocco earthquake lasted just seconds (plus several aftershocks), but the floods in New Zealand and Pakistan lasted weeks and months, respectively. While these changes in resilience cannot be directly attributed to the natural disaster alone, and the causal relationship is unclear, it suggests a relationship exists between the type of disaster experienced and resilience changes over time, both at a regional and national level. Continuing to study resilience over time will help unpack this complex relationship.

This analysis further reinforces the need for policymakers and organisations to design and implement targeted interventions starting at the individual and household levels. These interventions should engage with communities and reinforce messages that there are measures people can adopt to reduce the risks of harm from disasters and strengthen their resilience.

More importantly, policymakers could improve institutional (and infrastructural) responsive and preventive mechanisms – especially in areas prone to repeat disasterⁱⁱ. For example, more accurate and widespread dissemination of early warnings before a disaster hits, and better communication in the immediate aftermath, can help post-disaster responses minimise harm and give people a chance to recover more quickly.

ⁱ - We were unable to include other large-scale natural disasters since 2021 for a range of reasons. The earthquake in Türkiye and Syria saw the biggest death toll of any hazard, but as a result, the sample in Türkiye had to exclude regions affected particularly badly by the disaster, representing about 12% of the country's population who felt its impact most. Cyclone Freddy was also not an area of focus, even though it set records as the longest-lived tropical cyclone ever recorded. Freddy hit Madagascar, Malawi and Mozambique in early 2023. The first two countries did not have Resilience Index scores in 2021 and so could not be analysed with respect to change in resilience.

ⁱⁱ - As an example of such a policy response, please refer to the following on Hurricane Katrina: <https://www.ncsl.org/state-legislatures-news/details/the-storm-that-changed-disaster-policy-forever>

6. Conclusion

The 2021 iteration of the World Risk Poll resilience report provided the world's first global measurement framework for understanding people's perceptions of risk and resilience. It highlighted several factors undermining resilience for people in different social, economic and geographic environments and gave the first global reading of people's resilience at an overall level, as well as that across individual, household, community and societal dimensions. But point-in-time measurement can only take our understanding of resilience so far.

This 2023 iteration of the World Risk Poll on resilience sheds light on the complexity of resilience and how it changes over time. Comparing data between 2021 and 2023, this report has shown how higher rates of experiencing disaster are related to higher rates of planning for future disasters, but not necessarily greater feelings of agency. It has also shown how different types of hazards seem to impact resilience in different ways. Of the major global disasters in the past two years, Morocco's earthquake saw a collapse in people's sense of agency and resilience, but not in the resilience of communities or society at large. In contrast, major floods in Pakistan and New Zealand showed the opposite effect.

Taken together, these major disasters demonstrate the importance of rebuilding both infrastructure and people's sense of agency and confidence following a disaster to make people and societies safer when the next one hits. While the overall rate of receiving early warnings before disasters remains unchanged compared to 2021, there have nevertheless been increases in digital early warnings, even though there is still huge scope to increase the coverage of digital-first early warning systems, as well as reduce the persistent inequalities in access to such systems.

This report also highlights how other types of shocks, including those that are economic and geopolitical, interact with resilience in complex, potentially surprising ways. Real GDP growth at the national level is linked to increases in community resilience, but not other dimensions. In contrast, how people feel about their economic realities has the strongest association with changes in any form of resilience. When households feel less able to meet their basic needs financially, individuals within the household become significantly less resilient. In many of the world's active conflict zones, from Ukraine to Mali to Myanmar, resilience at the community and societal levels has also increased, while declining across the board in Ecuador as the country is beset with drug-related instability.

The diverse set of measures contained in the World Risk Poll, when measured over time, helps amplify the voices of many of the most vulnerable and least resilient groups of people around the world. In turn, this dataset can help policymakers and development organisations target interventions that will have the greatest impact on closing resilience gaps, making the future safer for all, no matter who they are or where they live.

While two point-in-time measurements (in 2021 and 2023) help build a picture of change, they do not yet indicate broader, longer-term trends in people's perceptions of risk, resilience and safety. The 2025 iteration of the World Risk Poll Resilience Index will help fill in these knowledge gaps and provide an even clearer indication of how the world's resilience is changing in these uncertain times.

“ This dataset can help policymakers and development organisations target interventions that will have the greatest impact on closing resilience gaps. ”

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Appendices

Appendix i: Resilience Index methodology

First introduced in the 2022 World Risk Poll report ‘*A Resilient World? Understanding vulnerability in a changing climate*’, the Resilience Index quantifies people’s capacity for resilience and ability to deal with adversity based on their personal circumstances and perceptionsⁱ. The overall score ranges between 0 and 100, with higher values equating to higher resilienceⁱⁱ. The Resilience Index is a composite score based on four underlying dimensions: individual, household, community and societal resilience. By measuring resilience at these four levels, the index provides a holistic assessment of resilience.

The Resilience Index is calculated by evaluating how respondents answered over a dozen different survey questions, drawing from questions originally designed for the 2021 World Risk Poll to measure some aspects of resilience as well as some items from the larger Gallup World Poll that were deemed relevant to understanding this topic.

The motivation and methodology behind the original Resilience Index was described in the methodology report for the 2021 Pollⁱⁱⁱ, though this section will also provide a brief recap of this process. Importantly, Gallup and Lloyd’s Register Foundation researchers applied the same conceptual framework – including the selection of which survey questions map to each sub-dimension of the index – as in the previous analysis.

Similarly, the calculation process used to derive an individual’s final index score did not change, however researchers transformed the scale of the final score to fall between 0 and 100, with higher values denoting greater resilience. By comparison, the 2022 report reported Resilience Index results using a 0–1 scale^{iv}.

This change was made to help readers more easily interpret the results, especially when comparing scores between the two waves.

The subsequent sections recap how the Resilience Index was developed and calculated.

Construct definition

In its broadest sense, resilience is the capacity to handle and recover from adversity and difficulties. For risk management experts, that generally means how well individuals or groups manage and recover from ‘shocks’ – instances when risks evolve into disruptive events that threaten safety.

In some cases, resilience refers to the ability to return relatively quickly to the pre-shock state; this recalls how physicists use the term to describe a system’s capacity to return to equilibrium after being exposed to a stressor. The European Union’s definition reflects this view of resilience as ‘the ability of an individual, a household, a community, a country or a region to withstand, to adapt, and to quickly recover from stressors and shocks’^v.

In the context of risk and safety, however, resilience often refers not just to the ability to recover from specific shocks as they occur, but also to adapt to changes in the risk landscape to make shocks less likely or less harmful when they do occur. The Rockefeller Foundation’s definition, for example, emphasises this adaptive aspect of resilience: ‘The capacity of individuals, communities, and systems to survive, adapt, and grow in the face of stress and shocks, and even transform, when conditions require it’^{vi}.

Summarising these different conceptions, Béné et al.’s 2014 review of the literature concluded that resilience can consist of absorptive, adaptive or transformative capacities and that the need for each capacity varies with the intensity and costs of the shocks involved^{vii}. Truly resilient systems have all three capacities to deal with a wide range of potential shocks.

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Construct composition

The Lloyd's Register Foundation report, Foresight Review on Resilience Engineering, notes that standards and processes for measuring resilience are still emerging, citing the need for 'assessment and predictive capabilities that do not presently exist, including identification, collection and analysis of relevant data'.

In recent years, researchers and development practitioners have developed a number of frameworks for measuring resilience, several of which were summarised in a 2016 report from the United Kingdom's Department for International Development (DFID), now the Foreign, Commonwealth and Development Officeⁱ. The report lists several common methods for quantifying resilience, including the following:

1. Household or community characteristics: Includes income, access to safety nets and social capital
2. Functionality: Includes measures of infrastructure resilience – for example, the presence of a system to measure structures' resilience to earthquakes
3. Access to food
4. Activities: Attempts to put a monetary value on interventions designed to improve resilience
5. Subjective perceptions: Includes individuals' self-evaluation of their household's capacities in responding to risk
6. Costs of resilience: Includes the costs of anticipation, impact and recovery

Another review of existing resilience studies conducted by Serfilippi and Ramnath in 2018 classified 76 indicators into three categoriesⁱⁱ:

1. Social: Includes coping strategies, access to safety nets, inclusion, education, living conditions, access to information, access to basic services and infrastructure
2. Environmental: Includes soil and water conservation measures, land use change and fertiliser use
3. Economic: Includes diversification of livelihoods, access to credit and productive assets

In his 2013 review of resilience measures, Béné wrote about the need for indicators that are not only generic enough to measure resilience to different types of shocks, but also 'multi-scale' in that they assess resilience at different levels – including the household, community and societal levels – to capture the full range of risk mitigation factors in their environmentⁱⁱⁱ.

Indicator mapping

In the process of designing the Resilience Index, the conceptual frameworks described above were reviewed to identify unique, measurable variables. Each of these variables was then compared to data available from the World Risk Poll (Appendix Table 1) and the Gallup World Poll (GWP) more broadly (Appendix Table 2).

Matching indicators were then mapped to the existing resilience frameworks. As Appendix Table 1 and Appendix Table 2 show, there was not a perfect match between the variables available in the World Risk Poll/GWP and any specific resilience frameworks; however, all frameworks were at least partially covered.

Appendix Table 1. Correspondence between resilience conceptual frameworks and World Risk Poll items

Framework	Variable	Cover Basic Needs	Government Cares	Neighbours Care	Look to/Trust Info Sources	Institutions Prepared	Experienced Disaster	Received Warning	Individual Agency	Household Plan	Loss of Services	Discrimination
Capacities Framework	Absorptive capacity	X	X	X						X		
	Adaptive capacity								X			
	Transformative capacity								X			
Capacities Measurement Framework	Social		X	X				X				X
	Environmental											
	Economic	X										
DFID (2016)	Hhld/Community characteristics	X		X								X
	Functionality							X				
	Access to food											
	Activities											
	Subjective perceptions								X	X		
	Costs of resilience											
Psychological Resilience – U.K.'s NHS	Confidence (self-efficacy)								X			
	Coordination (planning)									X		
	Control								X			
	Composure (low anxiety)											
	Commitment (persistence)											
	Make adversity meaningful											

i – Lloyd's Register Foundation. (2015). Foresight review of resilience engineering. <https://www.lrfoundation.org.uk/en/publications/resilience-engineering/>

ii – Serfilippi, E., & Ramnath, G. (2018). Resilience measurement and conceptual frameworks: A review of the literature. *Annals of Public and Cooperative Economics*, 89(4), 645–664. <https://doi.org/10.1111/apce.12202>

iii – Béné, C. (2013). Towards a quantifiable measure of resilience. *IDS Working Papers*, 434, 1–27.

Appendix Table 2. Correspondence between resilience conceptual frameworks and GWP items

Framework	Variable	Educational Attainment*	Internet Access*	Mobile Phone Access*	Feelings About Household Income	Standard of Living	Standard of Living Better	Not Enough Money: Food	Not Enough Money: Shelter	Safe Walking Alone*	Helped a Stranger*	Money/Property Stolen	Public Transport	Roads*	Schools*	Quality of Air	Quality of Water	Quality Healthcare*	Voiced Opinion to Official	National Institutions Index*	
Capacities Framework	Absorptive capacity	x	x	x	x	x	x	x	x												
	Adaptive capacity																				
	Transformative capacity																		x		x
Capacities Measurement Framework	Social	x	x	x	x	x	x			x	x	x	x	x	x				x		
	Environmental															x	x				
	Economic							x	x												
DFID (2016)	Hhld/Community characteristics				x	x	x			x	x	x									
	Functionality												x	x	x						x
	Access to food							x													
	Activities																				
	Subjective perceptions																				
	Costs of resilience																				
Psychological Resilience – U.K.'s NHS	Confidence (self-efficacy)																				
	Coordination (planning)																				
	Control																				
	Composure (low anxiety)																				
	Commitment (persistence)																				
	Make adversity meaningful																				

The World Risk Poll Resilience Index was structured to combine indicators at the individual, household, community and societal levels.

Appendix Table 3. Dimensions and indicators in the World Risk Poll Resilience Index

Dimension	Indicators
Individual	Agency/Self-efficacy: If a disaster were to occur near you in the future, do you think there is anything you could do to protect yourself or your family from its impact?
	Educational attainment: What is your highest completed level of education?
Household	Financial assets: Suppose your household suddenly lost all income and had to survive only on savings and things that could be sold. How long would your household be able to cover all the basic needs, such as food, housing, and transportation?
	Planning: If a disaster were to occur near you in the future, do you have a plan for what to do that all members of your household who are over 10 years old know about?
	Access to communications: Does your home have access to: 1) the internet, 2) a cellular phone?
Community	Social capital:
	<ul style="list-style-type: none"> How much do you think most of your neighbours care about you and your wellbeing? Do you feel safe walking alone at night in the city or area where you live? Have you done any of the following in the past month? Helped a stranger or someone you didn't know who needed help.
	Local infrastructure: In the city or area where you live, are you satisfied or dissatisfied with:
Societal	<ul style="list-style-type: none"> The roads and highways? The educational system or the schools? The availability of quality healthcare?
	Discrimination: Have you, personally, ever experienced any discrimination because of any of the following? The colour of your skin? Your religion? Your ethnicity/nationality? Your gender? A disability, if you have one?
	Safety net: How much do you think the government of [country] cares about you and your wellbeing?
	National Institutions Index: In [country], do you have confidence in each of the following, or not?
	<ul style="list-style-type: none"> The military? The judicial system or courts? The national government? The honesty of elections?

Total scores for each of the four index dimensions (listed in Appendix Table 3) were derived by averaging the scores of the individual items in each dimension. The final overall Resilience Index score is computed as the arithmetic mean of the scores of the four dimensions. The section immediately following discusses how overall index and dimension scores varied by region and demographic grouping. The discussion then takes a more detailed look at the results for each index component.

It is important to note that the Resilience Index was designed to measure each of the four dimensions of resilience using multiple, conceptually inter-related, items. Doing so enhances the robustness of the measure in the event of missing, or otherwise uninformative, responses (e.g., 'Don't know/Refused').

In the 2023 Poll, however, 17 countries in the sample (Afghanistan, Algeria, Bahrain, Cambodia, China, Egypt, Ethiopia, Gabon, Kuwait, Laos, Morocco, Niger, Pakistan, Tajikistan, United Arab Emirates, Vietnam and Yemen) were systematically missing data for one or more items in the 'societal' dimension. An indicative resilience score can be computed for those countries, since they still have at least one item within all four dimensions of the index, but overall resilience scores for these countries are not strictly comparable to the other countries in the sample. Therefore, resilience scores for these 17 countries are presented in the report as an indicative measure of resilience, though their scores should be viewed with caution when comparing against other countries.

Additionally, one country (Saudi Arabia) was lacking all items in the societal dimension, which prevented it from receiving a score for the Resilience Index.

Standardisation and aggregation

As previously noted, the scale of the 2023 Resilience Index was updated to fall on a scale between 0 and 100 rather than 0 and 1.

However, the standardisation and aggregation process – or how the survey responses were converted into numerical values which can be averaged into a quantitative index – did not change, other than multiplying the final sub-index (averaged) scores by 100.

Survey items were standardised using a 0 to 1 scale. How this was accomplished depended on the type of survey question being used.

Binary items: Items where valid response options (i.e., excluding 'Don't know/Refused') only included two options were coded as binary values:

- Yes = 1
- No = 0
- DK or Refused = Missing

Ordinal items: Items where valid response options (i.e., excluding 'Don't know/Refused') included more than two ordered options were coded as rank order values:

- A lot = 1
- Somewhat = 0.5
- Not at all = 0
- DK or Refused = Missing

Continuous items: Items that could be expressed as continuous values were scaled to the 0 to 1 range. For example, household financial preparedness was expressed in terms of the number of weeks that the household could cover their basic needs using just their savings.

Besides these general approaches, some variables required multiple levels of standardisation and aggregation, including household-level access to communications, community-level social capital, and local infrastructure and society-level discrimination

Access to communications: Average of two binary variables

- Household access to the internet (0, 1)
- Household cell phone access (0, 1)

Social capital: Average of three ordinal and binary variables

- Neighbours care about you (0, 0.5, 1)
- Feel safe walking alone at night (0, 1)
- Helped a stranger (0, 1)

Local infrastructure: Average of three binary variables

- Satisfaction with local roads and highways (0, 1)
- Satisfaction with local education system (0, 1)
- Satisfaction with local healthcare system (0, 1)

Discrimination: Five binary variables of experienced discrimination were aggregated non-linearly using the following approach:

- If someone experiences 0 discriminatory practices, they are given a score of 1.0
- If someone experiences 1 discriminatory practice, they are given a score of 0.5
- If someone experiences 2 discriminatory practices, they are given a score of 0.375
- If someone experiences 3 discriminatory practices, they are given a score of 0.250
- If someone experiences 4 discriminatory practices, they are given a score of 0.125
- If someone experiences 5 discriminatory practices, they are given a score of 0

The rationale, based on literature supporting the cumulative impact of intersectional discrimination, is that the effects of intersectional discrimination are cumulative but not linear. One form of discrimination causes a person to feel disconnected from society, and any additional forms of discrimination add to their feelings of 'non-cohesion' but not at the same rate. A person would feel aggrieved from one form of discrimination and would not feel 'doubly so' from a second, 'triple' from a third and so on, with a finite 'worst' score of 0 if someone experienced five forms of discrimination.

The details of item scoring for each item and dimension are provided in the next section. The resulting variables were finally aggregated into four dimensions of resilience by averaging the variables in each dimension with equal weighting. In the analysis of the 2023 Poll data, this process was updated to multiply each dimension average by 100 (meaning the final index average will fall between 0 and 100).

To minimise missing data, dimension scores were computed even if one or more of the underlying variables was missing. In those cases, the dimension score was calculated as the average of any of the underlying variables containing valid data. Only individuals with missing data in all variables within a given dimension were given a missing score.

Individual dimension

- Individual agency (0-1)
- Education (0-1)

Household dimension

- Preparedness (0-1)
- Financial (0-1)
- Access to communications (0-1)

Community dimension

- Social capital (0-1)
- Local infrastructure (0-1)

Societal dimension

- Discrimination (0-1)
- Safety net (0-1)
- Trust in institutions (0-1)

The final Resilience Index is computed as the arithmetic mean of the four dimensions. The index was only calculated for individuals with valid values in all four dimensions.

Item scoring for the Resilience Index

Individual Dimension

WP22252: Individual Agency		
Value	Value Label	Score
1	Yes	1
2	No	0
3	It depends	0.5
98	Don't know	Missing
99	Refused	Missing

WP3117: Educational Attainment		
Value	Value Label	Score
1	Primary (0-8 years)	0
2	Secondary (9-15 years)	0.5
3	Tertiary (16 years or more)	1
98	Don't know	Missing
99	Refused	Missing

Household Dimension

Cover Basic Needs				
Weeks	Score (0-1)	Value	Value Label	Score
0	0 (0/16)	1	Less than a week	0
1	0.0625 (1/16)	2	Between one and two weeks	0.09375
2	0.125	3	Between two and four weeks	0.21875
3	0.1875	4	Less than a month	0.25
4	0.25	5	Around a month	0.3125
5	0.3125	9	A month or more (unsure)	0.3125
8	0.5	6	Two months	0.5
12	0.75	7	Three months	0.75
16	1 (16/16)	8	Four months or more	1
		98	Don't know	Missing
		99	Refused	Missing

WP22253: HH Planning		
Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP16056: Internet Access		
Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP17626: Cellphone Access		
Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

Community Dimension

WP22232: Neighbours Care		
Value	Value Label	Score
1	A lot	1
2	Somewhat	0.5
3	Not at all	0
98	Don't know	Missing
99	Refused	Missing

WP113: Safe Walking Alone		
Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP110: Helped a Stranger		
Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP92: Roads and Highways		
Value	Value Label	Score
1	Satisfied	1
2	Dissatisfied	0
98	Don't know	Missing
99	Refused	Missing

WP93: Educational System		
Value	Value Label	Score
1	Satisfied	1
2	Dissatisfied	0
98	Don't know	Missing
99	Refused	Missing

WP97: Quality Healthcare		
Value	Value Label	Score
1	Satisfied	1
2	Dissatisfied	0
98	Don't know	Missing
99	Refused	Missing

Societal Dimension

WP22259: Experienced Racial Discrimination

Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP22260: Experienced Religious Discrimination

Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP22261: Experienced Ethnic Discrimination

Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP22262: Experienced Gender Discrimination

Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP22263: Experienced Disability Discrimination

Value	Value Label	Score
1	Yes	1
2	No	0
98	Don't know	Missing
99	Refused	Missing

WP22231: Government Cares (Safety Net)

Value	Value Label	Score
1	A lot	1
2	Somewhat	0.5
3	Not at all	0
98	Don't know	Missing
99	Refused	Missing

National Institutions Index

Value	Score
0	0
25	0.25
33.3	0.333
50	0.5
66.6	0.666
75	0.75
100	1
Missing	Missing

Appendix ii: Resilience Index and sub-index values

Country	Data Collection Date	Margin of Error	Resilience Index	Individual sub-index	Household sub-index	Community sub-index	Societal sub-index
Afghanistan	Jul 1 – Jul 19, 2023	3.5	29	16	30	27	44
Albania	Jul 28 – Nov 12, 2023	4.4	48	31	49	58	53
Algeria	Oct 16 – Nov 14, 2023	4.5	63	43	62	56	91
Argentina	Aug 5 – Oct 12, 2023	3.8	46	41	50	49	44
Armenia	Jul 7 – Aug 21, 2023	4.0	57	57	55	60	56
Australia	Jul 2 – Sep 12, 2023	3.9	64	63	70	64	58
Austria	Jul 10 – Aug 5, 2023	4.1	68	59	76	73	66
Azerbaijan	Aug 7 – Oct 12, 2023	3.5	55	39	49	59	73
Bahrain	Sep 9 – Oct 4, 2023	3.5	68	54	58	77	84
Bangladesh	Aug 5 – Sep 18, 2023	3.4	57	44	36	76	71
Belgium	Jul 10 – Aug 31, 2023	3.7	60	52	61	67	60
Benin	Aug 19 – Sep 4, 2023	4.1	44	28	37	46	64
Bolivia	Aug 5 – Oct 12, 2023	3.7	48	47	57	48	39
Bosnia and Herzegovina	May 11 – Jul 4, 2023	3.7	53	46	62	57	46
Botswana	Sep 4 – Sep 29, 2023	3.9	44	28	42	46	59
Brazil	Sep 11 – Nov 3, 2023	3.6	48	39	52	52	51
Bulgaria	Jul 20 – Oct 8, 2023	3.6	46	41	52	47	45
Burkina Faso	Oct 2 – Nov 8, 2023	4.0	47	24	38	54	72
Cambodia	Sep 20 – Oct 23, 2023	4.1	60	37	69	65	70
Cameroon	Jun 3 – Jul 1, 2023	3.7	46	39	41	50	53
Canada	Aug 2 – Sep 18, 2023	3.7	63	63	71	61	58
Chad	Oct 4 – Oct 30, 2023	4.0	40	26	35	50	51
Chile	Aug 12 – Dec 19, 2023	3.9	52	51	58	48	50
China*	Dec 21, 2023 – Feb 13, 2024	2.5	66	48	71	72	74
Colombia	Sep 9 – Nov 15, 2023	3.7	45	42	47	47	44
Comoros	Sep 20 – Nov 23, 2023	4.2	41	31	48	47	38
Congo	Jun 29 – Aug 18, 2023	4.2	43	41	36	46	50
Congo (the Democratic Republic of the)	Aug 3 – Sep 26, 2023	4.5	41	42	33	42	46
Costa Rica	Sep 27 – Dec 28, 2023	3.8	54	50	58	54	53
Cote D'Ivoire	Jul 8 – Aug 3, 2023	4.5	43	25	39	50	60
Croatia	Sep 14 – Nov 14, 2023	4.3	53	39	60	54	59
Cyprus	Jun 30 – Oct 31, 2023	4.2	54	50	57	56	52
Czech Republic	Aug 30 – Oct 31, 2023	3.7	63	58	66	65	61
Denmark	Aug 7 – Sep 13, 2023	4.3	66	61	64	74	66
Dominican Republic	Jul 19 – Aug 9, 2023	3.9	55	49	58	60	52
Ecuador	Jul 26 – Sep 1, 2023	4.0	42	38	49	40	40
Egypt	Sep 11 – Sep 26, 2023	3.6	45	25	32	56	66
El Salvador	Oct 4 – Dec 22, 2023	4.2	58	39	56	68	71

Country	Data Collection Date	Margin of Error	Resilience Index	Individual sub-index	Household sub-index	Community sub-index	Societal sub-index
Estonia	Aug 16 – Oct 1, 2023	3.7	65	64	69	66	61
Eswatini	Oct 13 – Dec 24, 2023	4.5	50	35	47	56	61
Ethiopia	Jun 26 – Aug 10, 2023	3.8	43	18	29	55	72
Finland	Aug 10 – Sep 18, 2023	3.8	66	58	68	68	71
France	Jul 3 – Oct 9, 2023	4.3	55	48	58	59	57
Gabon	Oct 20 – Nov 18, 2023	4.0	48	36	40	38	76
Gambia	Oct 16 – Nov 27, 2023	3.5	42	26	38	49	57
Georgia	Jul 14 – Oct 28, 2023	3.8	58	50	52	66	63
Germany	Jul 10 – Aug 12, 2023	4.9	67	63	73	69	65
Ghana	Jun 29 – Jul 21, 2023	4.0	46	28	42	57	56
Greece	Oct 16 – Nov 16, 2023	4.7	53	55	64	41	51
Guatemala	Aug 16 – Dec 22, 2023	4.2	47	36	47	57	46
Guinea	Sep 21 – Oct 12, 2023	4.1	45	30	42	52	54
Honduras	Sep 4 – Dec 4, 2023	4.1	45	36	48	52	45
Hong Kong, S.A.R. of China	Aug 26 – Oct 30, 2023	3.6	57	48	62	58	61
Hungary	Aug 28 – Oct 10, 2023	4.4	52	44	64	50	51
Iceland	Sep 1 – Oct 2, 2023	4.8	63	54	69	66	64
India	Sep 16 – Nov 8, 2023	2.1	54	36	40	67	73
Indonesia	Aug 23 – Sep 30, 2023	3.5	65	52	57	77	76
Iran	Oct 23 – Oct 27, 2023	3.5	58	51	55	57	71
Iraq	Oct 3 – Nov 19, 2023	3.3	49	36	50	59	51
Ireland	Jul 10 – Aug 7, 2023	4.5	64	60	62	69	67
Israel	Oct 17 – Dec 3, 2023	3.3	57	48	55	67	58
Italy	Sep 4 – Oct 5, 2023	4.9	51	38	62	50	55
Japan	Sep 22 – Nov 15, 2023	3.5	59	60	60	59	59
Jordan	Aug 19 – Sep 10, 2023	3.5	56	49	48	60	69
Kazakhstan	Aug 6 – Sep 29, 2023	3.7	55	46	51	56	67
Kenya	Oct 16 – Nov 10, 2023	3.6	51	38	53	56	56
Kosovo	Jul 27 – Oct 13, 2023	4.0	52	25	51	68	64
Kuwait	Sep 8 – Oct 20, 2023	3.8	74	66	67	80	85
Kyrgyzstan	Aug 6 – Sep 19, 2023	3.6	55	40	56	61	63
Lao People's Democratic Republic	Oct 2 – Oct 28, 2023	3.9	55	32	57	63	65
Latvia	Aug 21 – Sep 24, 2023	3.6	57	57	64	52	56
Lebanon	Aug 3 – Sep 9, 2023	3.3	44	37	50	44	45
Liberia	Aug 3 – Sep 11, 2023	3.6	46	37	55	43	51
Libya	Oct 27 – Dec 13, 2023	3.5	55	44	54	62	58
Lithuania	Jul 12 – Nov 10, 2023	3.7	56	44	60	56	63
Luxembourg	Jul 10 – Aug 10, 2023	4.2	68	59	67	73	71
Madagascar	Jun 25 – Aug 13, 2023	3.8	36	28	28	42	45
Malawi	Oct 2 – Oct 17, 2023	3.6	45	25	53	48	56
Malaysia	Aug 21 – Nov 10, 2023	4.0	64	50	59	74	71

Country	Data Collection Date	Margin of Error	Resilience Index	Individual sub-index	Household sub-index	Community sub-index	Societal sub-index
Mali	Aug 28 – Sep 17, 2023	3.7	48	31	38	52	73
Malta	Jul 8 – Aug 25, 2023	3.5	56	45	60	59	61
Mauritania	Jul 27 – Aug 22, 2023	3.7	43	29	47	47	48
Mauritius	Jul 7 – Sep 11, 2023	4.0	59	54	57	62	62
Mexico	Aug 4 – Nov 7, 2023	3.8	51	47	49	52	57
Moldova (the Republic of)	Jul 6 – Sep 25, 2023	4.4	51	43	51	58	50
Mongolia	Jul 31 – Sep 22, 2023	3.5	49	50	54	44	47
Montenegro	Aug 31 – Nov 16, 2023	3.6	53	35	51	65	61
Morocco	Sep 14 – Oct 18, 2023	3.5	44	24	41	52	61
Mozambique	Jun 17 – Sep 8, 2023	4.6	50	31	44	56	71
Myanmar	Sep 5 – Oct 7, 2023	4.8	52	42	54	59	54
Namibia	Sep 17 – Oct 18, 2023	3.9	52	40	57	55	57
Nepal	Jun 11 – Jul 19, 2023	3.6	50	44	40	58	58
Netherlands	Jul 10 – Aug 13, 2023	3.8	65	58	64	73	63
New Zealand	Jul 20 – Sep 12, 2023	3.9	63	63	72	58	58
Nicaragua	Sep 23 – Nov 1, 2023	3.9	57	46	57	63	64
Niger	Aug 15 – Sep 12, 2023	3.8	48	24	29	60	77
Nigeria	Sep 13 – Oct 12, 2023	4.7	44	31	46	51	48
North Macedonia	Jul 13 – Sep 30, 2023	3.8	46	37	52	45	48
Norway	Aug 3 – Sep 18, 2023	4.4	71	65	73	73	75
Pakistan	Sep 22 – Oct 25, 2023	4.0	41	25	31	52	55
State of Palestine	Jul 16 – Sep 28, 2023	3.4	51	47	48	57	52
Panama	Oct 4, 2023 – Jan 11, 2024	4.2	50	46	53	55	45
Paraguay	Sep 11 – Oct 9, 2023	3.7	52	48	51	56	53
Peru	Aug 9 – Oct 9, 2023	3.5	48	54	57	43	39
Philippines	Oct 9 – Dec 7, 2023	3.8	67	60	66	70	71
Poland	Aug 28 – Oct 29, 2023	3.5	52	41	56	54	58
Portugal	Jul 26 – Sep 18, 2023	3.9	57	51	62	59	55
Romania	Sep 10 – Dec 10, 2023	3.7	51	44	54	57	48
Russian Federation	Jun 27, – Oct 4, 2023	2.8	60	59	63	54	65
Saudi Arabia	Jul 9 – Aug 3, 2023	3.5	~	64	64	79	~
Senegal	Sep 30 – Oct 24, 2023	3.8	48	34	44	60	56
Serbia	Jun 1 – Sep 3, 2023	3.5	52	41	51	56	59
Sierra Leone	Dec 2 – Dec 25, 2023	3.5	43	30	44	44	55
Singapore	Nov 21 – Dec 27, 2023	4.0	71	60	70	77	77
Slovakia	Jun 13 – Aug 3, 2023	3.5	54	48	61	55	54
Slovenia	Aug 16 – Oct 1, 2023	4.0	62	57	66	64	59
Somalia	Oct 4 – Dec 27, 2023	3.5	49	22	35	70	67
South Africa	Oct 19, 2023 – Feb 1, 2024	3.9	47	37	50	51	51
South Korea	Sep 6 – Nov 1, 2023	3.7	58	52	61	64	55
Spain	Jul 10 – Aug 7, 2023	4.0	59	54	62	63	59
Sri Lanka	Sep 23 – Nov 19, 2023	3.7	52	44	47	58	60
Sweden	Aug 16 – Sep 26, 2023	3.9	71	72	76	69	68

Country	Data Collection Date	Margin of Error	Resilience Index	Individual sub-index	Household sub-index	Community sub-index	Societal sub-index
Switzerland	Jul 10 – Aug 12, 2023	4.3	71	63	70	76	76
Taiwan, Province of China	Jun 21 – Jul 16, 2023	4.1	64	57	75	70	53
Tajikistan	Oct 7 – Nov 15, 2023	3.6	65	41	49	78	96
Tanzania	Dec 7 – Dec 23, 2023	3.8	53	26	50	57	79
Thailand	Sep 4 – Nov 19, 2023	3.9	61	37	68	72	66
Togo	Oct 5 – Oct 26, 2023	4.3	41	27	38	42	56
Tunisia	Jul 28 – Aug 24, 2023	3.6	43	33	40	41	58
Türkiye	Sep 7 – Dec 7, 2023	3.5	51	34	55	54	61
Uganda	Dec 27, 2023 – Feb 6, 2024	3.7	44	29	38	50	60
Ukraine	Aug 11 – Aug 19, 2023	4.1	59	57	61	56	62
United Arab Emirates	Sep 5 – Sep 27, 2023	3.5	69	58	61	81	74
United Kingdom of Great Britain & Northern Ireland	Jul 10 – Aug 7, 2023	4.1	61	56	64	64	60
United States of America	Jul 22 – Sep 23, 2023	4.0	63	68	74	62	47
Uruguay	Aug 30 – Oct 28, 2023	3.7	55	41	57	61	60
Uzbekistan	Jul 26 – Nov 5, 2023	3.7	68	55	65	72	81
Venezuela	Aug 3 – Aug 30, 2023	3.8	43	46	47	37	43
Vietnam	May 29 – Jul 28, 2023	3.6	73	66	79	73	75
Yemen	Aug 26 – Oct 10, 2023	4.3	31	25	30	45	24
Zambia	Dec 28, 2023 – Jan 31, 2024	4.0	47	35	41	50	63
Zimbabwe	Jul 19 – Aug 10, 2023	3.8	45	28	36	48	66

Additional information

About Lloyd's Register Foundation

Lloyd's Register Foundation is an independent global safety charity that supports research, innovation, and education to make the world a safer place. Its mission is to use the best evidence and insight, such as the World Risk Poll, to help the global community focus on tackling the world's most pressing safety and risk challenges.

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