



Uganda, 2020. Kasese District in western Uganda was hit by flash floods in May 2020. The region was also affected by a locust invasion, leaving many communities food insecure. Measures to contain the spread of COVID-19 severely complicated relief and recovery operations.

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INTRODUCTION



**Why climate
and why now?**

Rising risks

In May 2020, in the midst of the COVID-19 crisis, heavy rains caused four rivers in Kasese District in Uganda to burst their banks, destroying homes, a hydroelectric power station and a hospital, burying villages in mud and displacing thousands of people. Floods and landslides also affected neighbouring Kenya and Rwanda, killing close to 300 people and displacing half a million more across the three countries. The floods left thousands of people in need of emergency food assistance as well as homeless, with many people seeking shelter in temporary accommodation centres where observing physical distancing – recommended to reduce transmission of coronavirus – is extremely difficult. This same area was also dramatically affected by a locust invasion ([Huang, 2020](#)) and the travel and movement restrictions designed to slow down the spread of COVID-19 hampered efforts to combat the swarms of locusts ravaging crops. The combination of the floods and locusts has impacted food security and livelihoods and left nearly 2.6 million people severely food insecure in at least eight countries ([OCHA, 2020c](#)).

The previous month, disaster response efforts in the Pacific following Cyclone Harold were hampered due to COVID-19 lockdowns and quarantines, leading to delays in providing much-needed equipment and humanitarian assistance ([Millership, 2020](#)). In Vanuatu, only 20% of households in need had received shelter assistance more than a month after the storm hit ([Shelter Cluster Vanuatu, 2020](#)). In Fiji, around 600 people were still displaced as of mid-May ([OCHA, 2020b](#)). Likewise, in the Philippines, the pandemic complicated evacuation and response efforts ahead of Tropical Cyclone Vongfong (known locally as Ambo) in mid-May. The storm damaged or destroyed nearly 20,000 homes and caused about 30 million US dollars (approximately 29 million Swiss francs) in agricultural damage ([OCHA, 2020d](#)). Some 180,000 people were evacuated, but this was slowed by coronavirus lockdown measures that kept evacuation centres only half filled. The storm also damaged Bicol Region's only COVID-19 testing facility ([OCHA, 2020a](#)). Similar challenges also affected wealthy countries – for example in August 2020, Florida, USA was hit by Tropical Storm Isaias. Authorities closed testing sites in preparation for the storm and struggled to ensure physical distancing in evacuation shelters.

Definitions

Climate mitigation is action to reduce levels of greenhouse gases in the atmosphere to limit global warming. An increase in these gases has the effect of wrapping a thick blanket around the earth, raising the average temperature of its atmosphere. One of the main greenhouse gases is carbon dioxide, which is released when burning fossil fuels.

Climate adaptation is what we do to adjust to the changing climate, or in more technical terms “the process of adjusting to the actual or expected climate and its effects...to moderate or avoid harm or exploit beneficial opportunities.” Adaptation is not only about measures to deal with longer-term changes such as increased temperatures and sea level rise, but also includes disaster risk reduction in the face of weather- and climate-related events.

The 2020 COVID-19 crisis is a wake-up call that showcases the realities of unprecedented global systemic risks, like the climate crisis, that affect everyone. It is a strong reminder of how risks overlap and exacerbate other risks, and that inequalities create vulnerability – between countries, but also within countries and communities.

At the same time, we are seeing how a crisis in one location can affect everyone everywhere in some way. As local capacities are overwhelmed, global capacities to provide assistance are also overwhelmed by multiple simultaneous crises. And international solidarity is constrained, both by attention directed to crises at home and a lack of resources due to worsening domestic economic situations. All this shines a light on the challenges of a humanitarian system, already stretched to breaking point, struggling to respond to simultaneous crises around the world.

Three of the biggest global threats facing the world in 2020 have been categorized as the potential failure of climate change mitigation and adaptation, the resulting risks of extreme climate- and weather-related events, and subsequent disasters caused by these ([World Economic Forum, 2020](#)). Of the ten risks likely to have the greatest impact, five relate to climate change and the environment, and these are also five of the ten most likely risks. A further three of the ten risks with the greatest impact are described as societal, but are also closely related to and often exacerbated by the climate crisis: water crises, food crises and infectious diseases. Similarly, after a year of reflections across the International Federation of Red Cross and Red Crescent Societies (IFRC) network, National Societies identified climate change as one of the greatest humanitarian challenges facing the world, and the top challenge they will address during the next decade in their Strategy 2030.

The role of climate change in driving disaster risk

The overwhelming majority of disasters in the past ten years (83% of all disasters triggered by natural hazards) were caused by extreme weather- and climate-related events, such as floods, storms and heatwaves. The number of such disasters triggered by extreme weather- and climate-related events has been increasing since the 1960s, and has risen almost 35% since the 1990s (see Figure 1.1). The proportion of disasters attributable to climate and extreme weather events has also increased significantly during this time. Even when the total number of disasters flattened in the last two decades, the proportion attributable to climate and extreme weather events, such as floods, storms and heatwaves, continued to rise, from 76% of all disasters during the 2000s to 83% in the 2010s.

These extreme weather- and climate-related disasters have killed more than 410,000 people in the past ten years, the vast majority in low and lower-middle income countries. Heatwaves, then storms, have been the biggest killers (EM-DAT). But this figure is likely to be a significant underestimate, given poor data collection in many countries and for many hazards (see Chapter 2) as well as challenges around attribution, such as for food crises.¹

A further 1.7 billion people around the world were affected by climate- and weather-related disasters during the past decade – many injured, left homeless or without livelihoods – adding to the burden of an already overstretched humanitarian system and jeopardizing the progress made in sustainable development, everywhere. These numbers are likely to increase significantly if dramatic action is not taken.

¹ For example, more recent estimates looking at the 2010 to 2012 drought in Somalia indicate some 250,000 people may have died due to famine exacerbated by drought and long-term conflict ([FAO and FEWS NET, 2013](#)).

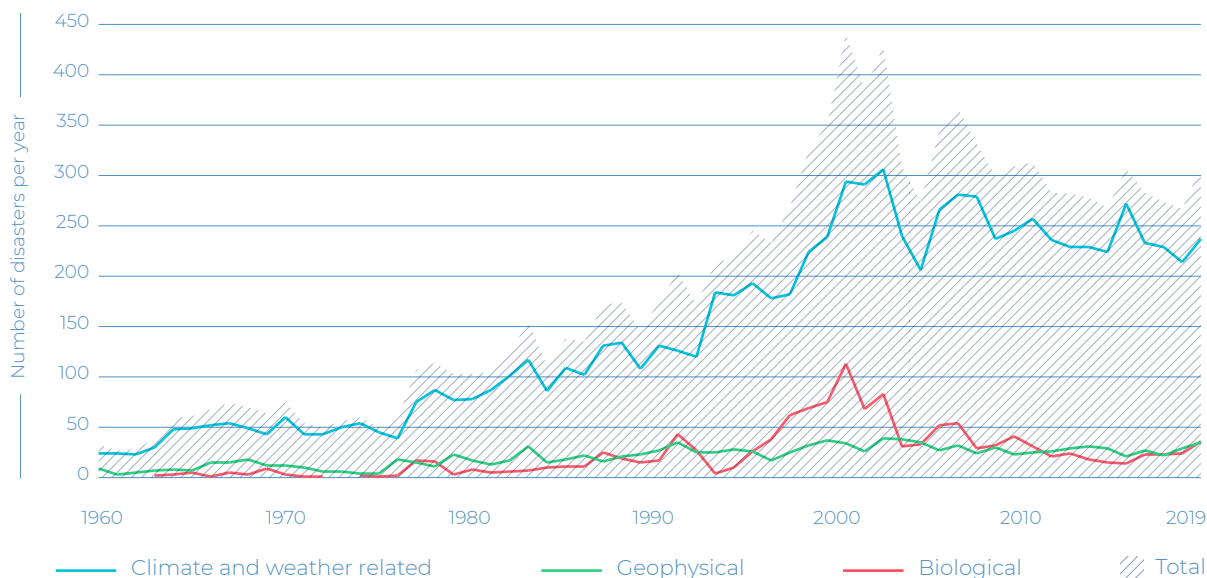




Bahamas, 2019. The Mudd, an informal settlement in Abaco, was totally demolished by Hurricane Dorian. Weak building structures, lack of sufficient drainage and challenges in accessing basic services often place communities living in informal settlements at greater risk of being affected by disasters.

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Figure 1.1: Comparison of different types of disasters triggered by natural hazards, 1960–2019



Sources: The data has been compiled using EM-DAT, ReliefWeb, Dartmouth Flood Observatory and IFRC GO

Climate change is a risk magnifier: raising temperatures,² negatively impacting ecosystems (Scholes, 2016), sea levels and storm surges, affecting rainfall patterns, but also amplifying the ferocity of extreme weather events, increasing volatility and unpredictability and exacerbating the vulnerabilities of affected communities. And it's not a distant threat: it's increasingly clear that these events are affecting people's lives now.

People around the world are already experiencing these kinds of compounded shocks, and we can expect floods, storms, droughts, heatwaves and wildfires to get worse. As these hazards continue to combine with global heating, sea level rise and increased likelihood of epidemics, this combined with poverty, urbanization and other population trends means that millions of people across all types of countries will be affected.

Of those people affected globally by climate- and weather-related disasters, the IFRC conservatively estimates that some 108 million people needed international humanitarian assistance in 2018, while many more people were affected and needed to rebuild their lives using their own resources, often with support from family, communities and governments. If we couple the projected increases in the frequency and intensity of weather extremes with the growing number of people living in poverty, we could expect some 200 million people a year to need humanitarian assistance by 2050 (IFRC, 2019). And this figure does not include the millions of people around the world affected by conflict, which may well be further exacerbated by climate change.³

² The global temperature is estimated to have risen 1.1°C since 1850, and by 2100 the temperature rise could well be 4°C or more above pre-industrial levels (1850–1900).

³ Countries in situations of armed conflict are disproportionately affected by climate variability and extremes. This is partly because of their geographical location, but mostly because conflicts and their consequences limit capacity of people, systems and institutions to adapt to hazards and changing climates (ICRC, 2020).

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Climate change is increasing not just the number of potentially deadly weather events but also their ferocity... existing weather records are being broken by new extremes with every passing year, like the sweltering 42.6°C July 2019 heat in Paris or the staggering 1.26 meters of rain that fell in 24 hours, in April 2018, on the Hawaiian island of Kauai.

Global Commission on Adaptation

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At the same time, as the needs in traditional donor nations also grow, including for enhanced social protection to address climate impacts there, we can expect a drop in the funds available for international assistance, meaning there will be nowhere near enough to meet the rising needs...

...unless we start to do more about it. Now.

Frameworks for action

The global community has made some efforts to grapple with the enormity of the climate crisis ahead. Huge strides have been made in recognizing the causes of disaster risk and climate change, how they interact with each other and how they need to be addressed. The Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction and the Paris Agreement on climate change together set the standards and vision of the world we should create. International commitments emphasize that we must avoid decisions, plans and investments that create risks, act proactively to reduce the risks we face now, and focus on building resilience to shocks and hazards ([UNDRR, 2019](#)). Discussions about recovery from COVID-19 are highlighting similar things – in particular the need to build back better and invest in a green, resilient and inclusive recovery ([Hepburn et al, 2020](#); [Meige et al, 2020](#)).

Despite these efforts, predictions foresee continued rise in global temperatures, little change in investment in disaster risk reduction, and substantial doubts that we will achieve the resilience and climate goals in the 2030 Agenda for Sustainable Development or the Paris Agreement ([UNEP, 2019](#)).

Humanitarian needs have recently become more central to the climate discourse. From the outset, the UN Framework Convention on Climate Change (UNFCCC)'s ultimate objective was around mitigation (preventing climate change); meanwhile adaptation (adjusting to the impacts of climate change) was for a long time seen as an afterthought, or even as giving up. As it was recognized that the climate was already changing and many of the changes were now inevitable, the focus on adaptation to future changes increased, but still from the perspective that these would be challenges in the future. Only in the last few years has it been recognized that the impacts of climate change are already being felt – on people, nature, systems and economies. Understanding is growing of the humanitarian impacts of disasters triggered by extreme weather and climate events and the need to focus on reducing short- and medium-term risks. This is reflected in the evolving loss and damage conversation (see Box 1.1).

BOX 1.1: AN IMPROVED UNDERSTANDING OF HUMANITARIAN IMPACTS THROUGH THE LENS OF ‘LOSS AND DAMAGE’

Since 2010, adaptation has been a core component of the international climate agenda and the importance of disaster risk reduction has been explicitly recognized ([UNFCCC, 2010](#)). However, capacity and financing remained limited, and of course climate change was only adding to a challenging agenda (as recognized in Sendai).

More and more, people realized that climate change was not only already happening, but also already having real impacts on people and ecosystems. This led to increasing emphasis on what climate negotiators now call ‘loss and damage’, noting that climate change can include irreversible impacts (such as the death of coral reefs due to warming oceans): ‘loss’, as well as impacts such as the destruction of infrastructure where reparation is possible: ‘damage’. These have been applied to the impacts of extreme events as well as longer-term changes, such as coastal inundation (where sea level rises lead to flooding of infrastructure and risks to safety).

The 2013 UN Climate Change Conference established the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts. This was set up to address loss and damage associated with the impacts of climate change, including extreme events and slow-onset events, in developing countries that are particularly vulnerable to its adverse effects. Yet no financing was provided to avert, minimize or address loss and damage. Indeed, developed countries, worried about the potential liability for rising damages, even insisted on an explicit recognition that the inclusion of a reference to loss and damage in the Paris Agreement implied no liability or compensation.⁴ Since then, the calls for financing of loss and damage – ranging from the most-affected countries seeking compensation from the biggest contributors to climate change, to investment in humanitarian response – have been growing stronger and stronger, supported by developments in attribution science, which is showing more and more clearly the role of climate change in individual hazards that have triggered disasters.

More recently it has been recognized that there are limits to how much it is possible to adapt to the impacts of climate change, and that when these limits are reached, losses and damages will occur. This is because the actions needed to adapt are unaffordable, not physically or technically possible, socially difficult or simply not sufficient to prevent some harm to people, the environment and assets. The higher global temperatures rise, the more likely it is that adaptation limits will be reached.

4 Clause 52 of the 2015 UNFCCC resolution on [Adoption of the Paris Agreement](#).



DPRK, 2019. Farmer Ri Jong Gi says he sees the impact of climate change clearly: "Climate change is the worst enemy for us farmers. But we try our best to build our community stronger and more resilient."

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Climate change is a crisis; it's up to us whether it will also be a disaster

Climate change is already underway. But how far and how fast global temperatures will continue to rise, and other changes will continue to unfold, is still up to us. It is essential for human survival to keep that level of climate change as low as possible. While climate change cannot be stopped, we can address its rate (and thus limit the increase in frequency, likelihood and severity of future hazards, and avoid large-scale irreversible damage to many vulnerable ecosystems) through more ambitious, bold climate change mitigation. This requires a radical shift everywhere and in all aspects of our lives.

However, even the most ambitious mitigation action will not stop the next period being marked by more frequent and intense extreme weather and climate events ([The Economist, 2020](#)), as Chapters 2 and 3 show. The changing climate is having real impacts on people and ecosystems now. Further change is inevitable, and some of these impacts will be irreversible, such as loss of biodiversity.

But this does not mean that humanity is helpless in the face of climate shocks and hazards. On the contrary, the impacts of increased climatic events on people will largely depend on reducing people's exposure and vulnerability and ensuring investment in development promotes sustainable, inclusive, equitable and climate-smart growth.

We must adapt to these changes and focus on reducing risks to short-, medium- and longer-term climate- and weather-related hazards. We will also need to prepare for and anticipate events ranging from local emergencies to mega-disasters, from the predictable to the unexpected. And we must be ready to respond to inevitable humanitarian needs. As the world adapts to rising risks, attending to the needs of people in vulnerable situations will be increasingly important.

And crucially, to do this well – to prevent and manage the disasters that are coming – we need real and effective investment and action in adaptation.

$$\text{RISK} = \frac{\text{Hazard} \times \text{Exposure} \times \text{Vulnerability}}{\text{Capacity}}$$

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The conversations are happening in silos. They use different terminology, attend different events and develop parallel frameworks. This results in different priorities being developed; different conclusions being drawn; different areas being perceived as someone else's responsibility.

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Asking the right questions, identifying the top priorities

While the need is clear, the greater challenge is: who will do this? How? And who will pay for it?

Unfortunately, many of the conversations aiming to answer these questions are happening in silos, with humanitarian, development and climate and environment-focused policy-makers, donors and practitioners having limited engagement with each other. They use different terminology, attend different events and develop parallel frameworks. This results in different priorities being developed; different conclusions being drawn to the core questions of who should do what, when and how; and different areas being perceived as someone else's responsibility without finding a way to meet in the middle. All of this means that people's needs are not adequately addressed at the scale that is called for.

This report looks at the issue of the climate crisis as a phenomenon that results in clear humanitarian needs, affecting people who are already left behind. However, we seek to explore how the humanitarian, development and climate communities (both at global level and within countries and governments) can work together to reduce and address these needs.

The report takes stock of extreme weather and climate events and the disasters they have triggered (floods, storms, heatwaves, fires and droughts) and projected impacts of these types of disasters. It also looks to a lesser extent at the longer-term climate change impacts (such as sea level rise, desertification and glacial retreat) which will trigger other humanitarian needs.

We therefore focus on climate change adaptation – not only measures to deal with longer-term changes to ambient temperature and sea level rise, but also preventing extreme weather events from becoming disasters. We consider how to address the risks, and how to reduce vulnerability and exposure to hazards that turn shocks into disasters. And we recognize that the impacts of 'residual' risk – where resilience, supported by all the best investment in risk reduction and preparedness, is overwhelmed – will in turn largely depend on how well we anticipate, prepare for and respond to inevitable humanitarian needs.



Myanmar, 2019. "I'm able to help others during disasters because of this game," says Kaung Thet Sanóá, a student in Yangon, sharing a fist bump with Red Cross worker Brad Zerivitz. He and his friends play card games at school to learn how to react in the event of a disaster.

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A call for action: we can do this

Today's efforts are fragmented and insufficient. Levels of vulnerability and exposure are too high. Our action to date in the face of rising risk is too little and too late.

We cannot wait for disasters to happen and expect communities themselves to pick up the pieces, as poverty and compounded risks will make this harder and harder. Similarly, governments may struggle to address their own national risks, leaving little funds and interest to support others in need. Nor can we expect that humanitarians will always have the capacity to respond, when they become overwhelmed by compounding and escalating risks.

We must instead think about our plan of action to prevent more disasters from happening, to reduce vulnerability and exposure and thereby the impacts on the lives and livelihoods of millions of people. We can do this. All around the world there are exciting developments with local communities leading the way.

- **We must work together** – humanitarians with development and climate/environment practitioners, outside of our comfort zones, collaborating in ways we haven't before, with coherent risk management frameworks that make this possible. This has to happen at all levels – global, national and most importantly, local, where resilience can only be built with and by communities.
- **We need to work smarter**, basing all we do on a thorough understanding of exposure to hazards and vulnerability to those risks, understanding who will be affected and how. We need to be faster and more anticipatory, more effective and more sustainable, recognizing the vital role of nature as a protective force and that damaging the environment exacerbates risks.
- **We have to get our priorities right**, ensuring funding gets to the people who need it most, and defining success by the lives and livelihoods saved.

While a crisis shatters lives, recovering from it can also bring communities together. The COVID-19 crisis has shown how interrelated the world is and that we are only as strong as our weakest links. But it has also shown the incredible potential for international cooperation, for intergenerational responsibility and action.

This report is based on a vision of a coherent and collective surge of effort, where all people – families, communities and those working at national, regional and global level in climate, development, humanitarian and other relevant fields – work together to reduce the current and future humanitarian impacts of these rising risks. This is a vision of a world where people not only survive the climate crisis, but thrive – with increased well-being, especially for the most vulnerable people, reduced risk of shocks coming our way, and in balance with the earth we depend on.

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