

1 INTRODUCTION: MONITORING THE IMPACT

*What became of the rain?
It weeps differently
Arrives as a tantrum
That tears mountains
And turns villages
Into gravestones*

From *The Changing Sky*, translated from Tagalog by Romulo P. Baquiran Jr and Renato Redentor Constantino.¹

The 70 Member States of the CVF-V20^a

Afghanistan, Bangladesh, Barbados, Benin, Bhutan, Burkina Faso, Cambodia, Chad, Colombia, Comoros, Costa Rica, Côte d'Ivoire, Democratic Republic of the Congo, Dominica, Dominican Republic, Eswatini, Ethiopia, Fiji, Ghana, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, Jordan, Kenya, Kiribati, Kyrgyzstan, Lebanon, Liberia, Madagascar, Malawi, Maldives, Marshall Islands, Mongolia, Morocco, Mozambique, Namibia, Nauru, Nepal, Nicaragua, Niger, Pakistan, Palau, Palestine^b, Papua New Guinea, Paraguay, Philippines, Rwanda, Saint Lucia, Samoa, Senegal, Sierra Leone, South Sudan, Sri Lanka, Sudan, Suriname, Tanzania, The Gambia, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Tuvalu, Uganda, Vanuatu, Vietnam, Yemen.

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^a As of October 2024.

^b As a UN non-member observer state.

In southwest Colombia, facing the wild Pacific Ocean to the west, is the Cauca Department. Far removed both culturally and geographically from the picture-postcard Caribbean coast a thousand kilometres to the north, here mangroves, steep cliffs, and jungle greet an untamed sea. Inland, up on the mountains of the Colombian Massif, the climate is typically cold and wet. The valleys below are perfect for agriculture, while precious metals are found here too, including gold, silver, and platinum. If Mother Nature placed her heart upon the surface of the planet, it would surely be here. It has everything she has to offer. And yet the region is now suffering in a way that feels both intimately local, and familiarly global.

Víctor Yalanda is an indigenous leader or ‘Taita’ of the *Ampiúile* people, one of a number of indigenous communities in Cauca, including the nearby people of the *Guambía*, the *Misak* and the *Totoró*. Their histories in the region, says Yalanda, go back to before the Spanish invasion. ‘We call ourselves the *Ampiúile* people, which comes from the Spanish term *ámbalo*, which means *am*, spirit, *pi*, water, and *le*, which means descendants,’ he explains. ‘So we are descendants of the spirit of water.’

For hundreds of years, his people have lived accustomed and attuned to a reliable, predictable, and wet environment. ‘The territory where we live is a territory where the cold climate predominates, the moorland climate,’ says Yalanda. ‘The biodiversity of the territory in plants and animals is characterised by species of moorland and mountain climates, here.’ Because of this, the crops that they plant have barely changed: ‘potatoes of many varieties, corn, beans, arracachas, yukka, alberjas, and other legumes.’

But within Yalanda’s lifetime – barely a blink of an eye in the community’s history – familiarity has been replaced by uncertainty and catastrophe. ‘I can remember the time of my childhood, when I was able to observe the natural times . . . 20, 30 years ago, the seasons were almost fixed.’ His people refer back to them as ‘the proper times’ or ‘the proper calendar’, he says, to anchor themselves to a reality they once knew. ‘Those

manifestations of the four seasons or the Way of the Sun had a natural order,' he says. Winter or *Nu sre* came towards the middle or end of September. *Nu sre* literally means 'the big downpour', with rains that would last three months through to December. 'The beginning of the rains determined the planting of corn, our essential food,' he recounts. January to March was the *Lame kuare* or 'small summer'; April to May the *Lame sre* or 'small downpour'; and then June to August was the 'great summer' or *Nu kuare*, 'which was the time when the crops reached their final cycle of drying up the corn, wheat, beans, many other cereals and grains. For at that time they ripened and were ready to harvest. When the crops were harvested, then began the preparations of the land to wait again for the beginning of the cycle in September. The seasons were fixed in that way.'

Yalanda shouldn't be talking in the past tense. This cycle, this climate, this way of life, had been unchanged since pre-Columbian times. And Yalanda is not an old man – only 48 years old. Yet, he says, 'Today, it must be said that those seasons that nature manifested are totally changed . . . right now, we are in the season of the *Nu sre*, that is, we should have had almost three moons of intense downpour. But we have received barely a week, perhaps 10 days of rain. It hasn't rained any more. You now feel intense suns during the day.' The impact of this has been devastating, says Yalanda, who is also a leader within the Consejo Regional Indígena del Cauca (CRIC), fighting to protect and preserve the cultural heritage of the indigenous peoples and their ways of life – a fight once made hard by civil war and racist persecution, but now facing the ultimate existential threat of all: the climate itself. 'These changes generate effects on crops, on sowing, on planting. They affect the formation of flowers, and if there is no formation of flowers, then there is no crop.' When the rain does come, it is too hard, or it is hail, which flattens crops, he says. 'In other words, all these phenomena are changes that we have been feeling, facing, in what has

been called at a global level “climate change” ... that is exactly what is happening here’.

Some 2,000 kilometres away lies the small Caribbean Island of Saint Lucia. Jevanic Henry was born there in 1997. But even in his relatively brief time on Earth, he has seen the climate change beyond the older islanders’ comprehension. ‘The climate is disrupting what we consider normal,’ he says. ‘The impact is three-fold: the climate crisis has affected lives and livelihoods on land, in the ocean, and in the atmosphere.’ For an island heavily dependent on tourism, a healthy marine ecosystem plays a critical role in both the island’s economy and its cultural identity. ‘Now we face issues like coral bleaching. The coastline is eroding, making many beaches inaccessible, impacting tourism and fisheries. Our fishermen report dwindling stocks, making it harder for them to make a living. This all has significant socio-economic implications.’ Caribbean islanders tend to live by the coast, culturally attached to their beach or bay, says Jevanic. Yet the beach he used to walk along as a child is no longer there, eroded away in barely a decade by sea-level rise and ever-more intense hurricane seasons – both known symptoms of climate change. To see it disappear within a generation has consequences beyond just the financial, he says. Some coastal graveyards and cemeteries have fallen into the sea. ‘The climate crisis is not just threatening the living, now it’s even threatening the dead,’ he says. ‘Small island states, like ours, contribute minimally to the crisis but are greatly affected.’

The turning point for Jevanic was the Christmas Eve storm – a time of year that should be safely past the hurricane season – that hit the island in 2013, when he was a teenager. On becoming a UN Secretary-General Youth Adviser on Climate Change in March 2023, Jevanic said, ‘In less than a decade, we’ve witnessed drastic changes. I’m only 26, and I can already pinpoint significant changes during my lifetime ... the climate crisis is now a daily reality which

negatively impacts our lives and livelihoods. With our survival now dependent on a global community which is unified in urgently advancing the climate agenda, the power of young people is crucial in being a catalyst to drive this much needed accelerated action.’ In 2022, Saint Lucia suffered from flash floods, ‘a new phenomenon for our island.’ Within hours, parts of the island were underwater. ‘With rising sea levels, many residents are wondering if they can keep their homes in the next 20 years. Building resilience on our coastline is essential, but the need for adaptation financing remains a challenge. While we have national adaptation plans, the financing gap limits what we can do, which is a concern for our communities.’²

Halfway across the world, entirely landlocked and at 1,400 m elevation, Kathmandu, the Himalayan capital city of Nepal, is as safe as you can be from the threat of sea-level rise. Yet even here, medical doctor Sweta Koirala has seen significant climate change in her lifetime, too. ‘I have always lived and worked in this city. I had a 30-minute walk from the school bus stop to my house, carrying heavy bags full of books, and it was fine. Houses didn’t even have fans, let alone AC [air conditioning]. But now, cooling systems are essential, due to the increased heat. And the winters here are not as cold as they used to be.’ In 2015, she visited the remote Himalayan region of Mustang, ‘once famous for its lack of rainfall – the houses stockpile wood on their rooftops to dry out for fire, they are so sure of it never raining. However, recent years have suddenly seen unexpected rainfall there, leading to houses collapsing due to their sandy foundations.’ While heavy rain and landslides are a new issue, this hasn’t boosted the local water supply. The region’s rivers and streams used to flow with pristine, reliable snow-melt from the mighty Himalayan mountain peaks. But now, as Koirala describes, ‘the snow on the mountains is decreasing and the rivers have shrunk. The mountains used to always be snow-capped – now they reveal bare grey rock.’

All these stories are typical amongst the group of countries that form the Climate Vulnerable Forum (CVF). Founded in the Maldives in 2009, the CVF serves as a platform for member countries to come together and advocate for stronger global action on climate change through different international arenas such as United Nations Framework Convention on Climate Change (UNFCCC) negotiations. CVF discussions to strengthen the economic and financial response to climate change led to the creation of the V20 – a grouping of finance ministers akin to the G20. When the V20 was formed ahead of COP21^c in Paris in 2015, it was initially 20 low- and middle-income countries, from Africa, Asia, the Caribbean, Latin America, and the Pacific – with a combined population of over 700 million people highly vulnerable to climate change. Today, it has grown to encompass all 70 CVF countries, representing some 1.75 billion people worldwide. In September 2023, the CVF-V20 became a fully independent intergovernmental organisation headquartered in Ghana. The distinction now is that the CVF is formed by the heads of state, with the V20 as its grouping of finance ministers, both aiming to deliver climate-resilient economic investments which these climate-vulnerable member countries have long deserved. With a two-year rolling presidency, most recently Ghana from 2022 to 2024, and now Barbados spanning 2024–2026, the unified message of the CVF-V20 has remained constant: merely surviving the climate crisis is not enough; climate action must pave the way from climate vulnerability to climate prosperity. Since 2020, the CVF-V20 has been supported by a Joint Multi-Donor Fund (JMDF) managed by the United Nations Office for Project Services (UNOPS). This fund is designed to boost South–South cooperation among

^c The annual Conference of the Parties or ‘COP’ is the main decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC). Typically held in December, each COP includes representatives of all country signatories to the UNFCCC to decide on measures to limit climate change and address its impacts.

the CVF-V20 member states and strengthen collective capacities to achieve their respective and common climate action priorities, with respect to mitigation, adaptation, and loss and damage.

Since April 2023, the V20 Finance Ministers have been advocating to be an official intergovernmental group within the Bretton Woods system—which established the International Monetary Fund (IMF)—to represent nations that typically lack voice and representation on monetary and development issues. It's time to enable the voice of the most vulnerable not only to be heard, but to help drive the global agenda.

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Nakeeyat Dramani Sam was just 10 when she addressed COP27, in Sharm El-Sheikh, Egypt, on behalf of the Ghana delegation. The majority of the 1.75 billion people who live in CVF countries are 'young people like me,' she said in a quiet, yet firm, voice, over the microphone. 'Many of us see dark clouds gathering on the horizon of Mother Earth. Last month in Accra where I live in Ghana, there was a heavy rain that burst a dam on the River Densu. Cars were underwater, people were paddling canoes where there had been streets. Thousands fled their houses. It was very scary. If it is going to get much worse, then we fear how much of our future is on the line.' There was a clear culprit. 'The communities in my country Ghana are paying heavy prices since our planet was lit on fire . . . This puts a simple question on the table of these fire-starters: when can you pay us back? Because payment is overdue.' One year on, now 11, she remembers Sharm El-Sheikh as a positive experience. 'It was amazing and fun,' she says. She felt heard. And yet, little has changed for her country. 'The Volta region not long ago had a flood which was terrible - people lost their homes, their livelihoods and everything that belongs to them. Ghana is already experiencing climate change. The weather patterns are changing.' Her mother Mariama's childhood was very different: 'When she was a child, it was okay. It was lovely. They knew when rain

was about to fall, they knew when the sunshine was coming, they knew when to make preparations for harvest time . . . But now you can't. You might be making preparations for the harvest and then you just see rain. Compared to the olden days, a lot has changed.' And what Nakeeyat refers to as 'the olden days' is barely 30 years ago.

Now a CVF Thematic Ambassador for Youth, Nakeeyat's message remains unchanged. She is not yet a teenager but already a COP veteran, used to the same messages repeated and kind words exchanged, but little in the way of reparation or action. 'The CVF consists of 70 vulnerable countries – and in these countries a lot of damages have already happened to them,' she says. 'So the industrialised nations have to pay their dues, have to pay for the mess they have caused.' But this is not just about reparation or justice. It is now in the interest of developed countries, too. Vulnerable countries are vulnerable because climate change bludgeoned them early and hardest. Early impacts on resources and infrastructure impaired their ability to cope with climate change, which in turn generated a feedback loop of vulnerability. This is too little acknowledged by developed nations who talk, often patronisingly, of aid and handouts. But as this book will show, climate change will negatively affect (or has already affected) all the countries of the world. Vulnerable countries have today become the experts in climate resilience. Nakeeyat, who has since added performance poetry to her repertoire to deliver this message, agrees: 'The fate of the most vulnerable nations will be the fate of the world. Because we are experiencing climate change now. But looking at maybe 30 years from now, everyone will be affected. So they can learn from us, from our experience. By helping us they will also protect their own. Because as I said, the fate of the vulnerable countries may be their fate too.'

In April 2023, the V20 released a statement expressing 'grave concern at the continuous failure and delays of the G7 and G20 to align their policies with Paris Agreement goals.' This delay risks 'forgoing what is needed in this critical

decade, beyond which the planet will reach and exceed 1.5 degrees Celsius, in addition to multiple and cascading risks now and in the future for the world economy as a whole.’ What’s needed on the ground, they stressed, ‘is to urgently draw up economy-wide investment strategies and financing plans focused on delivering resources in the remaining years of this decade.’

These words were backed up with new data. To compile a comprehensive scientific overview, the CVP-V20 commissioned a Third Edition of the *Climate Vulnerability Monitor Report*, with the stated aim to ‘make the numbers of science visible in people’s lives’.^d The Third Edition of the *Climate Vulnerability Monitor*, entitled *A Planet on Fire* (also known as ‘CVM3’, but hereafter in this book we will refer to it as *The Monitor*) is a unique global assessment of vulnerable countries, showing the present and potential future climate change impacts on their environment, economy and health.³ *The Monitor* compares the impacts being felt now – and predicts how they will evolve throughout the twenty-first century under three scenarios of climate change: one where a successful global effort limits warming to 1.5 °C; one where that target is missed but warming kept just below 2 °C; and a high emissions scenario without climate action, which leads to warming of around 3.6 °C by the end of the century.

In addition, *The Monitor*’s data was turned into an online interactive global map known as the ‘Data Explorer’. Split into three parts, covering *The Monitor*’s main sections, the first – the ‘Biophysical Data Explorer’ – offers an interactive tool designed to illustrate the impacts of climate change on environmental factors. The tool presents data on changes in

^d The First Edition of the *Climate Vulnerability Monitor* was launched in December 2010 during COP16 to provide the first comprehensive overview of climate change vulnerability across 184 countries worldwide. The Second, published in 2012, provided a reassessment of the human and economic costs. The Third, a decade on, was the most comprehensive to date.

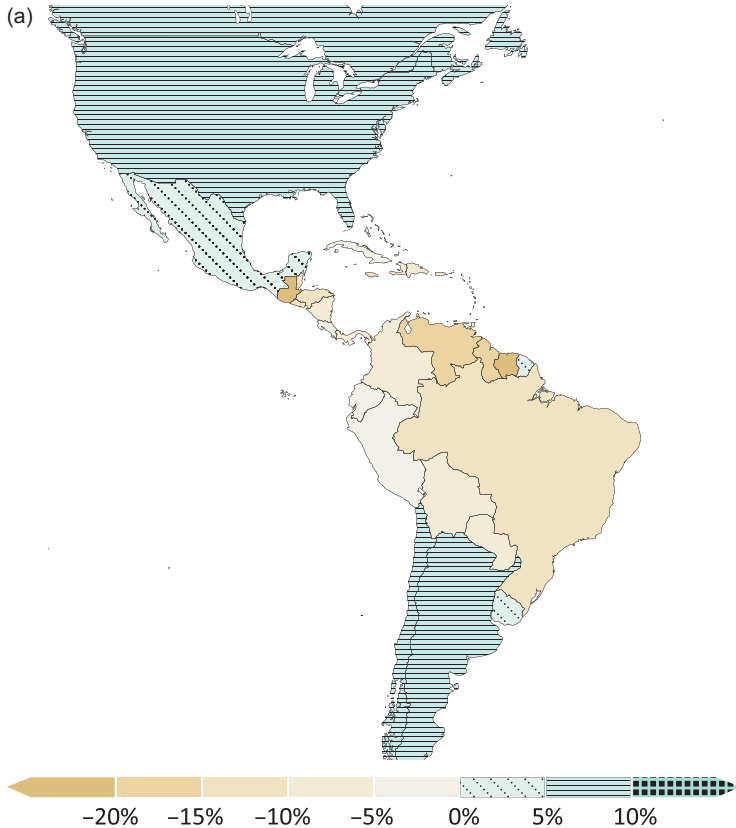


Figure 1.1 (a) Change in winter wheat yields in percentage between 2021 and 2040 with no policy action (CVM3 Biophysical Data Explorer. 2022).⁴

key indicators such as near-surface air temperatures, precipitation, runoff, drought, soil moisture, and crop yields. Users can analyse and download data by country, comparing the effects of the 3.6 °C, 2 °C, and 1.5 °C scenarios across three future timeframes (2021–2040, 2041–2060, and 2081–2100). The ‘Health Data Explorer’ then focuses on the relationship between climate change and global health, with indicators such as heat and health, wildfires, infectious diseases, and

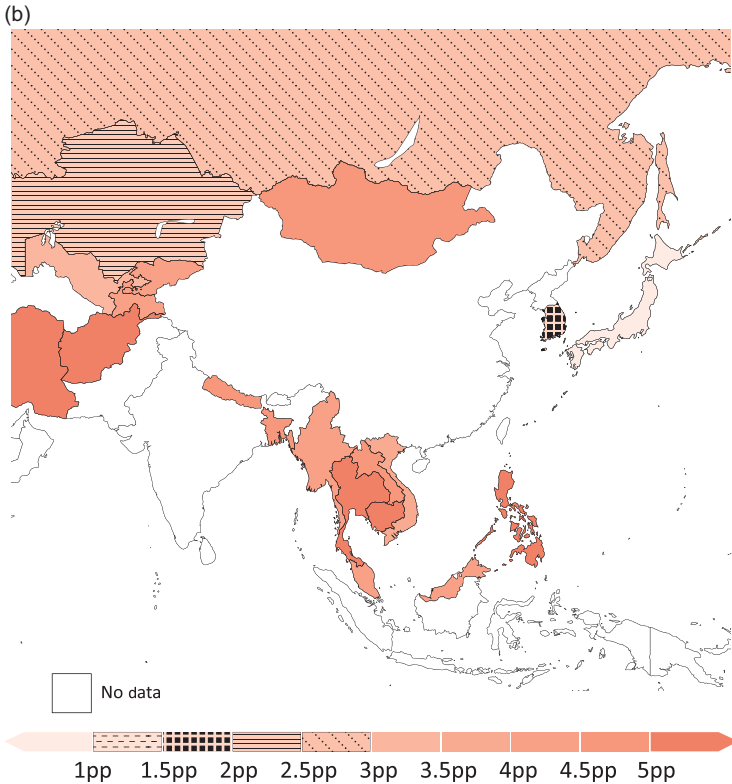


Figure 1.1 (b) Percentage-point (pp) change in food insecurity between 2021 and 2040 with no policy action (CVM3 Health Data Explorer. 2022).⁵

food insecurity and undernutrition. Meanwhile, the ‘Economics Data Explorer’ extends this analysis to macroeconomic indicators such as GDP growth, inflation, and interest rates, demonstrating the potential economic ramifications of climate-related disasters (see Figure 1.1).

Marina Romanello, Co-Lead Health Editor for *The Monitor*, grew up in Argentina. And while Argentina is not a CVM member country, Romanello has seen the climate change ‘very rapidly’ in her home country, too: ‘Summers are so hot now

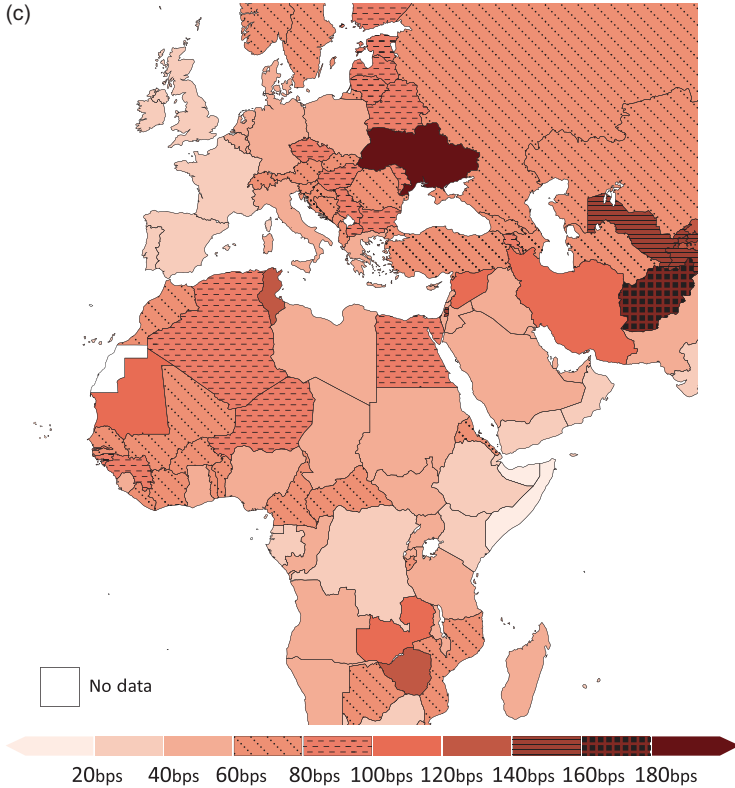


Figure 1.1 (c) Interest rate deviation in basis points (bps) between 2081 and 2100 with no policy action (CVM3 Economics Data Explorer. 2022).⁶

that you'd rather stay inside with the AC on. My nephews stay inside watching TV or playing video games on summer days because it's too hot for them to be outside . . . The rapid change in just a few decades is quite telling. This winter in Buenos Aires reached 30 °C in August [2023]. My nephews were playing outside with a hose in the middle of winter, when I would have been wrapped up in winter clothes. We used to wear ski jackets to school . . . The flowering seasons have changed, the smells have changed, the whole nature cycle has changed. This has all

happened in about 20 years.’ Romanello now lives in London as Executive Director of the Lancet Countdown, a global climate change and health research collaboration based at University College London (UCL). The Lancet Countdown, a collaboration of almost 300 experts globally monitoring the impact of climate change on health, publishes annually ahead of each year’s COP. In 2022, when the CVF approached Romanello to be the health editor for *The Monitor*, ‘It was kind of serendipitous,’ she recalls. ‘The CVF was trying to expose and elevate the health dimension of climate change, and we were also trying to ensure that those working on climate change understood that health is intimately embedded within everything climate-related. It was a good coincidence.’ The health section of *The Monitor* is a combination of work already underway for that year’s Lancet Countdown report, and fresh modelling specifically for the CVF on vulnerable countries. The findings surprised even Romanello, who had already worked on three consecutive Lancet Countdown reports: ‘The rapid pace of climate change was startling. It was quite surprising that 2 degrees is just so dangerous. Even 1.5 degrees, you see so many impacts . . . which elevates the need to urgently adapt.’ (See Box 1.1.)

Thanks to *The Monitor*, the subsequent 2023 Lancet Countdown report focused more on underlining the dangers of a 2 degrees Celcius scenario, and the critical importance of avoiding the current 2.7 degrees Celcius trajectory. In 2022, the Lancet Countdown stressed the transformative opportunity of jointly tackling the concurrent crises of climate change, energy, cost-of-living, and health crises for human health and wellbeing. The 2023 report, however, found few signs of progress. New analysis^e by Romanello and her team found that

^e This research is based on data from 1995 to 2020 (representing the current 2.7 degrees Celcius trajectory). It compares scenarios of probable future extreme heat events with and without human influences. In 2018–2022, people experienced, on average, 86 days of health-threatening high temperatures annually; 60% of these temperatures (51.6 days) were made more than twice

Box 1.1 Key Climate Projections

- ❖ Accelerating inflation up to 66% higher at 2 °C than 1.5 °C scenario.
- ❖ Over 10% reduction in annual GDP growth per capita in a ‘no climate action’ scenario.
- ❖ Drought events per 20 years to increase 4–8-fold at 1.5 °C, 8–12-fold below 2.0 °C, and 12–14-fold for the long-term ‘no climate action’ scenario.
- ❖ Extreme precipitation to increase by 4–8% at 1.5 °C, 3–8% below 2.0 °C, and 4–22% for the long-term ‘no climate action’ scenario.
- ❖ Severe food insecurity linked to heatwaves will increase by 12.8% percentage points globally if no climate action is taken.
- ❖ Heat-related deaths of people over 65 years of age could increase by 1,540% by the end of the century if no climate action is taken, reaching 3.4 million deaths annually.
- ❖ The number of countries with conditions suitable for dengue is projected to increase by as much as 22% by the end of the century.
- ❖ Risk of dengue re-emergence in the European Mediterranean (including Greece, Italy, and Spain) by the end of the century if no climate action is taken.

Source: *The Monitor* (CVF-V20 et al. *Climate Vulnerability Monitor*, 3rd ed. (CVM3): *A Planet on Fire*. 2022. pp. 24–27)⁷

over 60% of the days of health-threatening high temperatures were made more than twice as likely by anthropogenic climate change.⁸

as likely to occur by human-caused climate change. Without anthropogenic climate change, the number would have been only half of 51.6 days.

The UN Intergovernmental Panel on Climate Change (IPCC) released its final synthesis report the same time of year as *The Monitor*, with a similar call to arms, described by UN Secretary-General António Guterres as ‘an atlas of human suffering and a damning indictment of failed climate leadership’.⁹ Yet *The Monitor* crucially differed from the IPCC both in focus and methodology. ‘The IPCC collates evidence, so it’s basically a big literature review,’ explains Romanello. ‘It doesn’t generate new data. The CVM3 [*The Monitor*] has generated new data and new evidence.’ The most vulnerable countries have always been segregated in the climate conversation, she says, despite the ‘impacts disproportionately falling on them. There’s always a power imbalance. The Climate Vulnerable Forum is trying to alleviate that, to elevate that knowledge . . . we’re not just talking about economic losses or atmospheric changes; we’re talking about changes that matter to humans, to constituents, to citizens. I think as a tool for policymakers, as something that will impact the populations they represent, [*The Monitor*] is a very good argument for action.’ The evidence generated from Romanello’s editorship found that 57% of the days of exposure of vulnerable populations to heat waves in the high-emission scenario (SSP3-7.0 or 3.6 °C) can be avoided if temperatures are kept below 2 °C, and an estimated 93% could be avoided under a 1.5 °C scenario. The implication for public health is crystal clear. ‘That’s why we try to say of the 2-degree scenario: let’s just not go there,’ she says. With a 1.1 °C rise to date since pre-industrial times, the Lancet Countdown finds that global heat-related deaths are double the level expected if temperatures hadn’t increased. It also cites evidence that one-third of all heat-related deaths can already be attributed to climate change.¹⁰

This isn’t simply an ‘environmental’ emergency, it’s an all too human one. According to a World Bank report, climate change could plunge between 32 million and 132 million people worldwide into extreme poverty by 2030. As Ken Ofori-Atta, Ghana’s former Minister for Finance and former V20

Chair, says, ‘The twin goals of shared prosperity and bringing an end to poverty are irrevocably tied to the mission to realise climate-resilient growth amongst the climate vulnerable countries of the world. Climate vulnerability and poverty must be tackled together.’ The same goes for gender inequality. The burden of climate change falls disproportionately on vulnerable and marginalised groups, especially women and girls. As UN Women explains, ‘The climate crisis is not “gender neutral”. Women and girls experience the greatest impacts of climate change, which amplifies existing gender inequalities and poses unique threats to their livelihoods, health, and safety. Across the world, women depend more on, yet have less access to, natural resources. In many regions, women bear a disproportionate responsibility for securing food, water, and fuel.’ This in turn becomes a gendered cycle of poverty as girls ‘often have to leave school to help their mothers manage the increased burden.’ Matcha Phorn-In, a human-rights defender who works to empower stateless and landless Indigenous women, girls and young people in Thailand, described this as: ‘If you are invisible in everyday life, your needs will not be thought of, let alone addressed, in a crisis situation.’¹¹

The grave economic consequences of climate change on the developing world are stark – climate change has already wiped out a fifth of the wealth of climate-vulnerable countries in the past two decades.¹² ‘We are first and foremost the victims of dismal global leadership on climate action that has led to insufficient action to deliver the Paris Agreement,’ says Ofori-Atta. ‘We want a system attuned to deliver our transition from climate vulnerability to prosperity. We want sustainable reforms that take into account the everyday realities of climate change. Should we fail to achieve any of these outcomes, we will only be setting ourselves and our economies up for failure.’

Our economies, as we will see throughout the pages of this book, are intimately connected to the natural world.

Biodiversity loss and climate change are two sides of the same coin – we must tackle them together. Research from UCL finds alarming declines, for example, in biodiversity in Mediterranean and tropical regions, with projected local declines of 10–13% in the number of species for each degree Celsius of warming, and many species found to be already near the upper temperature limit that they can tolerate.¹³ To turn this around, the IPCC calls for effective ecosystem conservation of approximately 30–50% of Earth’s land, freshwater, and ocean areas.¹⁴

Ban Ki-moon, former Secretary-General of the United Nations, stated in his foreword to *The Monitor* that ‘The climate crisis is the defining crisis of our time. That point has never been more clear than with the findings of [*The Monitor*] . . . we see clearly just how much humanity finds itself at the crossroads.’ But, he added, the findings, as we will go on to outline throughout this book, show ‘very clearly how serious a priority it is to invest heavily in adaptation today. If we do so, we can limit catastrophic losses and damage. And if we mobilize to limit warming to 1.5 °C, we will dramatically reduce the future human, economic, and environmental toll of this worldwide climate calamity. I encourage everyone to pay close attention.’

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When the V20 first formed under the Philippine CVF presidency in October 2015, Renato Redentor Constantino was the senior advisor to the Philippine government on climate. The V20 was founded, he recalls, with a clear objective: ‘to ensure that climate action escapes the prison of the [COP] climate negotiations and translate political outcomes into actual real economy gains and strategies.’ The V20 sought to dramatically augment the necessary but limited realms of environment and foreign affairs ministries, which often led such negotiations, by injecting leadership from finance ministries. The move was a course correction away from what

Constantino called ‘the Earth Summit hangover of 1992’ when climate change was considered an ‘environmental’ issue. The CVF-V20 aims to move the debate on issues surrounding debt, cost of capital, budget outlays, and risk transforming to opportunities. ‘The finance ministries, with V20’s independence, are leading the operational agenda,’ explains Constantino. ‘Their message is that the fate of vulnerable countries is the fate of the world. If we can climb out of our vulnerability, so can the rest of the world. But it’s a race against time as millions are losing faith in the multilateral process.’

Constantino was head of the Institute for Climate and Sustainable Cities (ICSC) until 2023 and remains a senior advisor to the CVF-V20 Secretariat. Never one to shy away from what needs to be said, if anything he is now more outspoken. ‘My current work with [the] CVF-V20 Secretariat has proven that a lot of governments, particularly our [CVF] governments, are far ahead of the NGOs on climate,’ he says, speaking from Manila. ‘NGOs are playing catch up.’ Since his childhood in the Philippines, ‘I’ve seen the impact’ of climate change, he says. ‘Episodic extremes are hard to forget. They sting the brain.’ But, he says, talking only of individual events can sometimes be part of the problem. ‘Most people cite extreme weather or typhoons – but they’re only referring to half of the horrible impacts from climate. The other half are slow-onset climate events – these occur without the drama of calamity, without body bags or death counts, they receive a fraction of the budgets . . . it’s less rainfall here or more there, not necessarily extreme droughts or flooding, that push economies to their knees. These changes, often irreversible, impact the hydrology of areas, especially where extreme poverty exists. The outcomes exacerbate poverty, contribute to violence against women and are at times the basis later of armed conflicts.’^f

^f Of the 82 countries that endorsed the [COP28 Declaration on Climate, Relief, Recovery and Peace](#), 30 were CVF members.

In the Philippines, such slow-onset climate change is most evident through ‘rising sea levels, particularly on the eastern seaboard, which are rising at three to four times the global average,’ says Constantino. Gradually increasing temperatures are spreading vector-borne diseases to higher latitudes, affecting malaria and dengue. Agriculture is significantly impacted by the creeping salinisation of freshwater supplies. ‘Climate change tastes salty,’ he says. ‘These slow-onset events are virtually ignored because they don’t result in immediate deaths on the streets. Only when a catastrophe strikes does international aid come in. The world is more accustomed to dealing with episodic extremes; it struggles with slow-onset events. Developed countries are extremely hesitant to allocate more funds to address these impacts, seeing them as “development aid”.’ He calls this ‘a sign of ignorance’.

There is a huge global need to develop infrastructure, especially in developing countries. The global infrastructure investment needed from 2016 to 2040 is estimated at \$94 trillion, with an additional \$3 trillion needed to fulfil the 2030 Sustainable Development Goals (SDG).[§] Africa’s infrastructure needs alone are estimated to range between \$130 billion to \$170 billion a year, with a financing gap of \$68 billion to \$108 billion. In Asia, the Asian Development Bank has estimated a financing gap of \$459 billion per year, or about 2.4% of the region’s gross domestic product (GDP), for economic infrastructure up to 2030. In Latin America and the Caribbean, infrastructure investment needs are estimated to be 3 to 8% of the region’s GDP, yet investments range between only 2 and 3%.¹⁵ But to be clear, these aren’t aid gaps; they are huge investment opportunities. Meeting them will actually reduce the need for future disaster aid. Without infrastructure upgrades, around 216 million people could be internally displaced because of slow-onset climate change impacts by 2050.¹⁶

[§] \$ refers to US dollars in this book, unless stated otherwise.

Previously, economic development came at a cost to people and the planet. As of 2016, investment in fossil fuels (\$781 billion) was almost 15% higher than investment in climate activities (\$681 billion), and fossil fuel subsidies witnessed an increase of 34% from 2015 to 2018.¹⁷ As a result of deforestation, unsustainable agricultural practices, urbanisation, and other human activities, one-fifth of the Earth's land area was reportedly degraded by 2020.¹⁸ But there is another mode for global investment, one of climate resilience and renewable energy – as this book will argue throughout, and in detail in Chapter 7.

When Bangladesh took on the presidency of the CVF in 2020, amid the COVID pandemic, they decided to change their own national strategy along such prosperity lines. The Bangladesh Presidency launched a prosperity agenda, and central to this was its Climate Prosperity Plan (CPP). 'The goal was to unlock long-term capital within this decade, addressing the need for climate investments without waiting for 2040 or 2050,' explains Sara Jane Ahmed, Managing Director and V20 Finance Advisor of the CVF-V20 Secretariat. Sri Lanka followed suit, and latterly Ghana. 'The CPPs are strategic investment and financing frameworks that transform climate risks into bankable opportunities, leveraging green industrialisation, economic cooperation, and trade' she says, having personally helped draft both the Bangladesh and Sri Lanka CPPs. 'We aim to make them more practical – they include food security [for example]. The CPPs demonstrate that investing in climate action is not at odds with development goals. They highlight the economic benefits of this transformation ... focused on delivering benefits to their people, including job opportunities and debt sustainability.' But crucially, she adds, such benefits can only be realised if 'we don't exceed the 1.5 degrees [Celsius] limit.' Go beyond 2 degrees [Celsius] of warming and the opportunities to thrive are replaced with a fight to survive.

When combined with ambitious emissions reductions, says Constantino, 'adaptation or resilience building will drive

economic development, creating jobs, income, and revenue. Attention to resilience primes the economy, attracting investments not just in wind turbines but in bridges, roads, electricity supply, and more. Sri Lanka's Climate Prosperity Plan includes wind farms ... mangroves and fisheries conservation, all as part of rehabilitating the economy. The CPPs show climate action as a way to climb out of bankruptcy.'

There are, then, two schools of thought in the development field when it comes to climate finance: one, that developed countries owe reparations to vulnerable countries; and two, that vulnerable countries are in a position of strength as growing economies, low polluters, and (typically) carbon sinks. Both can be true. 'Only the blind can't see the justice element in climate change,' says Constantino. But while there's a clear 'moral case for reparations, recent history shows us that developed countries are unlikely to provide that. They act when self-interest, geopolitics, or trade opportunities are involved. Vulnerable countries, without relinquishing the justice element, need to focus on domestic action. This involves creating Climate Prosperity Plans centred on investments.'

The V20, as a grouping of finance ministers, has a unique relationship with its counterparts in the G20 and G7. The G20 stands for 'Group of Twenty', a forum of the largest economies in the world, founded in 1999 after the Asian financial crisis of 1997–1998. As with the V20, the G20 has, in fact, more than 20 members, with both the EU and African Union counted as members, while the G7 is a smaller but older grouping of Northern Hemisphere countries, formed in 1975. Sara Jane Ahmed says that 'V20 Finance Ministers have a deep understanding of their countries' needs and priorities, which makes it valuable for the G7 and G20 to engage with them. Germany, for instance, has been a strong supporter, and other countries like the UK are also showing interest. The V20's role is essential in bringing climate finance and adaptation to the forefront of discussions. However, for

critical decisions and actions, the G20 and other high-level forums are where substantial progress is made.’

Ahmed has founded the Financial Futures Center (FFC) to support climate-vulnerable countries develop CPPs and achieve economic prosperity through climate resilience. Her wins to date include a government-sanctioned moratorium on new coal-fired power in the Philippines and the development of the Sustainable Insurance Facility at the V20.^h Growing up in both Bangladesh and the Philippines, Ahmed’s father worked on agriculture and climate modelling, ‘so I was aware of climate issues from a young age.’ Despite this, she didn’t pursue her formal education in climate issues, but chose finance and economics instead. In the 2000s and 2010s, however, her two worlds combined: ‘I didn’t anticipate witnessing such significant losses and extreme weather events, flooding and typhoons’ – it inevitably pushed her towards climate finance, with stints at the World Resources Institute and Grameen Bank. *The Monitor* was to become the pinnacle of this work. ‘The *Climate Vulnerability Monitor* aimed to provide easily accessible information for countries to understand climate impacts, including health, which is often underemphasised,’ explains Ahmed, speaking from the CVF-V20 headquarters in Ghana. ‘We collaborated with the Lancet Countdown to highlight health impacts. But additionally, we wanted to emphasise the financial aspects of climate change, including the cost of capital and inflationary pressures, which are often overlooked.’ Despite being steeped in this research area for a number of years, Ahmed says the findings were still a shock. ‘I was surprised to see malaria and dengue spreading further north than expected. Heat stress was another concerning issue, considering the lack of infrastructure to handle it.’ It underlined the fact that adaptation financing needs in developing countries

^h In 2021, Sara Jane Ahmed was selected for the Climate Breakthrough Award programme for social change leaders to develop, launch, and scale their breakthrough initiatives to address climate change. See: www.climatebreakthrough.org/awardee/sara-jane-ahmed/

are much greater than the current funding flows. The much talked about (and little delivered) \$100 billion annual climate finance pledge, for example, remains a disappointment. First agreed in 2009, in this pledge developing countries promised to mobilise \$100 billion per year in climate finance for vulnerable developing countries by 2020. Speaking just prior to COP28 in 2023, however, ‘the funds currently amount to around \$30 billion,’ says Ahmed. Not only that, but the annual needs have greatly increased since 2009. ‘The annual investment needed for developing countries is approximately \$1 trillion, with around 40–50% allocated to adaptation.’ To achieve this, she says, the role of multilateral development banks will be critical, as will addressing the debt accrued as vulnerable countries deal with growing climate shocks.

Ken Ofori-Atta, former Minister for Finance and Economic Planning of Ghana, and former V20 Chair 2022–2024, has highlighted how the most at-risk economies of the V20 lost over half their economic growth potential over the past 20 years because of human-induced climate change – ‘in other words, without climate change, our people would be 20% wealthier today. We are bearing this alarmingly high economic cost, despite having contributed the least to causing climate change, while also being least equipped to respond to its costly consequences.’¹⁹ In his closing statement at COP28 in Dubai, December 2023, he said, ‘Our peoples do not want to be poor in a stable climate, so financing from the big emitters will be crucial – sadly financing for adaptation and clean energy is still lacking from the COP, despite the small success of the Loss & Damage Fund. Dithering is disastrous . . . One day we may yet learn the hard lesson that the climate does not negotiate.’²⁰

Even if the \$100 billion annual pledge were eventually met, it is now understood that \$100 billion is a fraction of what is needed to support developing countries. The climate is changing too fast; its consequences too severe. Each year surpasses the last. From June to October 2022,

floods in Pakistan killed 1,739 people, causing \$14.9 billion of damage and \$15.2 billion of economic losses. Nigeria's long-term drought causes forest-cover loss of 4% every year. The drought and famine in Kenya, Somalia, and Ethiopia has killed tens of thousands, along with millions of farm animals.²¹ The year 2023 was the hottest in recorded human history. In the UNFCCC's recent analysis of financing needs, developing countries require at least \$6 trillion by 2030 just to meet half of their existing Nationally Determined Contributions.²² The \$100 billion pledge remains important 'to restore trust,' says Sara Ahmed, 'but it's not sufficient given the gravity of the situation. We need to move beyond it and focus on long-term financing, risk sharing, and concessional capital, especially for vulnerable countries.' The \$100 billion pledge is now 'more of a moral commitment than a practical one. The focus should shift toward addressing the need for approximately \$1 trillion annually for climate vulnerable countries.'

Caribbean small island states alone require at least \$35 billion annually for climate mitigation and adaptation between 2015 and 2030, almost half of the region's 2020 GDP. Researchers Magdalena Mirwald and Jwala Rambarran write, 'Traditional capital flows to the Caribbean are insufficient to meet the region's substantial climate finance needs, with a reduction in development aid and volatile foreign direct investment towards a greater reliance on remittances and external debt. At COP15 held in Copenhagen in 2009, developed countries agreed to mobilise \$30 billion annually for 2010–2012. Regrettably, developed countries did not follow through on their commitment to climate finance commensurate with their historical emissions and moral responsibility ... Caribbean nations cannot continue to expend funds on a debt and climate crisis they did little to create. They cannot "rebuild better" every four years or so as the impacts of climate change intensify.'²³ The simple fact is, as Ofori-Atta alluded to, that V20 countries would be far

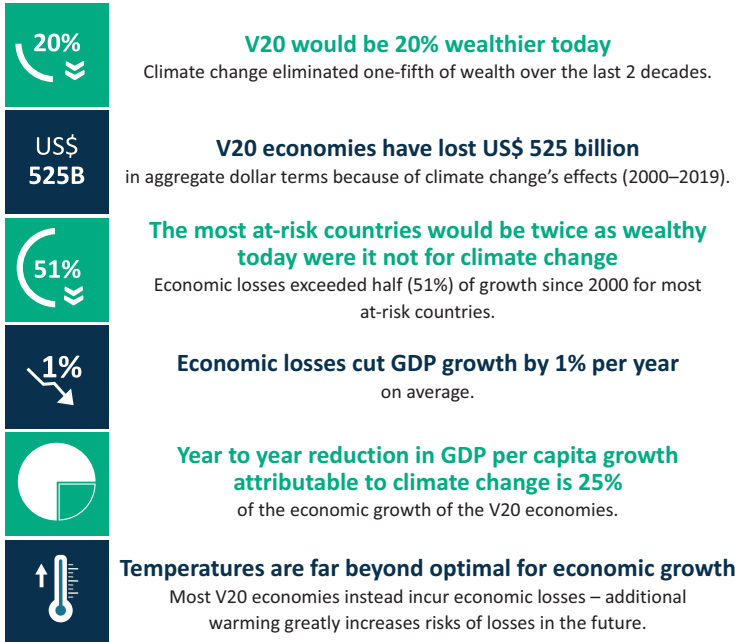


Figure 1.2 V20: Key findings (V20, Debt Review. 2022. p. 9).²⁴

wealthier today if not for climate change impacts, which they played a negligible role in causing (see Figure 1.2). Not only have ‘developed’ countries, largely in the Global North, built their wealth by extracting fossil fuels, the burning of which has caused catastrophic climate change, but they have rigged the financial system to remove the ladder from underneath them – as we will see in Chapter 7.

The climate has already changed. But how much more is still up to us. This book does not mark the global shift from mitigation to adaptation – rather it signals the moment when both began to run in parallel. How much we need to adapt – indeed the very boundaries of how much adaptation is feasible – is directly proportionate to how much we mitigate or continue to overload the Earth’s carbon cycle. The 2020s will forever be remembered as the decade when the world

still had a chance to limit human-made climate change. The IPCC's sixth report, released in 2021, was its 'final warning' – signalling the window of opportunity to meet the 1.5 °C goal and to keep climate change within bounds to which we can still adapt. Its sixth and final warning, then, could not have been clearer: 'In the scenarios we assessed, limiting warming to around 1.5°C (2.7°F) requires global greenhouse gas emissions to peak before 2025 at the latest, and be reduced by 43% by 2030.' IPCC Working Group III Co-Chair Jim Skea warned: 'It's now or never if we want to limit global warming to 1.5°C (2.7°F). Without immediate and deep emissions reductions across all sectors, it will be impossible.'

The 2022 Lancet Countdown argued that further delays in meaningful climate change mitigation put the world at risk of missing 'a rapidly closing window of opportunity to secure a liveable and sustainable future.'²⁵ Right now, it may only just be ajar, but the window *is* still open, if the developed world rises from its lethargy.²⁶

Our action – or inaction – this decade will be judged for generations to come. It is the responsibility of people, politicians, publishers, civil society, and NGOs to do everything in their power to communicate and concentrate efforts on the climate change response. By giving voice to those most affected by climate change, who are already at the mercy of these changes daily, we aim to highlight the diverse and far-reaching impacts of climate change – and the emerging solutions.

In November 2022, Ernest Gibson, a young climate advocate for Fiji, wrote 'A Message from Pacific Island Youth'. In it, he said, 'We cannot continue to see the climate crisis as a problem of the Global South. For far too long, the tenacity and hard work of actors in large ocean states has been rewarded with pity; the Pacific was seen as a problem to be solved – an issue that the Global North could maybe throw a little bit of money at and the noise would die down ... Climate financing remains a continuous challenge. Simply

put, there isn't enough of it, and we are not making it accessible to countries and communities that require it the most. The commitments made by leaders in the space of adaptation, resilience and loss and damage are lacklustre. We demand genuinely additional and ongoing finance be made immediately available.²⁷ Aote Tong, former President of Kiribati, further highlighted in a 2022 interview that 'What is happening and what is predicted to happen is going to be a huge challenge to people who would be losing their home and everything that they currently have ... It's about the loss of our heritage, everything that we identify with ... At some point in time, maybe the entire nation. Some of it you can count in monetary terms and some of it you cannot because it's irreplaceable.' Global North countries are responsible for an incredible 92% of historical emissions. By contrast, Pacific Island nations are responsible for a mere 0.03%.²⁸

'It's crucial to dispel the notion that climate finance is charity,' argues Jevanic Henry in Saint Lucia, a small island nation in that other great ocean, the Atlantic. 'It's not about doing us a favour; it's about climate justice. Developing states like ours didn't start the climate crisis but are suffering the most. Those who contributed significantly to the crisis should compensate. It's about doing what is right and just. Our emissions in the Eastern Caribbean are negligible, but we face significant impacts due to our vulnerability ... Climate finance should be seen as a matter of justice, not charity, allowing us to survive and thrive.' The world has yet to come to terms with the breadth, scale, and severity of the impact of climate change; hence the already major, widespread, and growing negative impacts of climate change that affect every country and region. We must listen to these stories. And we must respond.