

The Gathering Storm

Adapting to climate change
in a post-pandemic world

Executive Summary



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**Adapting to climate change
in a post-pandemic world**

Executive Summary

Adaptation Gap Report 2021

Executive summary

Context and framing of the UNEP Adaptation Gap Report 2021

The sixth edition of the UNEP Adaptation Gap Report (AGR2021) has been produced in the second year of the global COVID-19 pandemic. While encouraging trends in tackling the pandemic are emerging, including the unprecedented development and roll-out of highly effective vaccines in many industrialized countries, the COVID-19 crisis continues to create severe human health challenges, economic turmoil and recurring restrictions on daily life in most parts of the world. The pandemic's impact on global climate change adaptation processes is increasingly visible through direct effects on adaptation planning and constraints on available finance. Climate impacts also tend to be more severe in vulnerable developing economies, many of which are also among the worst affected by COVID-19. At the same time, rescue and recovery initiatives designed to kick start economies in the wake of the pandemic offer a unique opportunity to secure a green recovery by mainstreaming adaptation into public financing streams worth trillions of dollars, dwarfing the sums otherwise dedicated to adaptation. Furthermore, climate change and the pandemic share some striking similarities: like the pandemic, the climate change crisis is a systemic problem that requires coordinated global, national and local responses. Many of the lessons learned from handling the pandemic have the potential to serve as examples of how to improve climate adaptation planning and financing.

Meanwhile, climate change continues its unrelenting path towards a warmer future. As the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC), released in August 2021, starkly documents, some impacts are now irreversible. Many parts of the world have experienced unprecedented climate impacts this year, such as the heat dome and rampant wildfires in the Pacific Northwest of the United States of America and Canada; severe flooding in Western Europe, eastern parts of the United States of America, the province of Henan in China, and the state of Maharashtra in India; and imminent hunger after continued droughts in Madagascar. The assessment report also documents how, even under the most optimistic emissions mitigation scenarios where net-zero is reached by around 2050, global warming will continue in the short to medium term, potentially levelling off at 1.5°C above pre-industrial levels. All this makes adaptation an increasingly urgent global imperative.

At the political level, international climate efforts under the United Nations Framework Convention on Climate Change (UNFCCC) continue, despite the postponement of the twenty-sixth session of the Conference of the Parties to the UNFCCC (COP 26), which was put back from November 2020 to November 2021. COP 26 will have a strong focus on adaptation issues and will see consultations and work proceed towards the first Global Stocktake in 2023, including the submission of new and updated Nationally Determined Contributions (NDCs).

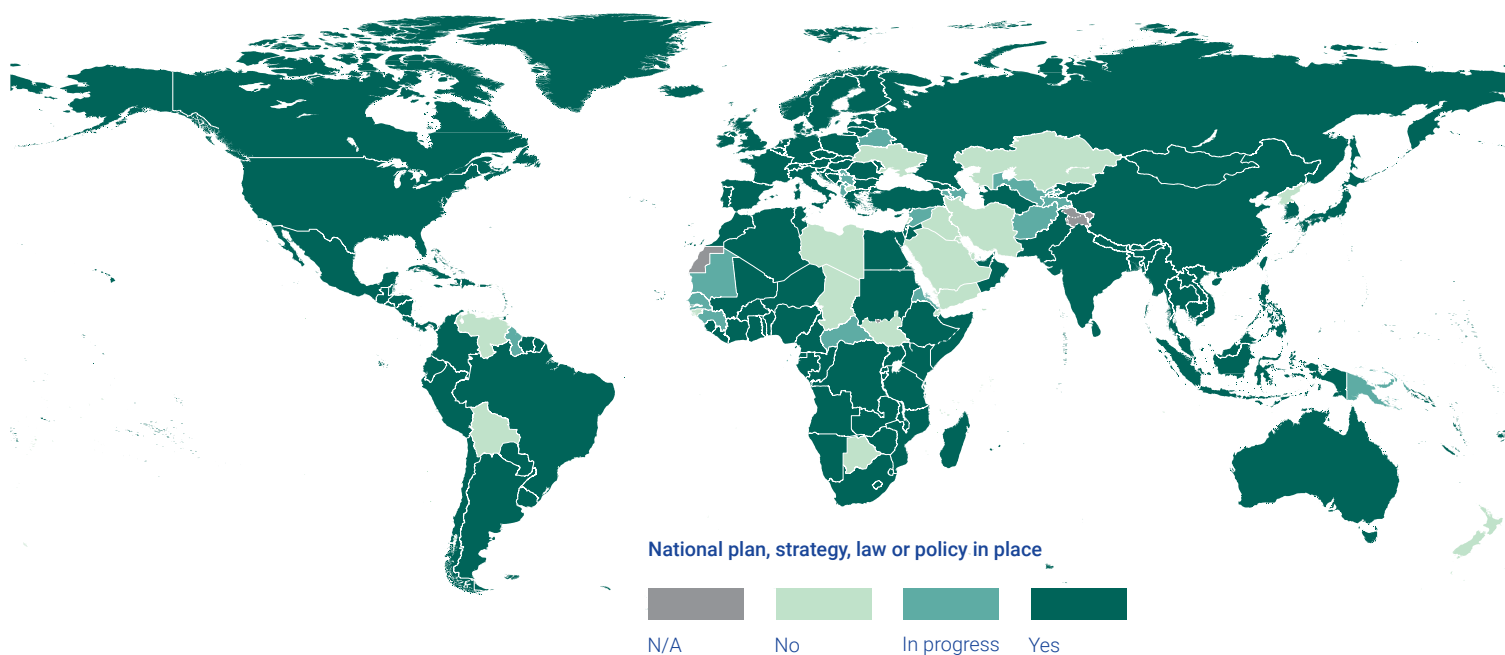
AGR2021 provides an update on current actions and the emerging results of regional-level to national-level adaptation planning, finance and implementation worldwide (figure ES.1). All three elements are critical for tracking and assessing progress towards the global goal on adaptation. AGR2021 also expands and strengthens the assessment of future adaptation outcomes, in particular through the inclusion of qualitative expert judgements. In view of the ongoing pandemic, the report provides an in-depth assessment of the emerging consequences of COVID-19 in relation to adaptation planning and finance and highlights the lessons and opportunities for future adaptation efforts through economic growth and climate resilience as part of a green recovery.

Status and progress of global adaptation planning, finance and implementation

PLANNING

Despite the COVID-19 pandemic, climate change adaptation is becoming increasingly embedded in policy and planning across the world. National-level adaptation planning processes remain a critical element in the global response to the impacts of climate change, as underscored by the Paris Agreement. While early evidence suggests that some National Adaptation Plan (NAP) development processes have been delayed by the COVID-19 pandemic, particularly among least developed countries, progress is still being made on national adaptation planning agendas. Around 79 per cent of all countries have now adopted at least one national-level adaptation planning instrument (for example, a plan, strategy, policy or law). This is an increase of 7 per cent since 2020 (figure ES.1). Furthermore, 9 per cent of countries that do not currently have such an instrument in place are in the process of developing one (no change since 2020). At least 65 per cent of countries have one or more sectoral plans in place and at least 26 per cent have one or more subnational planning instruments.

Figure ES.1 Status of adaptation planning worldwide, as at 5 August 2021



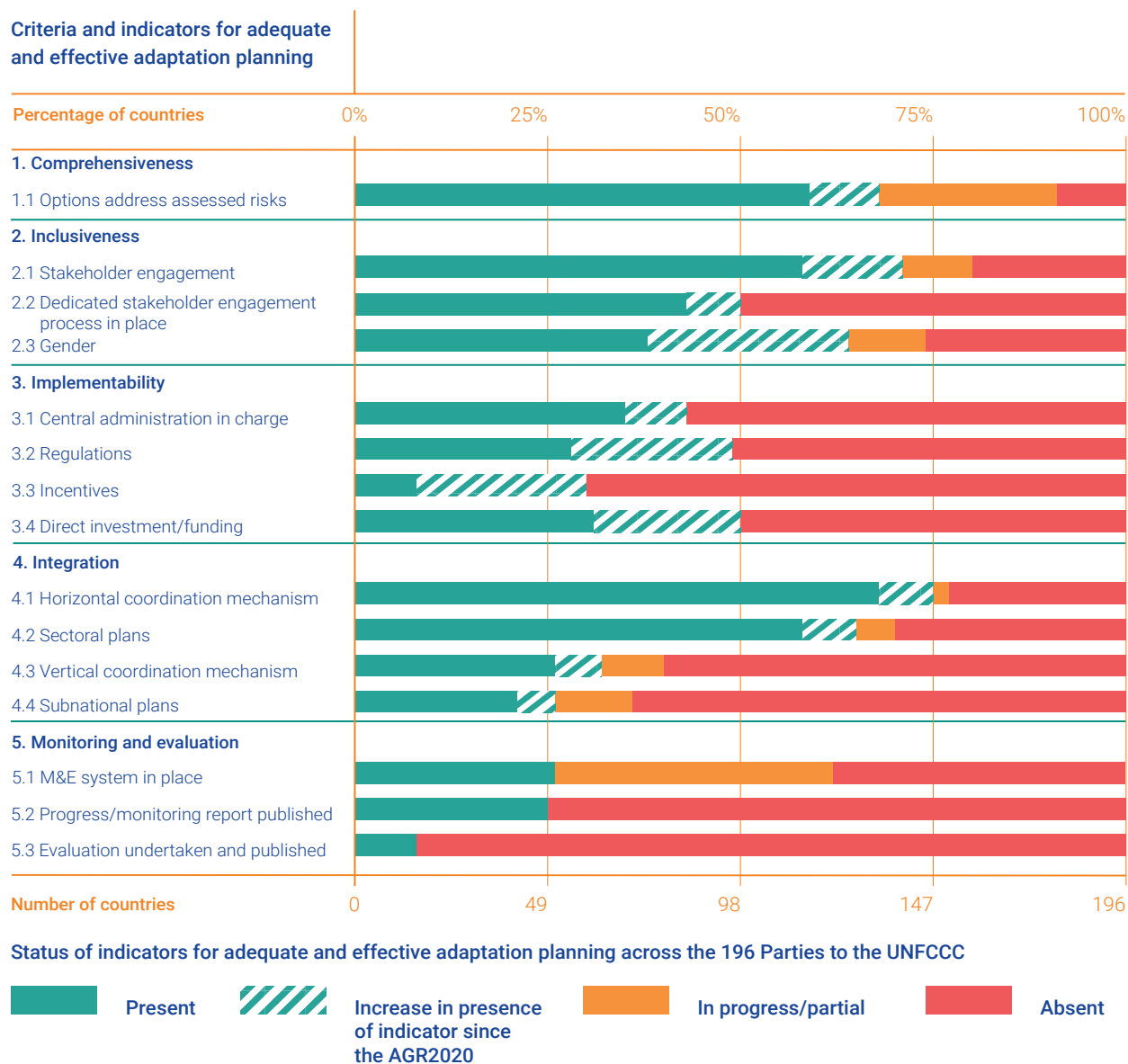
Note: Territories marked as N/A are those which are recognized as disputed by the United Nations or whose status has not yet been agreed upon.

Indicators of adequacy and effectiveness of adaptation planning show positive trends compared to 2020.

While it is currently not possible to directly assess the adequacy and effectiveness of adaptation planning due to a lack of consensus on definitions and approaches to their assessment, it is possible to analyse relevant elements indirectly by examining the comprehensiveness, inclusiveness, implementability, integration, and monitoring and evaluation (M&E) of planning instruments. Compared to a similar analysis presented in the 2020 edition of the Adaptation Gap Report (AGR2020), this year's report – based on an updated analysis reflecting new submissions of NDCs, NAPs and Adaptation Communications – shows that countries have made consistent progress in developing adaptation planning instruments and across almost all indicators of adequate and effective adaptation planning. This progress is largely incremental (within 10 per cent of the previous score), with the exception of areas such as stakeholder engagement, gender considerations and the use of policy instruments, which saw larger increases (figure ES.2). Regarding inclusiveness, more countries now demonstrate stakeholder engagement (an increase from

43 per cent to 70 per cent between 2020 and 2021) and gender considerations (an increase from 52 per cent to 73 per cent between 2020 and 2021). There was also a significant increase in the application of policy instruments deemed to enhance the implementability of adaptation plans through provisions for investments (50 per cent in 2021 compared to 31 per cent in 2020), regulations (49 per cent in 2021 compared to 28 per cent in 2020) and incentives (30 per cent in 2021 compared to 8 per cent in 2020). Likewise, over two-thirds of all countries (9 per cent more than in 2020) are now targeting priority sectors with their planning instruments. Progress is also being made on integration: 75 per cent of countries now have horizontal coordination mechanisms (compared to 68 per cent in 2020) and 32 per cent have vertical coordination mechanisms (compared to 26 per cent in 2020). On the other hand, progress is mixed for M&E: while 26 per cent of countries have M&E systems in place and another 36 per cent are in the process of developing a system, only 8 per cent of countries have evaluated their adaptation plans. This is frequently attributed to the lack of financial, human and technical resources.

Figure ES.2 Assessing the adequacy and effectiveness of adaptation planning worldwide



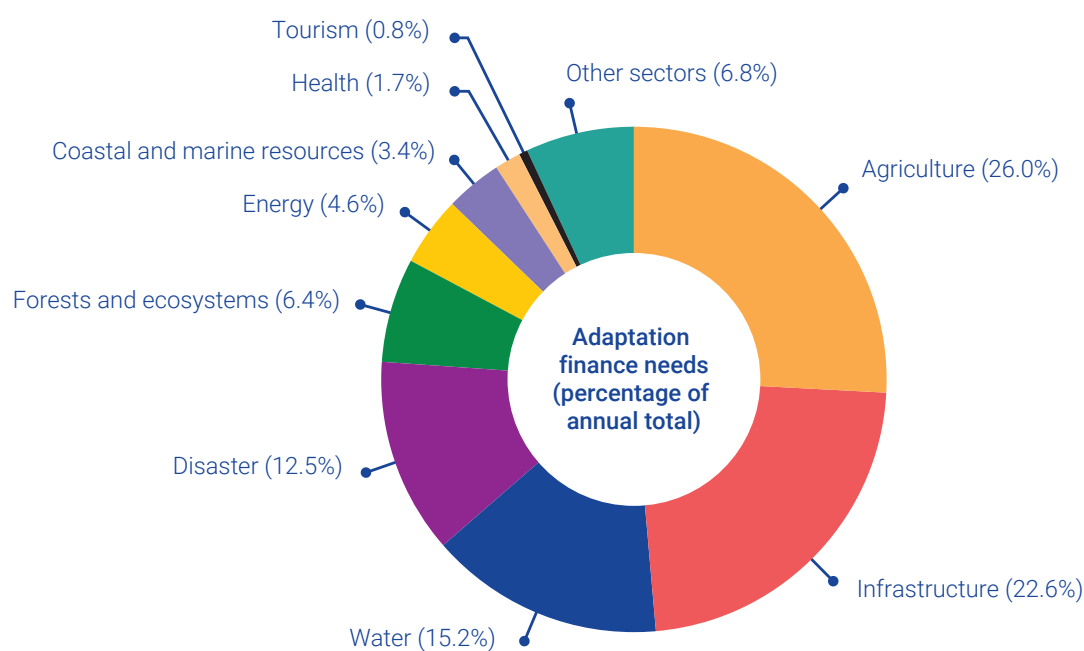
Note: The changes in the M&E indicators (5.1–5.3) are not shown because the scoring methodology has changed since 2020.

FINANCING

New estimates of the costs of adaptation and the estimated financial needs for adaptation from developing countries indicate higher values than previously reported. The review of the most recent adaptation cost estimates from the literature and the finance needs expressed by countries' submissions to the UNFCCC resulted in a number of major findings. First, estimates of the economic costs of climate change in developing countries are now generally higher than indicated in earlier studies. This is true both later in the century, under higher warming scenarios, but crucially also over the next two decades even under ambitious mitigation scenarios. Second, the estimated annual adaptation costs in the literature are now also generally in the upper range of the 2016 estimate of the Adaptation Gap Report of

US\$ 140–300 billion by 2030 and US\$ 280–500 billion by 2050. Third, a review of updated NDCs and NAPs indicates that estimates of adaptation financing needs are increasing in many countries, often due to the incorporation of more sectors. A sectoral analysis of submissions reveals that the four sectors of agriculture, infrastructure, water and disaster risk management make up three-quarters of quantified adaptation finance needs so far (figure ES.3). Taken together, these findings suggest increasing costs of adaptation compared to previous AGR assessments, particularly in the event of failing to meet the Paris Agreement goal of keeping the increase in the global average temperature well below 2°C above pre-industrial levels. This new emerging evidence means a more detailed and systemic stocktake of the costs of adaptation and finance needs is required.

Figure ES.3 Adaptation finance needs by sectors based on 26 developing countries' NDCs and NAPs



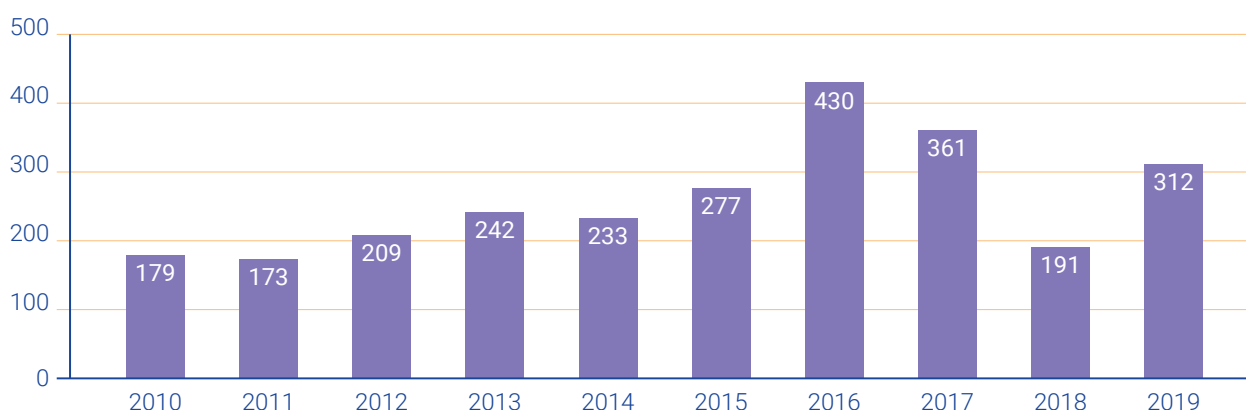
The evidence suggests that the adaptation finance gap is larger than indicated in 2020 and widening. Despite a recent trend of gradually increasing international public adaptation finance for developing countries up to 2019, adaptation finance flows are projected to stabilize or possibly even decline as a result of the COVID-19 pandemic. This is due to financial institutions and governments – including those in advanced economies, which provide the majority of dedicated international adaptation funding – needing to prioritize limited resources to meet the urgent health and financial needs caused by COVID-19. While conclusive data is still pending, the most recent analysis indicates that climate finance flows to developing countries (for both mitigation and adaptation) reached US\$ 79.6 billion in 2019. In the absence of a significant increase of around US\$ 20 billion (26 per cent) in 2020, the US\$ 100 billion mobilization goal for 2020 will not have been met. Despite the limitations of the available evidence, estimated adaptation costs and likely adaptation financing needs in developing countries are five to ten times greater than current international public adaptation finance flows. Evidence suggests that the gap is larger than indicated in the previous AGR (2020) and is widening, due to adaptation costs and finance needs being higher and funding flows remaining stable or decreasing.

There is an urgent need to scale up and further increase public adaptation finance both for direct investment and for overcoming barriers to private-sector adaptation. New instruments, actors and approaches to scale up adaptation finance are emerging, including private-sector adaptation financing. These offer opportunities to raise adaptation finance (for example, resilience bonds) and to use public adaptation finance to leverage private

investment (for example, using blended finance to de-risk investments). However, due to the barriers to private finance (including around information, positive externalities and low revenues) and the public interventions or finance needed to overcome these, the rate of uptake and the scaling up of these new instruments remains slow. Furthermore, private investment will gravitate to opportunities where revenues are highest and risks are lowest. It is unlikely to target the most vulnerable in least developed countries or non-market sectors. This underscores the continued importance of international public support and the requirement to further increase ambition.

IMPLEMENTATION

Implementation of adaptation actions is continuing to grow slowly worldwide, despite uncertainty about future trajectories. Although there has been increased variability in the number of new projects over the last four years, the implementation of adaptation initiatives approved under the three multilateral funds serving the Paris Agreement through the provision of funding for adaptation (the Adaptation Fund, the Green Climate Fund and the Global Environment Facility) has risen slowly but steadily. The tendency for larger projects (more than US\$ 10 million) also remains intact. Information from the Organisation for Economic Co-operation and Development shows that the top 10 donors funded more than 2,600 projects between 2010 and 2019 with a principal focus on adaptation. This highlights the important role of bilateral support for adaptation (figure ES.4). About 20 per cent of the projects primarily address the agricultural sector and 20 per cent focus on ecosystems. Almost 30 per cent are multi-sectoral projects, while approximately two in 10 projects were directed towards either water or

Figure ES.4 Number of new principal adaptation projects started per year with funding from the top 10 bilateral adaptation donors

Note: The term 'principal adaptation project' refers to projects for which adaptation is "fundamental in the design of, or the motivation for, the activity" (OECD).

infrastructure. The sectoral priorities align with four of the top five adaptation priorities mentioned in countries' most recently submitted NDCs. However, health, the third most frequently mentioned priority, is seldom the primary focus, confirming the findings of the previous two reports. Regional disaggregation shows that adaptation initiatives are concentrated in eastern, southern and western Africa, South and Southeast Asia and parts of South America (figure ES.5).

Implementation levels must be further scaled up to avoid falling behind with managing climate risks, particularly in developing countries. The limited data on the effectiveness of adaptation activities for reducing climate risk, combined with the escalating impacts documented in the most recent IPCC assessment report, implies that current implementation rates may not keep pace with increasing levels of climate change. The design of adaptation interventions needs to consider factors identified as making effective risk reduction more likely, including a thorough understanding of climate risks and their interaction with local contexts, inclusion of the target population in project design, joint agreement on objectives and ways of achieving them, and avoidance of potential and actual negative effects of adaptation actions (maladaptation). To avoid falling further behind, it is essential to enhance the implementation of adaptation actions and ensure more effective mainstreaming of climate risks into decision-making processes, including the COVID-19 recovery. Adaptation planning and implementation must also consider higher-end climate scenarios and impacts projected by the most recent IPCC Sixth Assessment Report 2021 to prepare for more intense risks than those already observed.

EMERGING CONSEQUENCES OF THE COVID-19 PANDEMIC

The COVID-19 pandemic and climate change have created compound risks that negatively affect the adaptive capacity of governments, communities and societies, particularly in developing countries. The pandemic and associated

responses by societies may be compounding risks by affecting our ability to respond to climate change. For example, during the Pacific cyclones in 2020, COVID-19 restrictions impeded disaster-response efforts through the quarantining of supplies and aid workers. The indirect effects of the pandemic also have the potential to severely reduce adaptive capacity. For instance, the negative economic consequences, such as the slow-down in some economic sectors, job losses and increased poverty (an additional 97 million people fell into poverty in 2020) tend to disproportionately affect vulnerable groups and further reduce their capacity to adapt to extreme climate events. Governments and businesses – particularly small and medium-sized enterprises in developing countries – have also drawn on financial reserves and some/many have issued new debts to deal with the pandemic, making them vulnerable to future economic shocks, including from extreme climate events.

While the stimulus packages for the COVID-19 recovery present a window of opportunity for green and resilient recoveries, these opportunities are not currently being seized. In response to the current pandemic, US\$ 16.7 trillion of fiscal stimulus was deployed by governments. However, only a small proportion of this funding appears to have gone towards adaptation. Less than one-third of 66 countries that were studied explicitly funded specific measures to address physical climate risks in their announced investment priorities up to January 2021 (figure ES.6). Moreover, the costs of servicing the debt raised to respond to the pandemic, combined with lower government revenues due to the economic impacts of COVID-19, may also hamper future government spending on adaptation, particularly in developing countries.

The COVID-19 crisis also provides lessons to improve climate adaptation planning and financing, as well as opportunities to secure a green recovery. The pandemic highlights the importance of governments addressing

Figure ES.5 Geographic distribution of principal adaptation projects funded by the top 10 bilateral donors

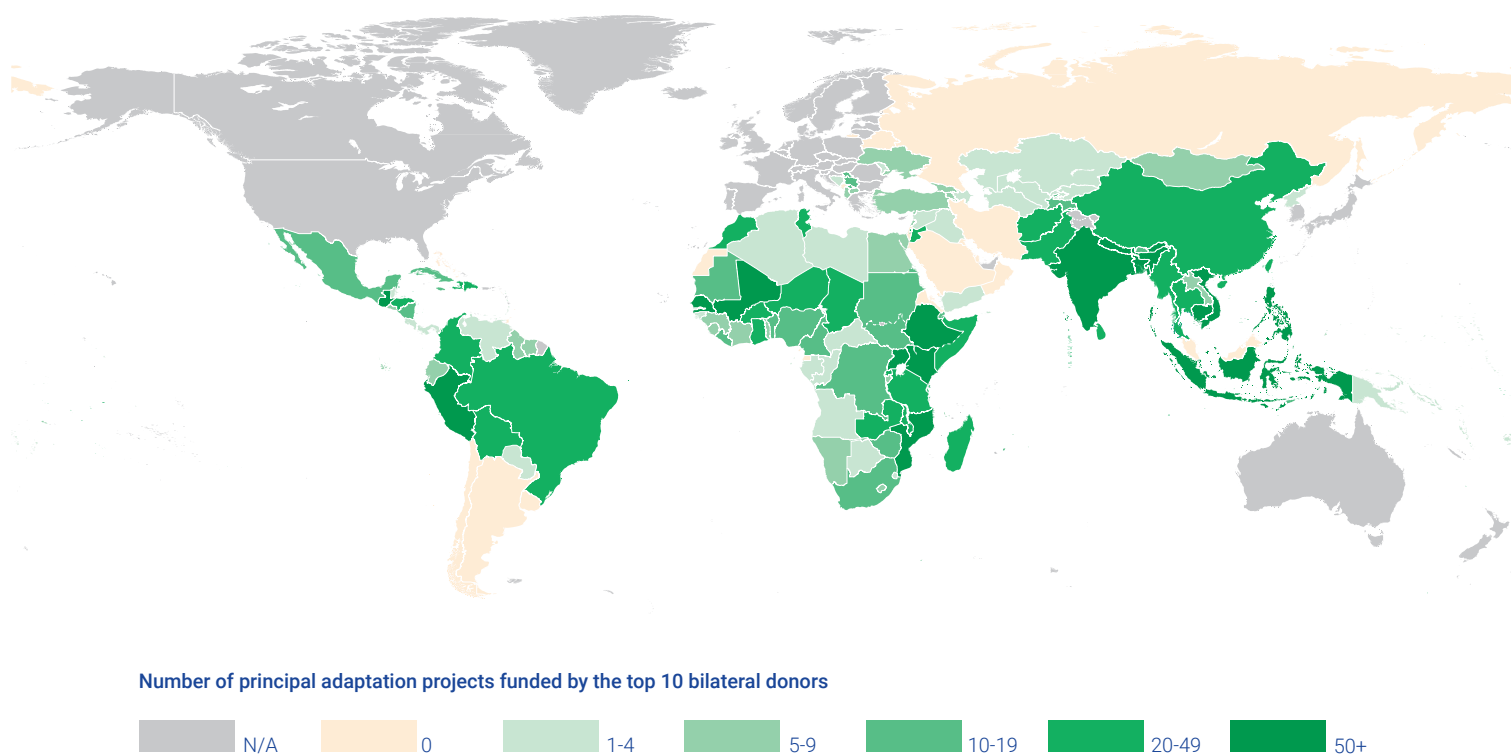
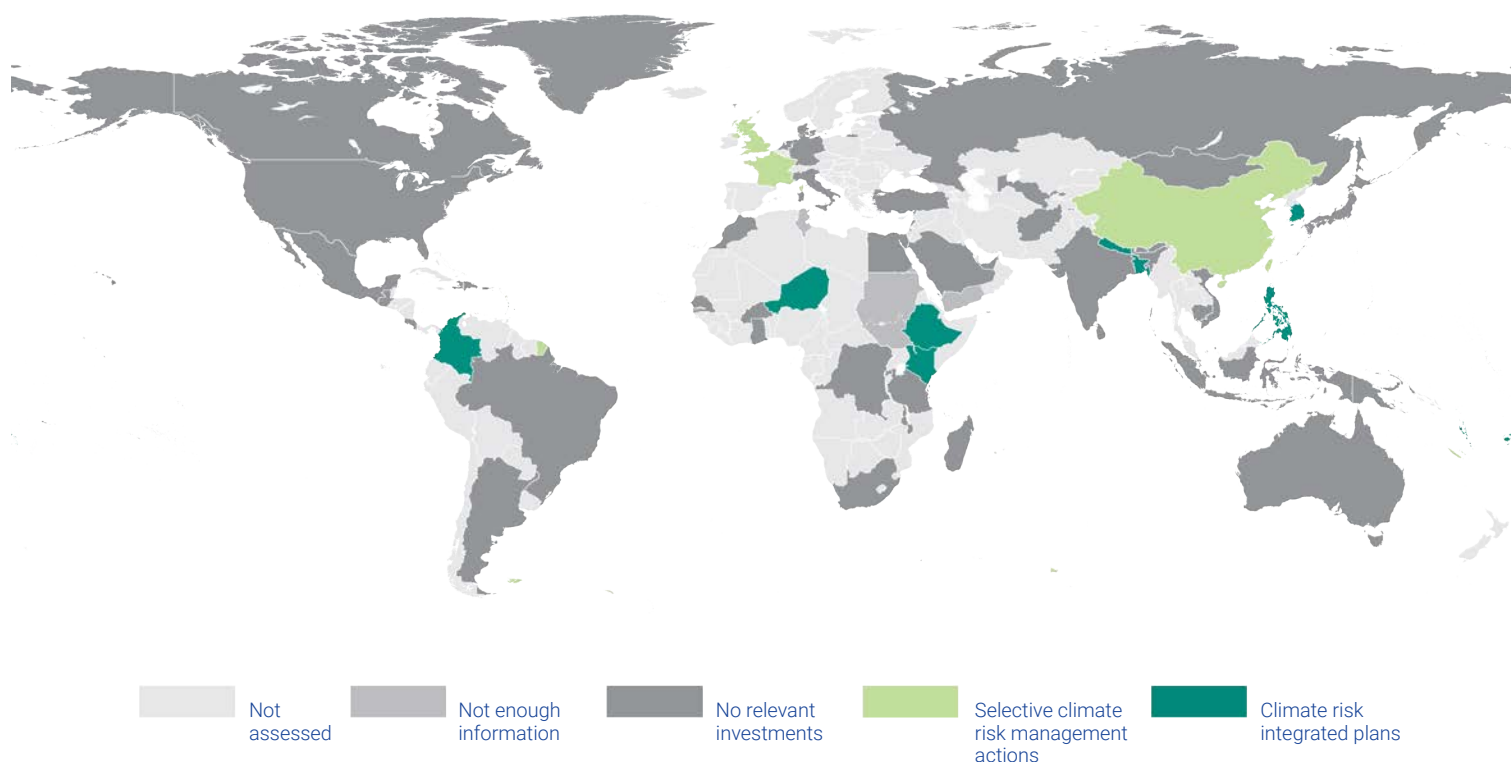


Figure ES.6 Countries including selected adaptation interventions in stimulus packages, as at 31 January 2021



compound risks through integrated risk management approaches, bringing together a set of cross-cutting risk management and adaptation objectives. For example, in many cases country-specific risk assessments of vulnerable groups, which are applied in adaptation planning processes like NAPs, can be used in broader risk management, including for the impacts of the pandemic. In terms of adaptation finance, the pandemic has created the conditions for extensive fiscal spending. It is critical that governments seize this opportunity to identify and prioritize interventions that achieve both economic growth and climate change resilience through a green recovery. Particularly in developing countries, governments can also increase the resilience of fiscal frameworks to deal with compound risks by establishing flexible disaster finance frameworks. These could be configured to ensure that predictable, timely and cost-effective finance is available to respond immediately to any emergency with the potential for systemic shocks, such as the pandemic or an extreme climate event. Finally, advanced economies have a clear role to play in helping developing countries that are both vulnerable to climate change and have suffered the economic consequences of the pandemic to free up fiscal space for green and resilient national COVID-19 recovery efforts through concessional finance and substantive debt relief to “build forward better”.

OUTLOOK ON THE GLOBAL PROGRESS OF ADAPTATION

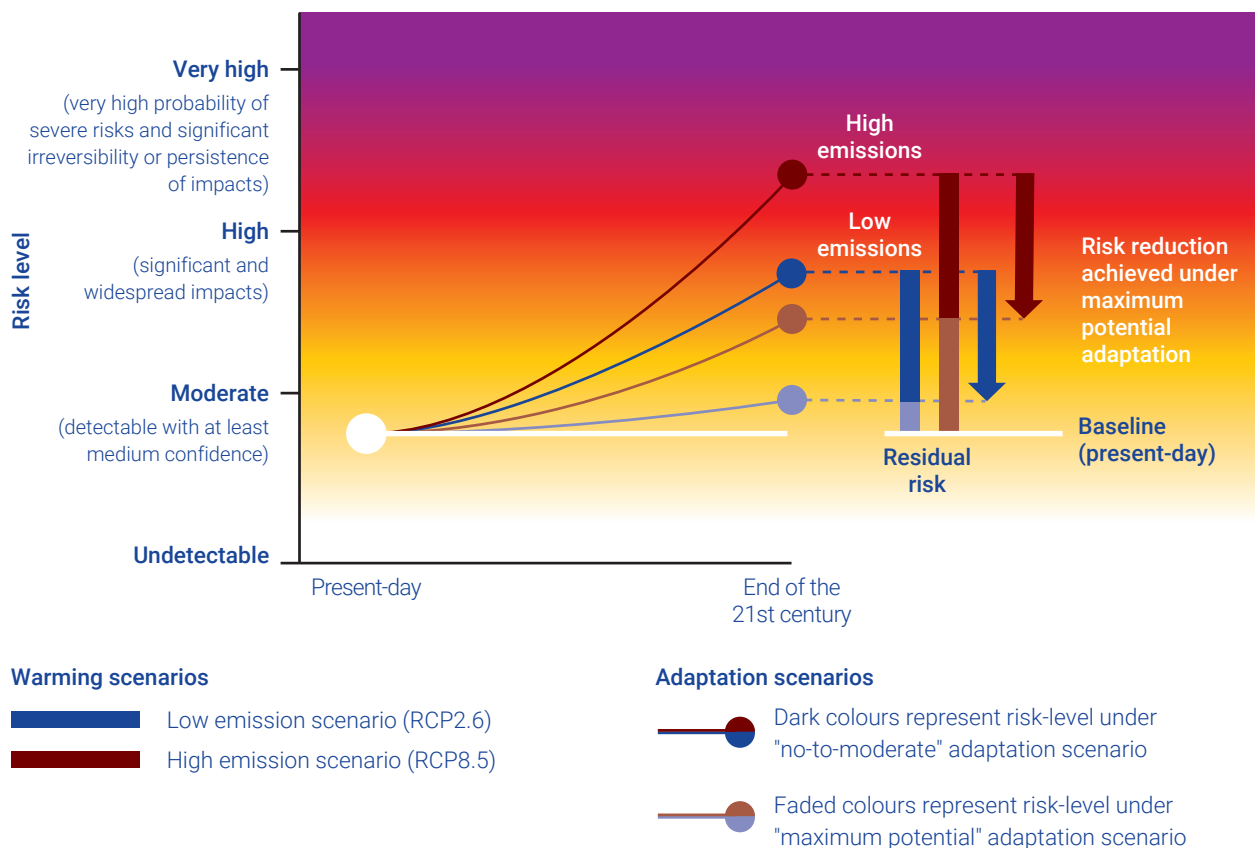
Overall, progress in national-level adaptation planning, finance and implementation worldwide generally continues to grow and may be partially accelerating, but further ambition is needed. The importance of adaptation at the national and international levels as a means to galvanize the response to climate risks is now widely accepted and mainstreaming continues to increase. New planning instruments have been released at increasing rates over the past decade and there is evidence of growing maturity in their design, potentially indicating early signs of acceleration. The implementation of new initiatives with a principal focus on adaptation has generally risen since 2010, albeit without indications of acceleration. Moreover, increased variability in the number of new initiatives over the last four years makes projections into the future more difficult. Finance for adaptation also continues to grow globally. However, this may not be the case everywhere,

particularly in developing countries that are among the most vulnerable to climate impacts. Nonetheless, there are signs that a more climate-resilient financial system is evolving through increased mainstreaming of climate risks and the emergence of new instruments, actors and approaches, even though acceleration is not yet visible.

Despite encouraging trends, the rate and scale of adaptation progress at the national level is not enough to keep up with growing needs and tracking progress remains a challenge. Adaptation costs appear to be rising faster than adaptation finance, potentially leading to a widening of the adaptation finance gap. Moreover, finance flows seem to be levelling off, whereas the uptake and scaling up of innovative finance vehicles is still too low to catch up with growing adaptation needs. While the level of adaptation implementation is rising, there is still scarce evidence of climate risk reduction as a result of adaptation actions. Although planning instruments are maturing, several indicators of effectiveness and adequacy, such as for vertical integration and incentives for increasing implementability, are mixed. The continued low rate of setting up M&E systems is also of major concern, although there are encouraging signs of improvement as one-third of all countries are now in the process of developing a system. This limits the ability to track progress in adaptation, particularly in relation to the implementation of adaptation actions. In addition to making the availability of M&E systems more widespread, there must also be greater focus on assessing effectiveness and adequacy of adaptation interventions limiting climate risks rather than simply measuring outputs.

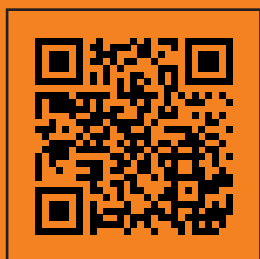
Growing climate risks require a step change in adaptation ambition. Over the past two decades, climate risk warnings discussed in IPCC reports have continually risen due to increasingly stronger signals of reasons for concern. The most recent IPCC assessment report now concludes that some impacts of climate change are irreversible, even under highly ambitious mitigation regimes. Adaptation can significantly reduce loss and damage, particularly in the second half of the century, when climate impacts will accelerate (figure ES.7). While strong mitigation is the way to minimize impacts and long-term costs, increased ambition in terms of adaptation, particularly for finance and implementation, is critical to prevent existing gaps widening.

Figure ES.7 Adaptation outcomes based on information published in the IPCC AR6 cycle special reports on land and ocean–cryosphere



Note: Present-day refers to reference periods used in the underlying IPCC Assessments (2006-2015 in the Land Special report, Hulbert *et al.* 2019; 1986-2005 in the SROCC, Oppenheimer *et al.* 2019).

Source: Adapted from Hurlbert *et al.* (2019); Oppenheimer *et al.* (2019); and Magnan *et al.* (2021).



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