

# Global Goal on Adaptation

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- The Science for Adaptation Policy Brief Series is a UN-led World Adaptation Science Programme (WASP) initiative. The briefs target researchers, policymakers and practitioners to help them successfully bridge the science-policy-action interface.
- WASP is led by the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP), the World Meteorological Organization (WMO), the Intergovernmental Panel on Climate Change (IPCC), the Green Climate Fund (GCF), the Global Environment Facility (GEF) and the United Nations University (UNU). The WASP Secretariat is hosted at UNEP, Nairobi, Kenya.
- WASP's mission is to ensure researchers, policymakers and practitioners have the best scientific knowledge and capacity necessary to underpin effective climate adaptation policy and action.

## Introduction

Successful adaptation results in increased resilience and adaptive capacity and reduced vulnerability in the context of a changing climate. Article 7.1 of the Paris Agreement established a Global Goal on Adaptation (GGA) to “enhance adaptive capacity, strengthen resilience, and reduce vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal” (UNFCCC 2016). Article 7.1, therefore, aims at a level of adequacy of adaptive response that is commensurate with the temperature goal of Article 2 of the Paris Agreement. Other provisions in the Paris Agreement provide for all parties to engage in and communicate their efforts to plan, implement and monitor

## Key messages

Article 7.1 of the Paris Agreement established the Global Goal for Adaptation (GGA) to “enhance adaptive capacity, strengthen resilience, and reduce vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal”.

- **The GGA aims at adequacy of adaptive response commensurate with the temperature goal of Article 2 of the Paris Agreement.**
- **Operationalizing the GGA requires a collective effort** from global to sub-national levels of governance to identify qualitative and/or quantitative indicators of adaptive capacity, resilience and vulnerability that can be monitored to assess progress in achieving the GGA. The Global Stocktake (GST) referred to in Article 14 of the Paris Agreement will report on this progress.
- There are no agreed frameworks, methods, indicators, or metrics to assess progress towards the GGA. **Periodic national vulnerability self-assessments, National Adaptation Plans (NAPs),** and other processes at local to national scales **can be synthesized** to monitor the extent to which adaptive capacity and resilience are facilitated.

adaptation (UNFCCC 2016). The GGA can drive gender-responsive, participatory, and fully transparent adaptation action. It can support vulnerable countries, populations and ecosystems, mitigation ambitions, and countries' progress towards resilience, equity and sustainability.



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Article 7.1 does not specify how the GGA should be operationalized, although Article 7 encourages monitoring cooperative action in line with the Cancun Adaptation Framework, by sharing information and experiences as

these relate to adaptation planning and implementation; by strengthening institutional arrangements to support the synthesis of relevant information and knowledge; by assisting developing countries in identifying adaptation needs; and by providing and receiving support for adaptation action and efforts (UNFCCC 2016).

The GGA has remained elusive to define and operationalize. Different definitions, methods, and approaches are being explored. Clear and operationally agreed definitions for resilience and adaptive capacity, e.g. based on IPCC assessment reports, would facilitate assessing collective adaptation progress across sectors, and at national to international scales. Because concepts such as “success” (Dilling et al. 2019) and “effectiveness” (Owen 2020) of adaptation are normative and will vary within and across communities and countries, it is important to consider how to meaningfully aggregate adaptation results to synthesize progress, firstly at country, and then at the global level (UNEP 2021). The approach of the GGA would require agreement on criteria for how these could be evaluated, and at what spatial and temporal scales, with a clear identification of what is being assessed (UNFCCC 2022c).

Adaptation needs will shift as the climate changes, and as development pathways alter vulnerability and adaptive capacity, creating new and interacting challenges, opportunities, synergies, and trade-offs that will change over time.

## Status of the GGA

The Paris Agreement established the GGA and consolidated shared channels to report and evaluate impacts, vulnerability and adaptation assessed at national and subnational levels. This initiated a broad discussion among practitioners, academics, experts and politicians about its interpretation, operationalization, and usefulness. The Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG), the Working Group II contribution to the Intergovernmental Panel on Climate Change 6th Assessment Report, academics and practitioners continue to evaluate methods for assessing the success of adaptation; identifying and quantifying adaptation needs and costs in low- and middle-income countries; reviewing adaptation-relevant institutional arrangements; and assessing the overall adequacy and effectiveness of action and support (UNFCCC Adaptation Committee 2021).

CMA 3<sup>1</sup> established the two-year Glasgow–Sharm el-Sheikh work programme on the GGA, to enable the full and sustained implementation of the Paris Agreement; enhance understanding of the GGA; contribute to reviewing the overall progress made in achieving the GGA as part of the GST; enhance national planning and implementation of adaptation actions; enable Parties to better communicate their



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1. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, at its third session.

adaptation priorities and needs; facilitate robust nationally appropriate monitoring and evaluation of adaptation; strengthen adaptation actions in vulnerable countries; and enhance communications and reporting instruments (UNFCCC 2022a; Decision 7/CMA.3). The 56th Session of the UNFCCC Subsidiary Bodies, that took place in Bonn June 2022 (UNFCCC 2022b; FCCC/SBI/2022/10), further considered the work program, invited submissions on its upcoming workshops and mandated a synthesis of indicators, approaches, targets and metrics for the GGA. Monitoring global adaptation progress is critical for understanding (1) whether and how national-level vulnerability, resilience and adaptive capacity are changing over time and across

geographic scales; (2) the degree to which adaptation interventions influence these changes; and (3) the extent to which adaptation options need to be modified as climate and development evolve (UNFCCC Adaptation Committee 2021). Better understanding of adaptation progress helps decision-makers to also understand “what works well in which context” (Leiter 2015). This process also needs to include sub-national levels because there are many adaptation initiatives at different scales within countries. In addition, global indicators may be needed to reflect the resilience of the global commons, which is not necessarily captured by national level assessments.

## Developing a framework and associated metrics for operationalizing the GGA

Operationalizing the GGA should be based on a precise “vision” for what can be achieved from global adaptation efforts (UNEP 2021). Assessing progress is critical for understanding whether and how vulnerability is changing over time and across scales and dimensions, and how adaptation interventions (or a lack thereof) are influencing these changes (UNFCCC Adaptation Committee 2021; UNEP 2021). The current definition of the GGA is broad and does not specifically explain what the GGA concretely means for climate risk and vulnerability reduction now and in the future. As such, it lacks precise targets and is general, complicating its potential to guide the analysis of adaptation progress (Magnan and Ribera 2016), and how the GST should assess it.

Other key considerations include: 1) designing a robust approach to aggregating results across scales and contexts; 2) assessing collective progress to inform the update and enhancement of national-level actions; 3) overcoming challenges in evaluating adaptation; 4) navigating divergent views and political sensitivities surrounding measurement under the UNFCCC regime; 5) improving or establishing long-term adaptation and vulnerability datasets at local to national scales; and 6) providing more clarity and agreement of what counts as adaptation and how it should be measured. Nationally appropriate, nationally driven, and contextually relevant approaches are needed for tracking and assessing progress. Underlying these factors are questions of governance, particularly who is involved in determining how to design, assess and report on progress. The promotion of gender equality, human rights, and the empowerment of women and girls in environmental governance remains a key priority.

Ideally, a simple framework would be used by countries to reflect their vulnerability and adaptation context. This would include a baseline from which to measure progress, and should be transparent, trackable over time, flexible and relevant. This framework should mainly, but not exclusively, focus on country-level indicators that monitor adaptation implementation, including the extent to which impacts were avoided or reduced, resilience and adaptive capacity built, and vulnerability reduced, within national and subnational

contexts. Indicators could first be selected from vulnerability and adaptation assessments, NAPs, Nationally Determined Contributions (NDCs), Adaptation Communications and/or National Communications, and the Biennial Transparency Report. New indicators can be created where gaps exist. These indicators should be complemented by context-relevant indicators that consider the unique circumstances of local governments and communities (Magnan and Chalastani 2019). The selected metrics should also aggregate across countries; be coherent, with a collective understanding of meaningful adaptation; and be sensitive to different national vulnerabilities, resources, and contexts (UNFCCC Adaptation Committee 2021; UNEP 2021). Monitoring, evaluation and learning across countries, and at global level, can be used to inform the scaling-up of adaptation. Guidelines for compiling such indicators would assist in the aggregation process and aid understanding of progress (Ngwadla and El-Bakri 2016).



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Selected criteria or indicators should be robust enough without being too complex to implement for low- and middle-income countries (Beauchamp 2021). They can be developed at sub-national scales, with a focus on hazards, exposures and vulnerabilities of local concern (Singh et al. 2016; Magnan and Chalastani 2019; Farand 2021). They should be flexible, contextual and comparable, and be just and fair bearing in mind the capacity constraints of different countries (Beauchamp 2021; Farand 2021). The Adaptation Gap Report (2021) presents process-based proxies for assessing the adequacy and effectiveness of adaptation planning, including comprehensiveness, inclusiveness, implementability, integration, and monitoring and evaluation (UNEP 2021). The approach incorporates multiple indicators that could be used to assess adaptation planning efforts.

Classifying adaptation strategies and interventions into exposure, sensitivity, and adaptive capacity, and measuring

their contributions to building resilience, can suggest investment portfolios to examine the kinds of adaptation projects and strategies in which countries most heavily invest, and the benefits expected to accrue (Carr and Nalau, in review). The framework could not only help to assess the extent to which a given intervention achieved its intended goals, but also clarify the relative emphasis of current and planned adaptation strategies and interventions, and the extent to which these promote progress towards the GGA. Using these broad categories allows for specific national adaptation outcomes to be aggregated in a way that enables a country to self-assess its adaptive capacity to effectively manage different hazards at different scales across natural and human systems (Carr and Nalau, in review). The process should fully take into account that the Paris Agreement calls upon Parties to promote gender equality and the empowerment of women when taking actions to address climate change; 85 per cent of 164 NDCs include reference to gender.

## Selected data sources and approaches

Formulation and implementation of NAPs can help in the assessment of vulnerability, adaptive capacity, and resilience to identify particularly vulnerable regions and populations at local to national scales, and adaptation options to increase their resilience. NAPs also have the potential to identify limits to adaptation, whether hard (no adaptive actions are possible to avoid intolerable risks) or soft (options are currently not available to avoid intolerable risks). The Monitoring and Reporting element of the NAPs is particularly important for GGA review in the context of GST.

Global knowledge platforms are also useful tools for countries to share lessons learned and best practices. One example is InformedCity that tracks 10 adaptation governance indicators and provides a data-driven approach to developing an adaptation baseline for governments and organizations (<https://informed.city/governance/#organisation>). The approach harnesses publicly available data but can also include internal documents and data where needed. The baseline is a first step towards understanding where adaptation actions are mainly implemented and financed, and how much climate adaptation is being integrated and mainstreamed within and across departments and sectors including budget lines. This can be used to develop targets as to where the country or organization would like to be in terms of its adaptation progress in the future.

At the global level, harnessing knowledge from the scientific literature can support the aggregate assessment and understanding of global trends in adaptation to climate change. The IPCC WGII's contribution to the 6th Assessment Report provides a wealth of data on adaptation trends across sectors and regions. Berrang-Ford et al. (2021) analysed adaptation implementation across 1,682 peer-reviewed journal papers to provide key insights into global adaptation trends such as investments in incremental adaptation strategies vs.

transformational adaptation. Both Berrang-Ford et al. (2021) and Nalau (2021) caution that systematic approaches to assess adaptation implementation and its progress need to consider a broader range of sources such as project implementation and evaluation reports that could be used to track and aggregate global adaptation activities if collected in a systematic format. Development of such systems and platforms for knowledge sharing would significantly strengthen the efforts supporting GGA and provide a more comprehensive set of analyses that more accurately reflect implementation under adaptation finance and bilateral and multilateral commitments.



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## Summary

In summary, operationalizing the GGA requires:

- Defining any relevant indicators, approaches, targets and metrics for GGA, whether quantitative or qualitative, along with establishing relevant and comprehensive datasets to enable assessment of progress towards the GGA process at national and global levels
- Developing robust guidelines for measuring adaptation progress and results that enable comparability and aggregability of national assessments, while ensuring simplicity and context specificity
- Building on existing tools and reports (NAPs, NAPAs, ADCOMS, NDCs, NCs) to support the GGA assessment process in a way that also reduces the reporting burden for developing countries
- Evaluating adaptive capacity through a self-assessment targeting the different hazards prioritized by each country, for all relevant human and natural systems
- Promoting sufficient flexibility to reflect the country-driven nature of adaptation and the context specificity of the national circumstances of each country.

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