

Global Goal on Adaptation:
Theme Targets Informed by IPCC Scientific
Assessment

November 2023

Context

This policy brief has been prepared by [ASCEND](#), [CSIR-Ghana](#), and [CGIAR](#), based on the Intergovernmental Panel on Climate Change (IPCC) scientific assessments of climate change impacts, adaptation, and vulnerability in the recently completed 6th Assessment Report Cycle.

The Global Goal on Adaptation (GGA) was established to ensure an adequate adaptation response in the context of the temperature goal referred to in Article 2 of the Paris Agreement. Parties recognize in Article 7.2 that **adaptation is a global challenge faced by all and is a key component of the long-term global response to climate change to protect people, livelihoods, and ecosystems**. Parties also acknowledge in Article 7.5 that adaptation action should be based on and guided by the best available science.

The Intergovernmental Panel on Climate Change (IPCC) in its most recent scientific assessment states as fact that global warming will continue up to 2040 due to increases in cumulative CO₂ emissions in nearly all scenarios¹ and assesses with **very high confidence that accelerated adaptation implementation by 2030 would reduce future losses and damages from climate change for humans and ecosystems**². The IPCC assesses with *high confidence* that:

(1) Many risks are unavoidable up to 2040, irrespective of emissions scenario, but can be reduced with adaptation³;

(2) At current rates of adaptation planning and implementation the adaptation gap will continue to grow⁴.

Measurable and time-bound targets for enhancing adaptation action and support over the near-term (up to 2040) are therefore essential to achieving the GGA referred to in Article 7.1 of the Paris Agreement.

A crucial component of achieving the GGA is having targets for adaptation themes for specific sectors and systems agreed in decision 3/CMA.4 because these themes align closely with the six global system transitions assessed with *high confidence* by the IPCC to be necessary for a significant upscaling in adaptation in the near-term (up to 2040) to secure a liveable and sustainable future for all⁵. The system transitions identified by the IPCC 2023 Synthesis Report are: energy; industry and transport; land, ocean, food and water; cities, settlements, and infrastructure; health and nutrition; society, livelihoods and economies.

It is important to highlight the IPCC assesses with *high confidence* that finance flows for adaptation are insufficient globally with a widening gap between the estimated costs of adaptation and the finance allocated to adaptation and that this constrains implementation, especially in developing countries⁶. IPCC also assesses with *high confidence* that “accelerated financial support for developing countries from developed countries and other sources is a critical enabler to enhance adaptation”; that there is “sufficient global capital and liquidity to close investment gaps”; and that “reducing financing barriers for scaling up financial flows would require clear signalling and support by governments”⁷. **Setting clear targets for adaptation action globally is a direct way governments can send clear and easy to understand signals of support for adaptation investment.**

Here, adaptation theme targets are outlined ensuring they are global in nature and supported by the best available scientific assessment of the recently concluded IPCC 6th Assessment Cycle. Where actions to

¹ AR6 [IPCC Synthesis Report Summary for Policymakers](#) B.1.1

² AR6 [IPCC Synthesis Report Summary for Policymakers](#) C.2.1

³ AR6 [IPCC WG II Report Summary for Policymakers](#) B.3.2

⁴ AR6 [IPCC WGII Report Summary for Policymakers](#) C.1.2

⁵ AR6 [IPCC Synthesis Report Summary for Policymakers](#) C.3

⁶ AR6 [IPCC WGII Report Summary for Policymakers](#) C.1.1 and [Synthesis Report Summary for Policymakers](#) A.3.6

⁷ AR6 [IPCC WGII Synthesis Report Summary for Policymakers](#) C.7.3; C.7.4

achieve targets are included, it is because IPCC assessments highlight these as being of global relevance. Consideration has also been given to alignment with other agreed global targets such as the Sustainable Development Goals (SDGs), which are being made more difficult to achieve because of climate change.

It is suggested that Parties first adopt targets at COP28 and request and/or invite further expert work on specific indicators and metrics that would be careful not to add to existing reporting burdens. This would follow lessons from similar sequences of work with other target-setting processes such as the Sendai Framework for Disaster Risk Reduction.

It is also suggested Parties may invite IPCC to establish a Task Force on climate change impacts and adaptation inventories that could develop methodology guidelines for tracking effective climate change adaptation.

Targets for Adaptation Themes

Cities, Settlements, and Key Infrastructure

Target: Ensure resilience of cities, settlements and key infrastructure to climate change by 2040, including by considering climate change impacts and risks in the design and planning of all human settlements and infrastructure, and substantially increasing deployment of integrated social, ecological, and grey/physical infrastructure that reduces vulnerability of people, especially in informal settlements and coastal settlements.

- Ensure climate resilient cities, settlements and infrastructure: Cities and settlements are an essential focus for climate change adaptation. The IPCC assesses with *high confidence* that rapid global urbanisation offers a critical opportunity up to 2040 for climate resilient development in diverse contexts from rural and informal settlements to large metropolitan areas, and that key infrastructure systems including sanitation, water, health, transport, communications and energy will be increasingly vulnerable if design standards do not account for changing climate conditions⁸.
- Considering climate change impacts and risks in design and planning: the IPCC assesses with *high confidence* that considering climate change impacts and risks in the design and planning of urban and rural settlements and infrastructure is critical for resilience and enhancing human well-being. And that integrated, inclusive planning and investment in everyday decision-making about urban infrastructure, including social, ecological and grey/physical infrastructures, can significantly increase the adaptive capacity of urban and rural settlements⁹.
- Informal settlements and coastal settlements: the IPCC assesses with *high confidence* that continued sea level rise poses a severe adaptation challenge to coastal settlements and infrastructure. IPCC also assesses with *high confidence* that in urban areas climate impacts are concentrated amongst economically and socially marginalized urban residents, e.g., in informal settlements and that with the global trend of urbanization, human vulnerability will concentrate in informal settlements and rapidly growing smaller settlements. IPCC also assesses with *high confidence* that the greatest gains in well-being in urban areas can be achieved by prioritizing finance to reduce climate risk for low-income and marginalized residents including people living in informal settlements and that there is *limited evidence* of investment in informal settlements¹⁰.

⁸ AR6 IPCC WG II Report Summary for Policymakers D.2; D.3.2; B.2.5

⁹ AR6 IPCC WGII Report Summary for Policymakers C.2.6; D.2

¹⁰ AR6 IPCC WG II Summary for Policymakers B.3.1; C.2.8; C.2.7; D.3.2; Synthesis Report Summary for Policymakers C.5.3

Poverty and Livelihoods

Target: Increase resilience and substantially reduce adverse climate impacts on livelihoods as a share of a country's total population by 2040, including through integrating climate change adaptation into social protection programmes supported by basic services and infrastructure.

- **Livelihoods:** Climate change is already negatively impacting livelihoods and economies across the globe. The IPCC assesses with *high confidence* that climate change is adversely impacting livelihoods and that vulnerability to climate change is higher in locations with poverty and high levels of climate-sensitive livelihoods (e.g., smallholder farmers)¹¹. The IPCC also assesses with *high confidence* that economic damages from climate change have been detected in climate-exposed sectors, with regional effects to agriculture, forestry, fishery, energy, and tourism, and through outdoor labour productivity¹².
- **Social protection and economic resilience:** IPCC assesses with *high confidence* that integrating climate adaptation into social protection programs, including cash transfers and public works programmes, is highly feasible and increases resilience to climate change, especially when supported by basic services and infrastructure¹³.
- **Monitoring:** Many countries already collect relevant data for this target as part of national statistics.

Health

Target: Achieve universal health coverage by 2030 and eliminate global climate-related mortality and morbidity by 2040.

- **Without additional health adaptation** IPCC assesses with *high confidence* that climate change will significantly increase ill-health and premature deaths up to 2040¹⁴.
- **Universal health coverage** encompasses the highly effective climate change adaptations for health as identified by the IPCC that assessed with *high confidence* that a key pathway to resilience in the health sector is universal health coverage¹⁵. Universal health coverage means all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course.
- This target is aligned with SDG 3 Target 3.8, which focuses on universal health coverage. As such, there is already data for monitoring progress.
- **Elimination of climate-related mortality and morbidity** ensures the most vulnerable populations are not left behind.
- **Monitoring** could use existing databases such as EM-DAT, target tracking from the Sendai Framework on Disaster Risk Reduction, and Disability Adjusted Life Years indicators from the World Health Organisation.

¹¹ AR6 IPCC WG II Report Summary for Policymakers B.2.4

¹² AR6 IPCC WG II Report Summary for Policymakers B.1.6

¹³ AR6 IPCC WGII Report Summary for Policymakers C.2.9

¹⁴ AR6 IPCC WG II Report Summary for Policymakers B.4.4

¹⁵ AR6 IPCC Synthesis Report Section 4.5.5

Ecosystems and biodiversity

Target: By 2040 maintain the resilience of biodiversity and ecosystems services at the global scale by achieving effective and equitable conservation of 50% of Earth's land, freshwater, and ocean areas, including near-natural ecosystems, substantially increase restoration and effective ecosystem-based adaptation, and avoid mitigation measures that damage ecosystems.

- Climate change has caused widespread deterioration of ecosystem resilience is a *high confidence* assessment by IPCC and this deterioration has led to adverse socioeconomic consequences¹⁶.
- Biodiversity loss is a key risk for every region that will escalate with every further increment of warming. This is a *very high confidence* assessment by IPCC¹⁷.
- Maintaining resilience of biodiversity and ecosystem services: The IPCC assesses with *high* confidence that maintaining resilience of biodiversity and ecosystem services at the global scale depends on effective and equitable conservation of 30% to 50% of Earth's land, freshwater, and ocean areas, including near-natural ecosystems¹⁸.
- The Kunming-Montreal Global Biodiversity Framework Target 3 aims for 30% which is the low end of the scientific target, leaving substantial risk and needing improvement in order to maintain biodiversity and ecosystem resilience to increasing climate change by 2040.
- Ecosystem-based adaptation: Effective Ecosystem-based Adaptation reduces a range of climate change risks to people, biodiversity and ecosystem services with multiple co-benefits. This is a *high confidence* assessment by IPCC¹⁹.
- Avoid mitigation measures that damage ecosystems: The IPCC assesses with *high confidence* that Climate resilient development avoids adaptation and mitigation measures that damage ecosystems. IPCC further assesses with *very high confidence* that protecting and restoring ecosystems is essential for maintaining and enhancing the resilience of the biosphere. And that deployment of afforestation of grasslands, savannas and peatlands, or poorly implemented bioenergy, with or without carbon capture and storage, can compound climate-related risks to biodiversity, water and food security, and livelihoods, especially if implemented at large scales, especially in regions with insecure land tenure²⁰.

Water

Target: Achieve universal access to safe and affordable drinking water by 2030 and substantially reduce climate-induced water scarcity by 2040 including improving water use efficiency and reducing exposure and vulnerability of water and sanitation systems to climate hazards.

- Universal access to safe and affordable drinking water: the IPCC assesses with *high confidence* that increases in the frequency and intensity of extreme events have reduced water security, hindering efforts to meet the SDG 6 on water, and that climate change impacts are affecting water availability to billions of people across the world²¹.

¹⁶ AR6 IPCC WG II Report Summary for Policymakers B.1.1

¹⁷ AR6 IPCC WG II Report Summary for Policymakers B.4.1

¹⁸ AR6 IPCC Synthesis Report Summary for Policymakers C.3.6

¹⁹ AR6 IPCC WG II Report Summary for Policymakers C.2.5

²⁰ AR6 IPCC WG II Report Summary for Policymakers B.5.4; D.4.2

²¹ AR6 IPCC WGII Report Summary for Policymakers B.1.3

- Water use efficiency: the IPCC assesses that improving water use efficiency has medium to high feasibility for adaptation at the global scale up to 1.5°C of global warming and assesses with *very high confidence* that reducing exposure of water and sanitation systems to extreme weather events is an effective adaptation for water-borne and food-borne diseases²².
- Monitoring: there is alignment with SDG 6 targets and this has benefits of being able to leverage existing monitoring systems.

Food and agriculture

Target: Achieve food security and end malnutrition in all forms by 2030 in spite of climate change, and substantially reduce adverse climate impacts on food and agricultural production and productivity, and the entire agriculture value chain by 2040.

- Achieve food security and end malnutrition: Climate change is holding back achieving food security. This IPCC assesses with *high confidence* that increases in the frequency and intensity of extreme events have reduced food security and exposed millions of people to acute food insecurity, hindering efforts to meet Sustainable Development Goal 2 on hunger.²³
- Substantially reduce adverse climate impacts on food and agriculture value chains: Future climate change will increasingly put pressure on food production and access, especially in vulnerable regions, undermining food security and nutrition. With low levels of adaptation risks to food security in vulnerable regions will increase to high risk between 1.5°C and 2°C global warming. These are a *high confidence* assessments by IPCC²⁴.
- Monitoring: Data that could be used to monitor progress on this target are already tracked by most countries as part of national statistics, and relevant data are also already mentioned in NDCs and NAPs of some countries. It is also possible to use remote sensing and GIS tools to capture progress on some of the indicators, such as yields of crops. (see worked example below).

Table 1: Example of possible illustrative indicators for tracking progress on the Food and Agriculture target

Theme	Target	Possible illustrative indicators
Food and Agriculture	Achieve food security and end malnutrition in all forms by 2030 in spite of climate change, and substantially reduce adverse climate impacts on food and agricultural production and productivity, and the entire agriculture value chain by 2040.	<ul style="list-style-type: none"> - Frequency of climate-induced food prices and food price volatility intra- and inter-year - Frequency of climate-induced yield changes in crops, livestock and fisheries - Amount of investments in agricultural research and development - Average real net farm incomes - Percentage of food loss and waste across the entire value chain

²² AR6 IPCC WG II Report Summary for Policymakers Figure 4; C.2.11

²³ AR6 IPCC WGII Report Summary for Policymakers B.1.3

²⁴ AR6 IPCC WGII Report Summary for Policymakers B.4.3

Further Reading

Summary for Policymakers Working Group II *Climate Change 2022: Impacts, Adaptation, and Vulnerability*
https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf

Full Report IPCC Working Group II *Climate Change 2022: Impacts, Adaptation, and Vulnerability*
<https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>

Summary for Policymakers IPCC *Climate Change 2023 Synthesis Report*
https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

Full Report *Climate Change 2023 Synthesis Report*
https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf

Contacts

Dr Christopher Trisos christopher.trisos@uct.ac.za

Dr Aditi Mukherji a.mukherji@cgiar.org

Dr Portia Adade Williams adadeportia@csir-stepri.org

Luckson Zvobgo luckson.zvobgo@uct.ac.za