

Report on Cultural Heritage Target: indicators and process 2024-2025

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Introduction

The cultural heritage target consists of “Protecting cultural heritage from the impacts of climate-related risks by developing adaptive strategies for preserving cultural practices and heritage sites and by designing climate-resilient infrastructure, guided by traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems”.

Cultural heritage — both tangible and intangible — faces escalating risks from climate-related hazards: sea-level rise, extreme heat, fires, floods, and ecosystem degradation amongst other risks. Currently there are no formal, globally standardised indicators tracking how adaptation measures are being implemented to protect heritage assets and values in the context of the GGA. The indicators have the capacity to operationalize measurable outcomes for the safeguarding of both tangible and intangible cultural assets under increasing climate risk and show whether progress is being made and to what extent. These are anchored first and foremost in the future landing zone for GGA and align with several key efforts and frameworks including SDGs, UNESCO, Sendai and IPCC.

The target has (three) key components, which are linked to the three key elements of the target. Indicators for each element can be broken down for different cultural heritage categories: tangible and intangible heritage, natural heritage. The three components in the target are:

- **Impacts** of climate -related risks on cultural heritage.
- **Adaptation strategies** developed to protect and preserve different cultural heritage sites.
- **Implementation** of **climate-resilient** adaptation responses for cultural heritage.

Traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems in the target will be mainstreamed in the components. Cultural heritage however should be understood not only as being about preservation and protection but also acknowledging its dynamic nature and capacity to support global resilience and adaptation.

Description of the approach

Multiple thematic online meetings have been held, with some CH experts also attending COP29 and March 2025 in-person workshop in Bonn, Germany. The group has looked at both existing and new indicators as per the existing mandates. The CH group has also interacted with other expert groups with useful suggestions on the types of indicators to be included. External peer review has not yet been conducted of the selected indicators, but the CH group aims to engage with academic and practitioner networks further once the report has been released prior to SB62.

Initial steps and screening

In 2024, the Cultural Heritage (CH) Group received 282 indicators from the UNFCCC submission process. These were first assessed and ranked by the experts through several iterations. Several indicators in the main list were duplications with different formulations of the phrase or use of different languages such as French and Portuguese and/or more applicable to other targets. These duplicated indicators were noted including target relevance, which helped to reduce the number of considered indicators. Some indicators from the list were very general and not specific to climate change adaptation and/or cultural heritage. The indicators were further screened by the experts based on SB 60 conclusions and the CoP 29 GGA decision text. This process used YES/NO/MAYBE basis, according to SB60 12a (relevance to GGA/adaptation) and 12b (relevance to the target). This analysis was done by the CH experts first individually and then cross-checked to generate agreement on which ones could be recommended. Each expert screened at least 50 indicators, with indicators qualifying for SB60 12a (relevance to GGA/adaptation): 97 YES, 80 NO, 57 MAYBE, and 12b (relevance to the target): 76 YES, 65 NO, 93 MAYBE.

Final list: screening and indicator selection

After initial screening, each expert chose 20 key indicators that they wanted to highlight prior to SB62. Some of these were new indicators developed specifically for GGA CH target while some were existing and/or suggested to be modified. Most indicators selected include the rationale for selection, SB60 + COP29 criteria that it supports, potential methodological considerations, cross-linkages to other targets where applicable, and suggested revisions of the indicator language and formulation. The template is based on the common template developed during Bonn March 2025 technical expert workshop. The final list for CH consists of 62 indicators and includes both quantitative and qualitative indicators. Not all indicators have been agreed by all experts and the list represents a combination of both new and existing indicators.

Some new quantitative indicators (9g01-g10) were also developed for Cultural Heritage. These include for example 9g09 “% of cultural landscapes with ecosystem-based adaptation (EbA) interventions implemented” and 9g06 “% of annual cultural events adapted for heat, flood, and storm resilience through modified schedules, venues, or logistics”. These new indicators include an Optimal Value (Full Achievement) and Threshold Values (where applicable) to help clarify what successful implementation looks like and to guide policy and practice toward clearly defined targets. These values serve as benchmarks—the optimal value represents the highest level of ambition or full realization of a goal, while threshold values indicate critical minimums below which adaptation outcomes may be inadequate, ineffective, or inequitable. For example, in the context of cultural heritage, an optimal value might be 100% of at-risk heritage objects digitized, signifying that all vulnerable cultural assets have a digital preservation strategy in place. A threshold, by contrast, might be set at 50% for partial baseline coverage, and 80% for substantial digital resilience. While this approach was not agreed by all experts and/or for all indicators, it provides examples of how a target could be set that is anchored in higher ambition and the future state. In these quantified indicators, intangible and tangible cultural heritage have been disaggregated where appropriate while recognising the inherent challenges especially on intangible cultural heritage in relation to quantification and knowledge continuity.

Some experts chose existing indicators (9g11-g32) based on their quantifiability, which have a 100% scope to be achieved, with some suggesting a margin of 70-80% of success. This approach could ensure that the selected indicators are relevant and actionable and enable stakeholders to track progress effectively. By focusing on measurable outcomes, the impact of climate initiatives can be better assessed to make informed decisions moving forward. The indicators chosen (g11-g32) can be applicable to any country and context and are often not area specific. For example, 9g22 “Existence of dedicated budget lines for heritage climate adaptation in national/local budgets” is a MOI indicator for finance that could be tracked across different levels. This could make it easier for comparison on progress in the future. Further, the indicators chosen are applicable at local/community and state level and using the indicators at different levels will give more precisions and a better scope to develop resilience strategies. This multi-level approach not only enhances the understanding of localised impacts but also facilitates the sharing of best practices across different regions. By fostering collaboration and knowledge exchange, stakeholders can more effectively tailor their strategies to address the unique challenges posed by climate change.

Some indicators (9g33-g52) reflect many common and existing indicators currently pursued by several organisations including UNESCO, Sendai and the SDGs. Many of these indicators already have definitions of terminologies and concepts, methodology and metadata for indicator construction, as well as already collected data at the national and local levels. The selection of these indicators emphasises prioritising indicators that are existing and for which a methodology exists, and data is being gathered. New Indicators for which the indicators need to be defined, and the methodology needs to be developed are second. The development of new indicators for gaps not addressed by the indicators available on the matrix are third. Indicators in this set submitted by Parties and non-Party stakeholders also in some cases note the methodological advances needed for these indicators to be more aligned with the GGA and the CH target language. Some methodologies already exist (e.g g38, g42) based on the ‘Indicator 3: Climate Adaptation & Resilience’ of the UNESCO Culture|2030 Indicators framework, Sendai and the SDGs.

Many of these indicators (9g33-g52) are built using qualitative data. The methodology for those is designed as yes/no checklists which enables them to be easily converted to quantitative figures if needed. While quantitative

data and indicators make it easy to measure progress and compare across countries and cities, much about culture is difficult to measure in quantitative terms and require qualitative evidence. This is addressed by developing Yes/No checklists to qualitative questions that could then be analysed to provide a quantitative indicator. The selection of these indicators by this expert was informed by the UNESCO International Expert Workshop (see below) that emphasized the importance of regarding the role and impacts of climate adaptation and resilience more broadly in their context of sustainable development and the fundamental importance of recognizing the safeguarding of cultural and natural heritage.

Some indicators (9g53-62) were explicitly focused on Indigenous Peoples and local communities with also disaggregation of different groups. For example, 9g53 focuses on aggregation “*Share of Indigenous Peoples and local communities, [disaggregated by gender, age, people with disabilities, migrants and displaced people] made aware of climate change risks to cultural heritage and appropriate responses for reducing climate change impacts to cultural heritage*” with supporting 2 sub-indicators in place. This would address the considerations also of cross-cutting indicators that could be applicable also to other targets even if defined here in the context of CH. Other indicators (e.g 9g56) “*Share of cultural heritage sites with implemented climate adaptation strategies and measures to preserve and/ protect cultural heritage*” were focused on tracking the rate at which adaptation strategies for climate adaptation of the cultural heritage have been implemented. Other specific MOI indicators suggested (eg 9g58 on total per capita expenditure) built on existing SDG indicators (SDG 11.4.1), with a note for needed modification to capture CH aspects specifically. Many of these indicators focused also on implementation of adaptation strategies and had also clear links to targets such as 10c (Implementation) and 10b (Planning).

UNESCO workshop on Cultural Heritage and Climate Change Indicators

In 23rd & 24th April 2025, UNESCO organized an International Expert Workshop Cultural Heritage and Climate Change Indicators in the framework of the *UNESCO Culture|2030 Indicators* bringing together more than 70 international experts from 42 countries to reflect on indicators and data to measure cultural heritage in climate change including reflection on the GGA targets regarding cultural heritage. This was attended also by some of the GGA CH experts. Significant outcomes of this workshop included:

- Cultural heritage includes a wide range of forms and types, each of which should be considered in context of their relationship to their natural environment and ecosystem.
- Cultural heritage is at the same time threatened by climate change and a solution to adapt and mitigate climate change.
- As the impacts of climate change on cultural heritage continue to be studied and better understood, and while certain tools and assessment methods—such as earth observation and remote sensing—are available, many are still in development.
- Since adaptation strategies rooted in culture and cultural knowledge are still being identified and the means to strengthen them being developed, and given that loss and damage to cultural heritage may result from a range of interconnected factors, there is a need to anchor cultural heritage protection more broadly in sustainable development.
- Updated inventories and documentation and evidence of legislation to protect cultural heritage are valuable actions towards enhancing climate resilience.
- Indicator 3 of the *UNESCO Culture|2030 Indicators* framework serves as a valuable starting point to measure cultural heritage in climate adaptation and resilience.
- The availability of data and methodology was also highlighted, particularly at the national level as many experts argued for local and qualitative data that is hard to gather and assess consistently.
- The need to use a transdisciplinary approach to identify the indicators, to ensure the integration of the gender dimension, as women often act as stewards of natural resources and cultural heritage and to factor in the ethical dimension of measuring the nexus between culture and climate change.

Limitations of Current Indicators and Recommendations

The current indicator set is still limited and needs refinement and discussion also with a broader range of external stakeholders. For example, there are key questions around methodological advancements needed for some indicators, refinement of existing methodologies, and refining the language of indicators to ensure a better fit with GGA. This also includes closer examination of metadata gaps, further development and refinement of the new and existing indicators and double-checking all suggested indicators in terms of their relevance and support of SB 60 conclusions and the CoP 29 GGA decision text. The selected 62 indicators need also narrowing down to include a smaller representative set of key indicators that can adequately reflect the need for resilient and adaptive cultural heritage, both tangible and intangible. The challenge is also how to combine and/or address separately the qualitative vs quantitative elements of cultural heritage and which indicators best respond to each. Cultural heritage is particularly difficult to quantify as it comes in many forms and means often different things to different people.

Just because methodologies have not yet been developed, or data is not necessarily available at this time, does not directly mean that some indicators should be simply disregarded. For example, methodological innovations could be developed that enable more specific tracking of new data formats, including via Earth Observations (e.g ESA & ISSI, 2024) and AI-powered methods, that could complement the national data if that is being gathered or needs gathering. Incorporating data across different scales will be necessary as well to provide rich datasets that can showcase progress on the overall GGA and its specific targets.

Cross-linkages with other targets have not been yet explored fully for Cultural Heritage. This is a further area of work that would benefit all the indicator work. For example, there were discussions with 10b Planning experts on how Indigenous peoples and cultural heritage could be nested in some of their indicators under planning for adaptation and if there was a need for more cross-cutting indicators that could usefully include such factors as gender and Indigenous Peoples. These questions have remained unresolved and closer cross-target collaborations would be highly beneficial after SB62.

In addition, a broader discussion is needed with the leadership of the SB Chairs on optimal values (full achievement) and threshold values (where applicable) to be able to formulate what successful implementation means, and how to support the ambition for climate adaptation at the global scale. This could include a discussion on the future-oriented and forward-looking nature of indicators for global adaptation and resilience vs. focus on reporting on the past and current conditions. Having a more shared approach in this area would be beneficial to also increase the ambition and align the indicators more closely under the GGA.

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Appendix 1. New Quantitative Indicators Evidence base (9b01-9g10)

The proposed quantitative indicators (9b01-9g10) provide quantifiable approaches with a focus on implementation of adaptation measures that secure the protection of cultural heritage. The indicators assume that at-risk sites/practices/assets have already been identified to the extent possible through vulnerability assessments (which are not included here as these should be in Targets 10a-d). For these new indicators developed by some experts, the optimal values reflect full operationalization of implementation measures, consistent with ambitious targets envisioned under the GGA. Threshold values offer practical cut-offs for monitoring progress towards optimal resilience for and adaptation of cultural heritage. In these quantified indicators, intangible and tangible cultural heritage have been disaggregated where appropriate while recognising the inherent challenges especially on intangible cultural heritage in relation to quantification and knowledge continuity.

The relation of the quantitative indicators with existing knowledge in SDGs, UNESCO, Sendai and IPCC

This proposed set of quantitative, implementation-focused indicators responds directly to and builds on the global policies and recommendations articulated in the Sustainable Development Goals (SDGs), Sendai Framework for Disaster Risk Reduction, UNESCO’s reports and frameworks, and IPCC AR6.

Alignment with the SDGs

SDG 11.4 explicitly calls for efforts to “strengthen efforts to protect and safeguard the world’s cultural and natural heritage.” This mandate requires not only the development of strategies and policies but also the implementation of concrete, on-the-ground actions to reduce climate-related vulnerabilities. Several other SDG targets are relevant also here for cultural heritage and adaptation: SDG 13.1 mandates strengthening resilience and adaptive capacity to climate-related hazards and SDG 11.5 seeks to significantly reduce the number of people affected and the direct economic losses caused by disasters, including to cultural heritage infrastructure. The new proposed indicators offer a mechanism for monitoring direct implementation actions—such as actual physical adaptation options implemented, emergency preparedness systems, and digitization of heritage objects.

UNESCO Guidance Reports and Indicator Frameworks

UNESCO has underscored the importance of climate action for heritage preservation in its *Policy Document on Climate Action for World Heritage* and the *UNESCO Culture|2030 Indicators* framework. These documents emphasize the urgency of integrating cultural heritage into national adaptation plans and, critically, moving beyond policy development to tangible interventions. For example, the *Policy Document on Climate Action for World Heritage* (2023) advocates for on-site risk reduction, implementation of ecosystem-based approaches, and safeguarding of intangible heritage practices. The *Culture|2030 Indicators* include Climate Adaptation & Resilience indicators (indicator 3) and propose integrating cultural heritage into resilience-building and adaptation efforts.

By focusing solely on implementation outcomes rather than upstream processes (planning or assessment would be covered in 10a-d targets), the proposed indicators align with UNESCO’s recommendation to track the actual reduction of heritage vulnerability through site-based, community-based, and technology-enabled actions.

Sendai Framework

The Sendai Framework for Disaster Risk Reduction (2015–2030) explicitly calls for the protection of cultural heritage as part of building resilient communities. The current main indicator in the Sendai Framework for cultural heritage is C-6: *Direct economic loss to cultural heritage damaged or destroyed attributed to disasters*, which has also been highlighted by many submissions in the GGA process for cultural heritage target. Countries reporting against C-6 currently have no complementary metrics to show how they are working to *prevent* such losses.

The new proposed indicators under the GGA would complement the C-6 in terms of providing insights into the actual implementation of resilience and adaptation actions to reduce losses and damages in a changing climate. The proposed indicators broaden to include preparedness systems, resilience of cultural events, ecosystem-based adaptation, and digital preservation actions that are often not included.

IPCC Findings and the Global Goal on Adaptation (GGA)

The IPCC Sixth Assessment Report (AR6) recognized cultural heritage as a critical non-economic loss and damage category, highlighting it as highly exposed to climate hazards including sea-level rise, extreme heat, and severe weather events. The AR6 called for urgent implementation of adaptation actions tailored to heritage-specific contexts. Within the context of the Global Goal on Adaptation (GGA) under the Paris Agreement, these indicators respond to the recognized need for the targeted implementation metrics for locally-led, culturally appropriate adaptation measures as iterated in the many submissions in the GGA process. These also reflect

outcome-based measures of resilience and adaptation progress in vulnerable communities where cultural continuity and identity are tied to heritage preservation.

The indicators proposed—covering infrastructure resilience, community-based adaptation, emergency preparedness, ecosystem-based adaptation, and digital safeguarding—are consistent with AR6’s emphasis on locally grounded, ecosystem-based, and knowledge-inclusive adaptation strategies. This suite of indicators fills a critical implementation measurement gap in existing global monitoring frameworks for climate adaptation and cultural heritage. They would enable methodologically robust, policy-relevant, and internationally aligned basis for tracking the operationalization of climate resilience actions, thereby contributing directly to the SDGs, UNESCO cultural heritage protection mandates, Sendai framework and the IPCC’s recommendations for accelerating adaptation implementation worldwide.