



HERITAGE ADAPTS TO CLIMATE ALLIANCE

Position Paper

on Work to Develop Indicators to Measure Progress Under Thematic 9g and other Culture-Related Provisions of the Global Goal on Adaptation

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This Position Paper is submitted by the **Heritage Adapts to Climate Alliance** and the following HACA collaborators and supporters:

Climate Heritage Network (CHN)

Vincent Martinez
CEO, Architecture 2030
USA

Nicholas P. Simpson
Chief Research Officer / Co-Director, Climate Risk Lab, University of Cape Town
South Africa

International Council on Monuments and Sites (ICOMOS) Climate Action Working Group (CAWG)

Alison Tickell
CEO, Julie's Bicycle (JB)
United Kingdom

Luana Cristina da Silva Campos
Professor & Coordinator of the Archaeology Laboratory, Pantanal Campus, Federal University of Mato Grosso do Sul
Brazil

Preserving Legacies: A Future for Our Past Project

Teresa Patrício
ICOMOS President
France/Belgium

Laurier Turgeon
Chair, Working Group on Intangible Cultural Heritage and Climate Change, ICH NGO Forum, 2003 ICH UNESCO Convention; Laval University, Quebec, Canada

The Heritage Adapts to Climate Alliance was founded by the Climate Heritage Network (CHN) in partnership with the International Council on Monuments and Sites (ICOMOS) to advocate for cultural heritage in the Global Goal on Adaptation including the elaboration of GGA thematic target 9g. The HACA Secretariat is hosted by Preserving Legacies with support from the National Geographic Society and the Mellon Foundation.

Augustin N'BATCHAKA

Vice-mayor, Nadoba City
Cultural Promoter
Togo

Mechtild Rössler

Former Director, UNESCO World
Heritage Centre; Chercheur
associé, CNRS, Géographies-cités
France/Germany

Christos Zerefos

Secretary General, Academy of
Athens;
Climate Envoy for Greece
Greece

Julianne Polanco

Director, State of California
Office of Historic Preservation
USA

Scott Heron

UNESCO Chair on Climate
Change Vulnerability of Natural
and Cultural Heritage; Professor
of Physics, James Cook University
Australia

Walaa Omer Mohammad

Inspector of Antiquities, Ministry
of Tourism and Antiquities; PhD
researcher, Cairo University
Egypt

Angélica Arias

Urbanism Professor, Universidad
Internacional del Ecuador;
ICOMOS Ecuador member;
Technical advisor for Latin
America, Crusoe Network;
CHN Latin America and the
Caribbean Co-Chair
Ecuador

Sneška Quaedvlieg-Mihailović

Secretary General, Europa Nostra
& Leader of the European
Heritage Hub
Europe

Shanon Miller

City of San Antonio Office of
Historic Preservation;
CHN North America Co-Chair
USA

Mudadi Saidi

WSA Youth Ambassador, Climate
Activist; Heritage Handcraft
program coordinator, Kakuma
refugee camp
Kenya

Cornelius Holtorf

Professor in Archaeology and
Chairholder,
UNESCO Chair on Heritage
Futures, Linnaeus University,
Sweden
Germany

Cathy Daly

Senior Lecturer in Conservation
University of Lincoln UK &
Senior Research Consultant
Carrig Conservation Ltd.
Ireland

Maya Ishizawa Escudero

Independent Heritage Specialist
Peru

Isaac Eseet

Coordinator, CHN Africa & Arab
States Secretariat
Uganda

Cristina Garzillo Leemhuis

Head of Socio-Cultural
Transformations - ICLEI Europe
Germany

Meredith Wiggins

Senior Director of Climate
Adaptation,
World Monuments Fund
USA

Nadia Khalaf

International Applied Science
and Services, UK Met Office
United Kingdom

Liutauras Stoškus

Head, Centre for Sustainable
Development; Member, ICOMOS
Climate Action Working Group
Lithuania

Ibrahim Tchan

Executive Director, Corps des
Volontaires Béninois; Director
and Co-Founder, Ecomusée Tata
Somba; Francophone Africa Co-
coordinator, Climate Heritage
Network
Benin

Erum Khan

Chair, Climate Hub Forum;
Director (BOD)-Culture,
Tourism, Antiquities, & Archive
Department, Govt of Sindh;
UNESCO Bridges Project;
Consultant, UNFCCC on Loss
and Damage Funds
Pakistan

Darius Saviour Ankamah

Co-Convener: The African and
Arab States, CHN Youth Forum;
Executive Director and Climate
Negotiator: Alliance for Youth in
Climate Action- AYCCA
Ghana

Chandni Singh

School of Environment and Sustainability,
Indian Institute for Human Settlements
India

Andrea Richards

Lecturer in Archaeology,
University of the West Indies
Cave Hill Campus
Barbados/Jamaica

Daniel Ishaya Mwada

(CHO) Site Manager in charge of
Rabih's Fort, Dikwa, National
Commission for Museums and
Monuments
Maiduguri, Borno State
Nigeria

Ave Paulus

Focal Point, ICOMOS Climate
Action WG, President of
ICOMOS Estonia
Estonia

Filippo Calcerano

Senior Researcher, Institute of
Heritage Science, National
Research Council of Italy
Italy

Joanne Clarke

Professor Department of
Archaeology, Durham University
Australia

Iman Gawad

Prof of Sustainable Architecture,
British Univ. in Egypt; Co-
Director; UN Sustainable
Development Goals'
Commission, International
Union of Architects (UIA)
Egypt

Catalin Ivancov

Archaeological Heritage
Researcher BRIN Indonesia,
Member of ICOMOS Indonesia
and ICOMOS ICAHM Scientific
Committee
Indonesia

Salma Sabour

Director of Science and
Interdisciplinarity, Preserving
Legacies, Research consultant,
University of Cape Town and
Durham University
Morocco, Belgium

Sanjeev Neupane

CEO, Samriddha Pahad,
Kangchenjunga, Nepal
Nepal

Hannah Fluck

Senior National Archaeologist,
National Trust; Fellow of the
Society of Antiquaries of London
United Kingdom

Mokolade Johnson

Senior Lecturer, Architect, &
Urbanist. Coordinator-
Architecture +Urbanism
Research Hub-Univ of Lagos
Nigeria

Gary Estcourt

Director, BCN Heritage
Australia

Douglas C. Comer

President, ICOMOS USA
USA

Jenny Hay

North America Coordinator,
CHN; Director of Operations &
Development, Power of
Preservation Foundation
USA

Marisa O. Ensor

Research Professor, Earth
Commons: Georgetown's
Institute for Environmental and
Sustainability, Georgetown
University, Washington, DC, USA
Spain/USA

Mesut Dinler

Assistant Professor,
Politecnico di Torino
Turkey

Andrew S. Potts

Heritage and Climate Action
Advisor, Europa Nostra; Director,
Community of Practice,
Preserving Legacies
Global

Jamma Children Foundation

The Gambia

Emna BCHIR

PhD-HDR Architect, Assistant
Professor at the National
Architecture School Tunis; Co-
Director, Sustainability
commission-International Union
of Architects (UIA)
Tunisia

Victoria Herrmann

Executive Director, Preserving
Legacies
Global

Cecilie Smith-Christensen

Founder and lead catalyst at
World Heritage Catalysis
Norway

Ege Yildirim

Istanbul Citizens Assembly
Cultural Heritage Workign
Group; President, Terra Mudurnu
Culture Tourism Real Estate Inc;
ICOMOS Türkiye; Vice President,
Europa Nostra Türkiye
Türkiye

Mario Santana Quintero

Professor on Architectural
Conservation and Sustainability,
Carleton University
Canada

Obadara Islamiat Adeola

Student Member, ICOMOS-
Nigeria; Member of Students
Historical Society of Nigeria
(SHSN)
Nigeria

Chao-Shiang Li

PhD, Department of Interior
Design/Cultural Property
Research Center, China
University of Technology;
ICOMOS-CIPA, ICORP Expert
Taiwan

Carmen Natalia Daly

ICOMOS Venezuela National
Committee, ICOMOS Committee
on Cultural Routes, Independent
Consultant
Venezuela

Ferdinand Isla III

Urban Research Associate, WTA
Architecture and Design Studio
Philippines

Batuhan Akkaya

Co-founder, Urban.koop Urban
Studies Cooperative
Turkey

Marcelo Weissel

Founder of Museo Arqueológico
de La Boca ICMM & Profesor at
UNLa - Azara Foundation - UNR-
UNTREF-Maimónides
Argentina

**Teiduma, Consultancy on
Heritage, Culture and
Sustainability**

United Arab Emirates

Denise Melanie Du Lagrosa

Artist Environmental Educator-
Planner-Cultural Mapper, Earth
Optimism Awardee on Ocean in
Arts and Media Category by
YSEALI, Young EcoAmbassador
Philippines

Sofia Fonseca

Founder and CEO, Teiduma,
Consultancy on Heritage, Culture
and Sustainability
Portugal

Matthew Piscitelli

Research Associate,
The Field Museum
USA

Bradford White

Senior Program Director, Built
Environment, Richard H.
Driehaus Foundation
USA

Sarah Forgeson

Director of Education and
Knowledge, Preserving Legacies
New Zealand

Paolo Vitti

University of Notre Dame –
School of Architecture
Italy

Adam Markham

Director, Climate Heritage
Advisors
USA

Sylvie Chen

Founder of VertSapiens ,
Sustainability Coach and Eco
Tour with Parisian Architecture
and Heritage History
France

Francesco Trovo'

Associate Professor; University
Iuav of Venice; ICOMOS Italy
Member
Italy

Carla Toffolo

Consultant for Cultural Heritage
Projects in Venice and
Conference Interpreter
Italy

Helen Wilson

ICOMOS International Scientific
Committee on Energy and
Sustainability (ISCES); Co-
Convenor, Australia ICOMOS
NSCES; ICOMOS Climate Action
Working Group
Australia

Milagros Flores-Roman
ICOMOS International Scientific
Committee on Fortifications and
Military Heritage (ICOFORT-
ICOMOS)
Puerto Rico (USA)

Doaa Esmat
Assistant Professor on
Architecture Sustainability and
Landscape Design; Affiliate,
Planners for Climate Action
(P4CA) UN-Habitat
Egypt

Daouda Amadou KASSE
Specialist in the impact of
climate change on peace and
security in West Africa. Vice-
President, Green Generation
Senegal

Selva Ozelli
Artist, Author, Lawyer, CPA,
Professor; Member of Climate
Heritage Network, Ambassador
to Oceanic Global
USA

Sama Abdelghany
Sustainable Architecture and
Urban Design SAUD Student,
Helwan University
Faculty of Fine Arts
Egypt

Samuel Okulony
Environment Governance
institute Uganda
Uganda

Bill Finlayson
EAMENA, School of Archaeology,
University of Oxford
United Kingdom

Heather Gill-Frerking
Department of Law & Legal
Studies, Carleton University
Canada

Eric Ngang
Founder/Coordinator Action
Group on Governance and
Environmental Management
(AGGEM)
Cameroon

John Hughes
Reader in Historic Built
Environment University of the
West of Scotland
& President ICOMOS
International Scientific
Committee for Stone (ICOMOS
ISCS)
Scotland/Ireland

Crystal Felima
Assistant Professor of
Anthropology and African
American & Africana Studies,
Department of Anthropology,
University of Kentucky
USA

François NGOUOH
Archaeologist and Cultural
heritage manager; Département of
Arts and Archaeology, University
of Yaoundé 1
Cameroun

William Megarry
School of Natural and Built
Environment,
Queen's University Belfast

Kimi Eisele
Artist, Writer, Editor, Folklorist;
Member, HACA Community
Leader Circle;
Southwest Folklife Alliance
USA

Tanya Chaturvedi Vegad
Associate Planner, Dronah
India

Lisa Richmond
Senior Fellow, Architecture 2030
USA

Kevin Y. Li
Hong Kong, China

Nathalie Vernimme

Member, ICOMOS ISCES; GB
member WTA NL-VL advisor
research programme,
Flanders Heritage Agency
Belgium

Ashwini Deshpande

Associate Director - NAGAR,
Advocacy, Governance and
Renewal, Mumbai
India

Lori Ferriss

Built Buildings Lab; CHN
Steering Committee and Built
Environment Hub Co-
Coordinator
USA

Christopher Waters

Adjunct Faculty, University of the
West Indies Five Islands Campus,
ICOMOS ICOFORT Expert
Antigua and Barbuda

Shalini Dasgupta

Conservation Architect,
Vice President ICOMOS India;
India Focal Point – ICOMOS
Climate Action Working Group
India

Juan Antonio Mira Rico

Affiliated teaching,
Universitat Oberta de Catalunya;
Member ICOMOS-Spain
Spain

Radmila Jovanovic

Climate Activist, Cultural and
Spiritual Heritage Naissus,
Roman Settlements (Nis)
Serbia

Michael Netter

Professional Services Officer,
Institute of Historic Building
Conservation
United Kingdom

Robyn Pender

Whethergauge
UK/Belgium

Jurn Buisman

Director, Stichting Museum
Geelvinck; Sec-Gen, ICOMOS;
VP, ICOMOS-IFLA Int'l Scientific
Committee on Cultural
Landscapes; Int'l Scientific
Committee on Water Heritage;
ICOMOS Climate Action Working
Group;
Europa Nostra; Interpret Europe
Netherlands

Alaa Ababneh

Digital Heritage Consultant |
PhD Candidate (Laser Scanning
& Digital Archaeology)
Jordan

Nina Jean-Louis

Structural Engineer & PhD
Researcher in Department of
Civil & Architectural Engineering
at the University of Miami
USA

Celso Almeida da S. Cunha

Researcher,
Federal University of Bahia,
Architecture School
Brazil

Carmelo Ignaccolo

Assistant Professor of Urban
Design, Technology & Climate,
E.J. Bloustein School of Planning
and Public Policy,
Rutgers University
USA

Laura Nicolini

PhD c. on Cultural Heritage
Conservation and Management,
University of Alcalá de Henares,
Spain; Manager, Cultural
Heritage Projects, ARS Progetti
Italy

Samuel Rubin

Entertainment + Culture Pavilion
Spain

Gunjan Nanda

Entertainment + Culture Pavilion
India

Pedro Pombo

Islands and Small States Institute,
University of Malta
Europe

Aamir Sadozai

Co-founder, Climate Hub Forum;
Climate Advocate; Consultant -
UN Tourism/UNFCCC;
Commission Member, IUCN
Pakistan

Stefan Simon

Director, Rathgen-
Forschungslabor, Staatliche
Museen zu Berlin; ICOMOS ISCS
ISCEAH
Germany

Lydia Dean Pilcher

Filmmaker, Cultural Strategist,
Adjunct Faculty,
Columbia Climate School-
Climate and Storytelling Arts
USA

Andra Samoa

Member, HACA Community
Leader Circle; Public Policy
Advisor, Lt. Governor Office,
American Samoa;
Right to Democracy
American Samoa

Khandokar Mahfuz ud Darain

Professor, Architecture
Discipline, Khulna University;
Secretary General, ICOMOS
Bangladesh; Member, ICOMOS
Climate Action Working Group
Bangladesh

Bruno Andrade

Researcher, School of
Architecture, Federal University
of Bahia; Preserving Legacies
project custodian; Game Startup
Founder
Brazil

Taher Al Falhat

Head of Archaeological Affairs,
Petra Archaeological Park
Jordan

Imogen A. Wood

Senior National Consultant -
Heritage & Climate
National Trust
United Kingdom

Claire McGuire

Manager, Policy and Advocacy,
International Federation of
Library Associations and
Institutions (IFLA)
Netherlands

Liliane de Geus

Leader, UNESCO Working
Group-Bonaire; Link
Development; Foundation for
History & Culture Bonaire; ICH
NGO Forum; Global Facilitator,
UNESCO 2003 ICH Convention
Bonaire, Caribbean Netherlands

Ann Bourguès

General Secretary and Focal
Point, Climate and Heritage
Group, ICOMOS France;
Member, ICOMOS CAWG;
Conservation scientist,
Ministry of Culture of France
France

Casimir BATCHATCHILE

Curator, Koutammakou, the Land
of the Batammariba World
Heritage Site
Togo

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Summary of Issues Addressed

The **Heritage Adapts to Climate Alliance (HACA)** has prepared this position paper in support of the goal of developing innovative and effective indicators and quantified elements to measure progress under the cultural heritage thematic target (9g) of the UNFCCC Global Goal on Adaptation framework as well as under the Framework's other culture elements.¹

This Position Paper analyzes various expert group progress reports and indicator options recently released by the UNFCCC under its UAE-Belém work programme on indicators. This includes a progress report prepared by UNFCCC Subsidiary Bodies' **Cultural Heritage Expert Group** entitled "Cultural Heritage Target: indicators and process 2024-2025" as well as related Indicator options. HACA thanks the members of the Cultural Heritage Expert Group for their efforts and applauds the progress they have made.

Within the framework of these important and positive developments, HACA respectfully offers in this Position Paper issues it has identified and recommendations for further refinement of the culture-related indicators. The key issues presented are:

- **Framing of Target 9g Sub-components:** HACA asks the CH Experts to reconsider the framing of the three subcomponents into which it is currently proposed that Target 9g be divided. HACA suggests the 3 subcomponents it proposed in its March and July 2024 submissions, namely:
 1. Protecting **cultural practices** from the impacts of climate-related risks by developing adaptive strategies;
 2. Protecting **heritage sites** from the impacts of climate-related risks by developing adaptive strategies;
 3. Designing **climate-resilient infrastructure guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems**.
- **Definitional Gaps:** The 9g indicators included in the Consolidated List lack clear and standardized definitions for terms such as *cultural heritage*, *heritage sites*, and *cultural practices*, which may lead to inconsistencies in application. Careful usage of the terms "Indigenous Peoples" and "local communities" is also needed. HACA recommends additional attention to these matters and a comprehensive glossary to ensure clarity and comparability.
- **Balancing IPO-OI Indicator Types:** Among the included 9g Indicators, there is an overemphasis on **process and output indicators**, with limited focus on **outcome and impact assessments**. HACA advocates for a **balanced framework** that ensures that each heritage typology is supported by a full suite of indicators.

¹ For an overview of the culture-related elements in the, see Short Guide to Culture and Heritage in the Global Goal on Adaptation Framework (HACA 2024) <https://docs.google.com/document/d/1VqZagBIT8Animz-qNa4FW5FIeulkWm6/edit?usp=sharing&ouid=117166681810772555082&rtpof=true&sd=true>.

- **Percentage-Based Indicators:** Over reliance in the Target 9g options on percentage-based metrics can **distort progress**, penalize incremental gains, and skew action towards easily measurable elements. Instead, HACA recommends greater use of **direction-of-travel indicators**, which focus on meaningful, measurable advancements.
- **Ethical Engagement with Indigenous Peoples and local communities:** The Indicator options proposed for Target 9g currently include indicators for measuring the **use** of IK/LK but these lack corresponding metrics for **ethical and equitable engagement**. HACA calls for attention to **free, prior, and informed consent (FPIC)** and other protections to address extractive practices.
- **Inclusive Processes:** Cultural heritage adaptation must be **locally led** and inclusive. Current 9g Indicator options insufficiently measure **inclusivity** and **multi-level governance**. HACA recommends strengthening attention to these matters.
- **Empowering People, in Particular Youth, with Knowledge, Skills, Values, and Attitudes Necessary for Climate Action:** Cultural heritage crucially intersects with climate literacy and youth empowerment. Existing 9g indicator options **should be expanded** to include memory institutions, storytelling traditions, and locally-driven knowledge-sharing, as well as measuring youth-led climate action for protecting cultural heritage.
- **Cross-Linkages with Other Targets:** Cultural heritage is closely tied to **nature, food, water, as well as the four dimensions of the adaptation cycle**, yet the current Consolidated Indicator list lacks strong cross-target coordination. HACA recommends **co-developed indicators** that reflect biocultural approaches and ensure cultural heritage is integrated across indicators for all thematic and dimensional targets of the GGA framework.
- **Avoiding Maladaptation:** The included indicators fail to **track and prevent maladaptation**, which could unintentionally harm cultural heritage. HACA calls for indicators to measure use of mechanisms to screen adaptation strategies for unintended negative consequences as well as to measure use of cultural values, Indigenous Knowledge, local knowledge, and scientific knowledge to help prevent maladaptation across adaptation processes.

Introduction

Cultural heritage is both at risk due to climate change and an enabler of climate adaptation. The IPCC 6th Assessment Synthesis Report found that climate change is driving cultural losses, related to tangible and intangible heritage, threatening adaptive capacity and may result in irrevocable losses of sense of belonging, valued cultural practices, identity and home, particularly for Indigenous Peoples and those more directly reliant on the environment for subsistence. Yet, most heritage places are neither prepared for, nor adapted to, current or future climate change.

Cultural heritage and the closely linked concepts of traditional knowledge, Indigenous Knowledge, and local knowledge systems are key elements of climate adaptation. They are central to effective adaptation at all levels of implementation, as well as across key dimensions of adaptation

feasibility, including human behavior change; skills, knowledge, and values transmission; and institutional and technological changes.

IPCC WGII concluded that “Responses to ongoing sea level rise and land subsidence ... are more effective if ... aligned with sociocultural values and development priorities and underpinned by inclusive community engagement processes.” It also found that “Inclusive planning initiatives informed by cultural values, Indigenous knowledge, local knowledge, and scientific knowledge” are key to helping prevent the growing problem of maladaptation.

WGII also found with high confidence that ways to enhance climate literacy and foster behavioral change include programmes involving the performing and visual arts, and storytelling, and that the use of Indigenous knowledge and local knowledge facilitates awareness, clarifies risk perception and enhances the understanding and adoption of solutions.

Even so, culture and heritage have long been gaps in adaptation planning and policy. An important innovation of the UNFCCC’s Global Goal on Adaptation framework adopted at COP28 (known as the UAE Framework for Global Climate Resilience or “FGCR”) is the groundbreaking inclusion of an express cultural heritage target (para 9g), as well as other cultural elements, which have the potential to fill these gaps. Realizing this potential, however, requires the development of innovative and effective indicators and quantified elements to measure progress in adapting cultural heritage and realizing the benefit of culture-based adaptation strategies.

HACA has prepared this Position Paper in support of that objective. The Paper analyses and critiques a series of interim reports and draft indicator options released in May 2025 as part of the UAE-Belém work programme on indicators, the UNFCCC’s adaptation indicator development work plan. HACA understands these interim outcomes will be further refined, following meetings of the UNFCCC Subsidiary Bodies from 16-26 June 2025 in Bonn Germany. This position paper is offered as an input in the SB discussions, as well as post-SB work aimed at readying a final package of proposed indicators for consideration at COP30 in Brazil in November.

Background

Under the UAE-Belém work programme, the Chairs of the UNFCCC Subsidiary Bodies convened experts to assist in technical work related to developing indicators to measure progress towards the seven thematic and four dimensional targets of the FGCR.

Expert groups were formed for each of the thematic targets (food, water, nature, culture, etc.) with one expert group covering the dimensional targets (risk assessment, adaptation planning, etc.). For the cultural heritage theme, seven experts were selected by the SB Co-Chairs, of whom 5 seem to have actively participated. The experts began work in 2024. They were requested to prepare a consolidated list of indicator options and a progress report by early May 2025.

The Cultural Heritage (CH) Experts’ Progress Report (CH Progress Report) entitled “Cultural Heritage Target: indicators and process 2024-2025” was published by the UNFCCC on 22 May 2025. Reports from the other seven expert groups were also published. All eight progress reports and related documents can be accessed [here](#).

The progress reports are accompanied by a “Consolidated List of Indicator Options” (Consolidated List) which presents all of the indicators that were prioritized by the expert groups. The CH Experts contributed 62 indicators related to Target 9g to the Consolidated List, although in their Progress Report they note that “the selected 62 indicators need narrowing down to include a smaller representative set of key indicators.”

A “Technical report on indicators for measuring progress achieved towards the targets” (Technical Report) providing an overview of the progress reports from all eight expert groups was released by the UNFCCC Secretariat on 23 May 2025.

Analysis

The CH Progress Report and the 62 cultural heritage indicators included in the Consolidated List reflect the hard work of a small number of culture experts laboring under difficult circumstances. These experts have the thanks of HACA and culture colleagues everywhere.

Multiple mapping and assessment exercises undertaken by the UNFCCC in connection with the work programme have established that cultural heritage is the beneficiary of fewer existing indicators, fewer training and capacity building efforts, and less support than other thematic areas. This comes as a surprise to no one working in the field of culture-based climate action. Serious efforts to fill longstanding gaps in adaptation policy must include recognition that long-ignored thematics such as cultural heritage require additional support to catch up.

HACA also specifically thanks the CH Expert Group for their consideration of HACA’s prior submissions and for their inclusion of some HACA proposals in their recent outputs. HACA specifically applauds the following:

- The CH Progress Report makes clear that the CH Experts agreed with HACA that gaps exist in existing indicators for measuring progress in adapting cultural heritage to climate change, necessitating the development of new indicators. Indeed at least 14 of the Indicators included by the CH Experts are considered new.
- The CH Experts agreed with HACA that attention to available data and ease of data collection must be balanced with other considerations. In the CH Progress Report, the Experts wrote “Just because ... data is not necessarily available at this time, does not directly mean that some indicators should be simply disregarded.”
- The 62 CH Indicators include indicators addressing enabling factors of implementation, including Means of Implementation, with components such as finance, capacity building, and policies.
- The CH Indicators reflect a variety of orientations (input, process, output, outcome, impact) including those focusing on assessing tangible results and the effectiveness of adaptation actions.

- The CH Indicators address to varying degrees a variety of heritage typologies including collections and documentary heritage, intangible cultural heritage, cultural landscapes and natural heritage. They also address diverse elements of cultural practices.
- As championed by HACA, several indicators included in the Consolidated List measure the use of Indigenous Knowledge and local knowledge to guide adaptation. Other indicators speak to the role of cross-cultural understanding and education.

Within the framework of these important and positive developments, HACA respectfully offers the following recommendations for how to further refine the indicator options presented in May. The recommendations presented below were developed through a far-ranging consultation of HACA participants that engaged culture and heritage advocates on six continents from 27 May to 5 June. The consultation was supported by a briefing document that was developed after an initial review of the CH Progress Reports and the Consolidated List, and a comparison of the positions adopted in them to the position papers previously submitted by HACA, namely:

- [HACA March 30 2024 Submission](#) to the First Consultation under the UAE - Belem Work Programme
- [HACA July 30 2024 Submission](#) to Second Consultation Under UAE Belem Work Programme
- [Target 9\(g\) Menu Indicator Approach](#) - HACA Recommendations (Excerpted from July 2024 submission)
- [HACA Recommendations](#) on Culture and Heritage-Related Indicators for Climate Change Adaptation (updated 2025)

Issues and Recommendations

1. Definitional Matters

Problem: Missing definitions, inconsistent use of terms, and use of novel term-variations create uncertainty about the scope and intent of many of the 9g Indicators included in the Consolidated List. HACA believes that without a clear, inclusive glossary and consistent use of terms, indicator texts may be read inconsistently, data will be incomparable, and some heritage forms and types of cultural practices risk being overlooked altogether.

Accurate, shared definitions are the bedrock of any indicator framework. Key terms used in the wording of Target 9g have diverse and sometimes contested meanings. Pervasive ambiguity in the meanings of core 9g terms risks not only operational confusion but diminishing the role of cultural considerations in broader climate adaptation policies.

The CH Progress Report states “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 ... refining the language of indicators to ensure a better fit with GGA.” The Technical Report indicates that various experts had highlighted the importance of “improving the standardization of definitions and methodologies” and recommended “ensuring transparency around definitions, methodologies, agreed baselines, and data sources.”

In view of these indications that additional processes to revise definitions and methodologies should be forthcoming, HACA has not undertaken here to recommend precise definitions. Rather, HACA aims with this Position Paper to surface issues and share considerations that can point the way to the successful resolution of definitional issues via these forthcoming processes.

HACA Overall Recommendation on Definitions

To ensure clarity, HACA proposes a **9g glossary** covering terms such as “cultural heritage”, “heritage site”, “cultural practice”, “cultural landscape”, and “biocultural heritage”. Definitions should be cross-referenced with IPCC glossaries, UNESCO Conventions, CBD Article 8(j), UNDRIP, and guidance from ICOMOS and IUCN to maintain global coherence. HACA joins the Indigenous Peoples Organization (IPO) in stressing the need **for careful use of the capitalized and plural term “Indigenous Peoples”** and similar definitional matters and that care be taken to **disaggregate Indigenous Peoples from local communities**.

HACA notes that some of the definitional inconsistencies arise from the verbatim importation of indicators from the UNESCO Culture|2030 Indicators framework (as well as the Sendai Framework). HACA recommends that if these indicators are retained, they be revised to make them more relevant to adaptation and more synergistic with the FGCR. Examples include 9g36, 9g37, 9g39-9g47. This Paper includes multiple suggestions for ways of doing so. For example, see Topic 7 for suggestions on how to consolidation and make more adaptation specific Indicator options 9g42-44. HACA further notes that it may be worthwhile to explore updating the UNESCO indicators in light of the final FGCR indicators adopted in order to promote synergies.

1.a. Defining “Cultural Heritage”

The heading of Target 9(g) is “cultural heritage” but the text references “heritage sites”, “cultural practices”, and “traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems”. The term “cultural heritage” has previously been given a technical definition in Article 1 of the World Heritage Convention. Target 9g definitional problems arise initially from the fact that the concepts covered by the three key terms used in the 9g text, taken together, are both over-inclusive and under-inclusive of the concept of cultural heritage, at least if the Convention’s definition of cultural heritage is used. For example:

- Natural heritage is distinct from cultural heritage, but “heritage sites” often include both.
- Cultural heritage includes intangible cultural heritage (ICH), yet ICH is distinct from heritage sites and cultural practices. Restricting ICH to fixed spatial boundaries risks misrepresenting its fluidity.

- Indigenous and local knowledge can be viewed either as integral to or separate from (though closely linked to) cultural heritage. HACA emphasizes avoiding colonial frameworks and prejudice that dismiss IK as not scientific knowledge.

A **prevailing view** among HACA collaborators is that **9g's scope** should be **more expansive and inclusive** than the concepts embraced in the World Heritage Convention's definition of cultural heritage. This would ensure 9g encompasses all elements referenced directly or indirectly in its text including natural heritage (a component of "heritage sites"); ICH; and traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems. This holistic approach enhances the integration of culture, heritage, and climate adaptation. Conversely, some participants in the HACA consultation argue for conforming to established legal frameworks to facilitate implementation.

HACA emphasizes the evolving nature of cultural heritage, especially intangible elements like language, storytelling, and craftsmanship whose safeguarding is deeply tied to knowledge transmission. A critical issue raised was whether indicators should prioritize preserving heritage or ensuring its continuation through adaptation. Without clear guidance, adaptation efforts risk focusing disproportionately on static preservation rather than supporting the fluid, evolving and responsive nature of cultural heritage. Qualitative indicators, such as tracking the transmission of knowledge across generations, could complement quantitative data by providing a richer picture of how cultural practices are maintained and reinvented in the face of changing climates. This becomes particularly pertinent as the world increasingly navigates the complex realities and facets of climate change-related displacement and mobility (see Issue 4 for additional discussion of displacement).

1.b. Defining "Heritage Sites"

The term "heritage sites" is a core concept in the text of Target 9g. Among the Indicators included in the Consolidated List, the Cultural Heritage Experts sometimes use the term "heritage sites" but also use the term "cultural sites" and sometimes "heritage/cultural sites". Indicators options reference at various points a variety of different types of tangible heritage including "heritage buildings" (9g04), "monuments" (9g15), "cultural landscape" (9g09), "objects" (9g10), and "collections (including documents and museums) (9g34)." Six recommended Indicators reference "natural heritage sites" (9g33, 9g37, 9g38, 9g39, 9g41, 9g49).

HACA believes that the term "heritage sites" should be viewed as an umbrella term covering all cultural, natural, and mixed sites. In addition, The Experts seem to agree based on the types of heritage they referenced.

Some HACA collaborators expressed concern about forcing all types of tangible and documentary heritage into the definition of "heritage sites," noting that definition would be at odds with convention definitions and contrary to widespread practice. By folding in everything from archaeological sites to museum collections, archives, and even non-site-based intangible cultural practices, the category could become unwieldy. HACA recommends that objects, movables, and documentary collections (i.e. all tangible heritage) be viewed as being within the scope of 9g (**whether as part of the definition of "heritage sites" or otherwise**) but with Indicator options applied more coherently to each typology.

Regional variations in heritage protection present challenges. While some sites enjoy legal status, others - particularly in regions lacking documentation - remain unprotected despite cultural significance. A flexible definition should accommodate diverse national contexts and approaches to formal heritage designation, while ensuring conceptual consistency for indicator implementation.

Inclusion of Natural Heritage in Scope of 9g

The treatment of natural heritage in the Consolidated List highlights definitional questions. The 1972 World Heritage Convention defines “natural heritage” as a concept distinct from “cultural heritage” although both can be described with reference to “sites,” be they sites of natural heritage, cultural heritage or mixed. The 9g Indicators included in the Consolidated List alternately refer to “cultural heritage sites,” “heritage sites,” and “cultural sites,” without categorically defining whether these also encompass natural or mixed sites. Most Indicators (e.g. 9g01, 9g55) mention only “cultural heritage sites,” while six (e.g. 9g33) explicitly add “natural heritage.” This patchwork suggests the experts have included natural heritage in the scope of 9g but only when specified. So far, where an Indicator specifies only “cultural heritage,” no companion indicator is provided for natural heritage.

Consistent with the World Heritage Convention definition, several HACA Collaborators noted that cultural heritage “is not to be automatically understood as encompassing ‘natural heritage’ when the interlinks ... are not specified.” Others pointed to more holistic frameworks—UNESCO’s Convention for the Safeguarding of the Intangible Cultural Heritage (2003), Article 8(j) of the Convention on Biodiversity which addresses biocultural heritage, and UNDRIP’s emphasis on the interconnection of nature and culture. Several HACA commentators noted the widely used term “cultural landscapes” or “biocultural landscapes” that emphasizes the integration of social, cultural and ecological values at sites.

In its submission to the HACA consultation, representatives from the International Union for the Conservation of Nature (IUCN) noted:

From a climate–nature nexus perspective, ... the definitional ambiguity surrounding “cultural heritage” in the CH Progress Report is especially problematic. The omission of clear distinctions and inclusions—particularly regarding knowledge systems and natural heritage—risks undermining the integrative potential of Target 9g within climate resilience and adaptation frameworks. The intersection of cultural and natural heritage is not just conceptual—it reflects lived realities for many communities, especially Indigenous Peoples whose knowledge systems are deeply embedded in ecosystems and serve as adaptive strategies to climate change. – Veronica Ruiz, IUCN

HACA Recommendations

In view of the foregoing, HACA offers the following suggestions to guide development of a definition of “heritage sites”:

- Broadly include natural and mixed heritage sites
 - Broadly include natural and mixed heritage sites in the scope of 9g either by consistently referring to “cultural and natural heritage” or defining “heritage sites” upfront to cover all three types.

- Where coverage of only cultural heritage and not natural heritage is intended (e.g. 9g01, 9g55 as currently drafted), provide companion indicators for natural heritage (e.g. “% of at-risk natural heritage sites with adaptation measures implemented”).
- Footnote links to relevant natural heritage databases (e.g. UNESCO, IUCN) where discipline-specific data is required.
- Expand references to “Cultural Landscapes”
 - Only one of the Indicators options (9g09) reference cultural landscapes. Use of this term should be expanded, leveraging the term’s grounding in integrated social–ecological systems
- Harmonize Defined Terms
 - Clarify distinctions between cultural sites vs. heritage sites
 - Standardize subcategories (e.g. archaeological sites, historic buildings, collections) in Glossary
 - Address omitted subcategories (e.g., archaeology, archives)
- Embed a Biocultural Approach across FGCR
 - Emphasize that siloing culture from nature —and the Indigenous/local knowledge embedded in it— undermines achievement of Paris Agreement objectives and undercuts heritage’s practical adaptation value.
 - Highlight examples (e.g. seasonal ecological indicators, sacred groves, traditional agroforestry) demonstrating how integrated approaches underpin resilience.

1.c. Defining “Cultural Practices”

The term “cultural practices” is another core 9g concept. The term lacks a formal definition within existing climate (e.g. UNFCCC and IPCC) and heritage (e.g. UNESCO) frameworks. It perhaps finds parallels in UNESCO’s concept of intangible cultural heritage and the phrase “cultural traditions and customs” in UNDRIP. So far, however, the CH Expert Group has not clarified the definition it is using.

9g Indicators included in the Consolidated List use both the terms “Intangible Cultural Heritage” and “Cultural Practices”. Compare 9g02 (“% of climate-sensitive **cultural practices** adapted with climate-resilient processes”) to 9g05 (“% of **intangible cultural heritage** documentation updated with climate adaptation practices integrated”).

Several HACA contributors stressed that “cultural practices” and “intangible cultural heritage” are not interchangeable. Some social phenomena (for example, viral internet dances or sports competitions) might qualify as cultural practices without necessarily fitting the narrower UNESCO definition of intangible heritage. Although HACA believes that both ICH and cultural practices should be included in 9g, alternating between these terms without explanation (noting also the use of the term “creative activities”) creates confusion.

The included Indicators refer to a wide variety of cultural elements without clarifying the basis for their inclusions, leaving unanswered the question of why these elements were included but others were not. Referenced elements: (1) festivals, ceremonies, oral traditions (9g02), (2) movable cultural assets (9g03), (3) annual cultural events; festivals, public ceremonies, and cultural gatherings (9g06), (4) craft sector (9g27), (5) practices, and collections (including documents and museums (9g34), (6) creative activities (9g40), (7) livelihoods (9g41), (8) access to cultural facilities (9g45), (9) cultural activities or skills, and (10) Cultural participation (9g46)

HACA Recommendations

In view of the foregoing, HACA Collaborators offers the following suggestions to guide development of a definition of “cultural practices”:

- Borrowing from International Heritage Frameworks
 - Some suggest standardizing the term by adapting definitions used in international frameworks (UNDRIP, UNESCO’s 2003 Convention and Operational Guidelines). This ensures alignment with recognized heritage safeguarding policies and prevents contradictions in adaptation reporting.
 - Others expressed the view that this might not capture the full spectrum of human activity that the concept is intended to cover.
- Define Cultural Practices as Performative and Enacted Traditions
 - Cultural practices could be defined to refer explicitly to actions, behaviors, and customs that are actively performed and transmitted within a community.
 - Static representations, artefacts, and documents would be excluded from this definition, as they belong to the domain of tangible heritage or ICH.
- Differentiate Cultural Practices from Intangible Cultural Heritage (ICH)
 - ICH includes knowledge, expressions, and traditions, but cultural practices might focus on directly enacted customs and rituals.
 - Example: A written musical score is considered intangible heritage, but the act of performing it in a traditional ceremony is a cultural practice. Even if such ICH is excluded from the definition of cultural practice, **HACA believes it should still be included as an element of cultural heritage and thus 9g.**
- Careful attention to Livelihoods, Skills and Economic Practices as Cultural Practices
 - Traditional trades, craftsmanship, and heterodox economic practices could be acknowledged as part of evolving cultural practices, but this should be carefully evaluated. Example: Stone masonry, weaving, knowledge of healing plants, and traditional, local non-monetary exchange and trading systems are practical expressions of cultural tradition tied to livelihoods.

2. Enhancing the Balance of IPO-OI Indicator Orientations across Each Covered Typology

Issue: The distribution of 9g Indicators (e.g. process indicators, outcome indicators) included in the Consolidated List is unbalanced and this imbalance becomes even more pronounced when disaggregated by covered heritage/culture typologies.

The 9g Indicators included in the Consolidated List demonstrate strong coverage of process and output type measures but show significant gaps when mapped against the Input–Process–Output–Outcome–Impact (IPO-OI) framework. Approximately 15% of the indicators capture inputs—addressing funding and institutional support (e.g., 9g19, 9g22) — yet they often lack detail on training, participation, inclusion, and equity. Process indicators ($\approx 30\%$) emphasize governance and planning mechanisms (e.g., 9g21, 9g51), while output indicators ($\approx 40\%$) are well represented by tangible measures such as adapted sites (9g01) and digitized heritage objects (9g10).

However, outcome indicators ($\approx 10\%$) remain limited, mostly focusing on awareness (9g52) and damage reduction (9g18), without capturing broader measures of behavioral or systemic change. Impact indicators ($\approx 5\%$) are notably sparse, with only a few attempting to reflect long-term resilience (e.g., 9g60, 9g36). This imbalance becomes even more pronounced when disaggregated by heritage typology:

- **Tangible Heritage (buildings, sites, movables):** Outcome indicators do little to assess changes in community use, stewardship, or adaptive behavior post-retrofitting. Impact indicators fail to capture long-term cultural continuity, such as intergenerational use or symbolic value.
- **Intangible Heritage (practices, knowledge):** There is a lack of input indicators identifying investments in safeguarding traditional practices (e.g., funding for oral traditions or master-apprentice training), and the impact pathways remain underexplored—only indicators like 9g02 and 9g30 hint at sustained transmission.
- **Natural Heritage (landscapes, ecosystems):** Process indicators are limited, with few metrics on Indigenous- or community-led ecosystem-based management. Likewise, impact indicators do not fully capture the interdependence of ecological and cultural resilience, missing critical links (e.g., how biodiversity restoration supports heritage practice viability and transmission).

See Annex 1 for additional analysis. A full analysis of the continuity of progressively oriented indicators by heritage typology is hampered by inconsistent use of defined terms in the text of many Indicators.

In the HACA consultation, **Christopher Waters** of **Antigua and Barbuda** spoke to several 9g Indicators designed to measure climate adaptation outcomes in the cultural heritage sector. He argued that while these indicators intend to capture the success of adaptation efforts, they fall short in defining precisely what should be measured. In the case of Indicator 9g60, which is meant to reflect the reduced vulnerability of cultural heritage sites, Waters writes that a better approach would be to focus explicitly on vulnerability elements such as sensitivity and adaptive capacity, rather than

using the all-encompassing term “resilience.” Similarly, indicator 9g61 aims to assess the share of climate adaptation plans and strategies that are implemented to enhance the resilience of culturally important sites. However, the wording implies that some adaptation measures may not result in improved resilience, leaving evaluators uncertain about appropriate criteria. A better formulation, “might be share of climate adaptation plans, strategies and measures developed and implemented for cultural heritage that have reduced the climate risk rating of culturally important sites.”

Phoebe Koundouri of Greece proposed the introduction in 9g and 10c of indicators which incorporate explicit economic valuation of cultural heritage in the context of this UNFCCC framework. For example: (1) “Total economic value (TEV) of preserved cultural heritage sites due to implemented adaptation measures” (this indicator quantifies benefits of adaptation, suitable for use in SCBA (social cost-benefit analysis) to shortlist between adaptation options. (2) “Monetized benefit of cultural heritage adaptation per unit of investment” (measures efficiency, “Total estimated benefits from avoided cultural loss divided by the total investment in cultural adaptation”).

HACA Recommendations

The final list of Target 9g Indicators should:

- **Develop Tailored Indicators:** Identify and integrate specific measures for underrepresented heritage orientations, especially for outcomes and impacts. For instance, create metrics that assess long-term cultural continuity for tangible heritage and sustained transmission for intangible heritage.
- **Standardize Definitions:** Harmonize nomenclature across heritage typologies. Establish clear, consistent definitions that bridge tangible, intangible, and natural heritage, enabling comparability and comprehensive tracking across domains (see Issue 1).
- **Enhance Disaggregation and Equity:** Expand indicators to disaggregate data by gender, age, and Indigeneity. Only a few current indicators (e.g., 9g14, 9g53-9g54) reflect these dimensions. Equity-centered revisions will ensure marginalized groups are visible in adaptation metrics.
- **Consider indicators that target elements like “sensitivity” and “adaptive capacity” rather than more generic terms like “resilience.”**
- **Balance the IPO-OI Framework:** Ensure that each heritage typology is supported by a full suite of indicators—from inputs and processes to outcomes and impacts. This will allow for a holistic assessment of adaptation measures, enabling policymakers to track long-term effectiveness and systemic change.

By addressing these gaps, the indicator framework can evolve from a primarily process- and output-oriented model to one that comprehensively monitors how investments in cultural heritage lead to tangible, lasting impacts on community resilience and adaptive capacity.

3. *Percentage-Based Indicators*

Issue: The 9g Indicators included in the Consolidated List rely heavily on percentage-based indicators which may distort progress, penalize incremental gains, and skew action towards easily measurable elements.

Over-reliance on Percentage-Based Indicators

The recommended 9g Indicators rely rather heavily on percentage or fraction-based indicators requiring the calculation of an absolute denominator (e.g., “% of climate-sensitive cultural practices adapted with climate-resilient processes” [9g02]; “Percentage of management plans or safeguarding plans developed and implemented for classified heritage sites or intangible cultural heritage elements” [9g48]). Consistent with HACA’s earlier consultation submissions, this raises the following concerns:

- **Inventories Bias.** Many living heritage practices or unregistered sites lack formal counts meaning they may be omitted from Indicators’ denominators. For example, in many countries, only a small proportion of practices are documented or “classified” under formal systems (e.g., ICH 2003 Convention lists).
- **Elite Bias.** Such indicators have the effect of forcing policymakers to work with only the narrow slice of heritage which has been formally inventoried or documented, and this can privilege well-known or state-recognized elements, sidelining grassroots, minority, or vernacular heritage.
- **Maladaptation Risk:** These metrics may push states to prioritize “measurable” heritage over “living” heritage, skewing investments and actions toward what is countable rather than what is essential to community sustainability, wellbeing and adaptation.
- **Data burden.** States cannot reliably quantify every intangible practice or local site at scale.

In brief, the traditional percentage-based models are seen as reductive and potentially misleading, especially when recommended success thresholds (often around 50% or even 75–100%) demand unrealistic comprehensiveness when starting from near zero.

A Shift Toward “Direction-of-Travel” Metrics

HACA continues to favor “direction-of-travel” indicators. Rather than fixating on whether a set percentage of sites or practices meets a predefined metric, HACA collaborators argued that tracking incremental improvements—such as growth in the number of sites with adaptation plans—more accurately reflects progress. This approach acknowledges that even small, early changes (for instance, the initiation of an adaptation plan at one heritage site) can have cascading, significant impacts over time. Some collaborators suggested that these indicators could be expressed as a percentage improvement or increase, which would still be quantitative but would inherently recognize gradual progress rather than static, arbitrarily high thresholds.

Exploring Quantitative, Qualitative, and Hybrid Approaches

Not all commenters dismissed percentage-based indicators. Some pointed out that numerical or percentage-based indicators don't automatically privilege elite heritage if they're carefully constructed. Moreover, some HACA collaborators proposed a hybrid solution by integrating process-based or quality-focused metrics alongside more traditional quantitative assessments. This hybrid approach seeks to marry the clarity of numerical data with the nuance of qualitative insights, thereby broadening the scope of what is counted and ensuring that a more diverse range of cultural expressions is captured.

Illustrative Quotes from Participants in the HACA Consultation

"When adaptation progress is measured against incomplete denominators, we risk invisibilizing the most vulnerable heritage—those most exposed to climate change but least formally recognized." – *Salma Sabour (Morocco)*

"HACA should continue to advocate for direction of travel ... It would also allow for incremental improvements which - when starting from zero - are significant and should not be positioned as a failure. Even one heritage site taking action can represent a huge step forward in capacity and can have cascading impacts." - *HACA Commentator*

"There could also be 'hybrid indicators' suggested, such as number of 'high quality/ beneficial interventions/process', where this quality's criteria would be defined alongside the indicator'- *Ege Yildirim (Turkey)*

"From the perspective of practitioners working with living heritage systems like those in Koutammakou, percentage-based indicators built on fixed denominators (e.g., "total number of cultural practices") are problematic, reductive, and exclusionary. In these contexts, cultural practices are dynamic, oral, and interwoven, often absent from formal inventories and resistant to numerical enumeration." – *Ibrahim Tchan (Benin)*

HACA Recommendations

The final list of Target 9g Indicators should:

- Utilize fewer "percentage indicators" and rely more heavily on "direction-of-travel" metrics which reflect positive momentum (e.g., "number of cultural practices integrating adaptation measures is increasing") rather than potentially misleading completeness.
- Encourage a plural and inclusive approach to data that allows communities to define what counts as cultural heritage without the need for exhaustive enumeration.
- Retain fractional indicators only where denominators exist and are reliable, for example, World Heritage Convention inscribed properties, or 2003 ICH Convention inscribed elements.
- Urge the inclusion of alternative indicators that track processes such as: (1) the integration of community-defined practices in climate action plans; (2) the engagement of underrepresented groups in adaptation processes; (3) or the recognition of undocumented knowledge systems in local strategies.

- Utilize hybrid approach that measures the “number of high quality/beneficial interventions” (ratio of new to existing, rather than total to overall).
- Encourage incremental targets (e.g., 10% more community-driven vulnerability assessments in each cycle).
- Document denominator sources clearly in metadata and allow bounded estimates especially for ICH/cultural practices.

4. Framing of Target 9g Subcomponents

Issue: Discussions at SB62 indicate that the division of targets into subcomponents may play a critical role in the final set of indicators selected for each FGCR Target. HACA asks the CH Experts to reconsider the framing of the three subcomponents into which it is currently proposed that Target 9(g) be divided and continues to believe the 3 subcomponents it proposed in its March and July 2024 submissions support effective and robust indicators.

Target 9g Subcomponents

In the CH Progress Report, the CH Experts identified three subcomponents of Target 9g: (i) Impacts of climate-related risks on cultural heritage, (ii) Adaptation strategies developed to protect and preserve different cultural heritage sites, and (iii) Implementation of climate-resilient adaptation responses for cultural heritage.

HACA members note that subcomponent (i) may not be consistent with the view of some Parties who have stressed that indicators that describe impacts, exposures or hazards without capturing adaptation may need to be removed. The framing of subcomponent (ii) complicates efforts to assure 9g will be understood as embracing both heritage sites (natural and cultural) and cultural practices. Finally, the framing of the third component as formulated by the CH Experts eliminates express reference to IK and LK and erases the innovative linkages set out by the FGCR authors between them and the design of climate resilient infrastructure.

HACA asks that the CH Experts reconsider the framing of the three subcomponents into which it is currently proposed that Target 9(g) be divided. HACA suggests anew the 3 subcomponents it proposed in its March and July 2024 submissions:

- o Protecting cultural practices from the impacts of climate-related risks by developing adaptive strategies;
- o Protecting heritage sites from the impacts of climate-related risks by developing adaptive strategies;
- o Designing climate-resilient infrastructure guided by traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems.

Disaggregation

Depending on the final guidance provided to the Experts, it will be important that the CH Experts provide for consistent disaggregation of data across Target 9g subcomponents. The principle Indicator options currently proposed for disaggregation are 9g52-54. Elsewhere HACA expresses its serious reservations about the current wording of these options. HACA suggests that disaggregation be incorporated more holistically into the 9g indicators. We recommend that it be made clear that Indigenous Peoples be accounted for separately from local communities by the use of a comma between the two phrases. We applaud the inclusion of gender, age, and people with disabilities, but do not understand the presentation of these categories as subsets of Indigenous Peoples and local communities. Rather these should be independent categories for disaggregation along with Indigenous Peoples, and local communities.

Finally, HACA agrees with the input of the International Organization for Migration (IOM) that disaggregated data for migrants and displaced persons may not be readily available. HACA supports IOM's suggestion that a better indicator would be related to strategies for the planned relocation of populations at risk that protect cultural heritage and knowledge. Planned relocation is a recognized adaptive strategy for safeguarding and conserving intangible cultural heritage and cultural practices in the face of climate displacement. This proposed indicator would capture that.

Component on Guiding Climate-Resilience Infrastructure

Target 9(g) uniquely calls for “climate-resilient infrastructure guided by traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems.” HACA proposed that this element be considered a distinct component of Target 9g. While the Experts did recognize this element as a distinct component, they reframed it as addressing “implementation of climate-resilient responses,” and erasing the FGCR’s unique linking of TK and IK as guides to making climate infrastructure more resilient.

The indicators tagged to this component by the Experts (9g56, 9g60, 9g61) follow from their chosen framing. A possible exception is 9g56: “Share of tangible heritage [buildings, sites] retrofitted with climate-resilient materials or technologies [guided by traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems].”² It is unclear why the second half of the text is in brackets in the Consolidated List.

One indicator recommended by HACA in earlier submissions for an infrastructure component was included by the Experts as 9g12 (“Number of initiatives implemented to build infrastructure decision makers competence and capacity to receive, comprehend, and value insights

² Indicator 9G56 is on one of only two recommended Indicators expressly addressing heritage buildings. As such, it attracted significant attention from HACA collaborators. Collaborators noted that its use of the term “retrofitting” suggests a mitigation focus, while the rationale emphasizes adaptation—redesigning buildings to withstand climate impacts—creating confusion. **Filippo Calcerano from Italy** argued that heritage conservation demands both adaptation and mitigation. He proposed reframing 9G56 to measure the share of heritage sites receiving evidence-based, joint adaptation-mitigation improvements—incorporating passive, active, and renewable energy solutions—to clarify objectives and align conservation with climate action.

from Indigenous Peoples (IPs) and local communities (LCs) in the development of infrastructure, both at the individual and institutional levels.”)

HACA appreciates the Expert’s observation that their intent was to mainstream IK and TK across all 9g components. This can and should be achieved without losing explicit reference to IK/LK in the component summaries and focus on the unique role of IK and TK in guiding climate resilient infrastructure (and linkages to FGCR Target 9e this brings). The Experts’ approach also misses the chance to emphasize the power of IK and LK to avoid maladaptation in the design of climate resilient infrastructure. (See Issue 8).

Illustrative Quotes from Participants in the HACA Consultation

“These indicators are ‘locking in’ heritage in a narrow understanding of the relevance of culture and heritage in adaptation ... It ignores the opportunities for which culture and heritage, IK and LC could inspire and inform the development of new / heterodox economic infrastructures for adaptation, transformation, survival and wellbeing. The initially suggested indicator by HACA would for instance have allowed for a direct link between the heritage in the design and implementation of non-extractive and climate resilient (circular-, mutuality- and networks based) economic infrastructures.” -- *Cecilie Smith-Christensen (Norway)*

“Recognizing how traditional architecture has passed down ancestral wisdom, providing tools for climate-resilient architecture, is very important. Examples of traditional architecture being used in modern architecture. For example, use of traditional bamboo constructions has been proven to survive hurricanes and it’s a sustainable material.” -- *Sarah Forgeson (New Zealand)*

HACA Recommendations

The final list of Target 9g Indicators should:

- Include subcomponents on cultural practices and heritage sites, thereby aligning with the text of the GFCR.
- Holistically address disaggregation for each subcomponent, including disaggregation of Indigenous Peoples as a separate category.
- Address migration and displacement via a substantive indicator and not a disaggregation element.
- Reinstate “infrastructure” and the linkage to traditional knowledge, Indigenous Peoples’ knowledge and local knowledge systems in this component’s title and narrative and in this regard;
 - Retain 9g12 in the final list of Indicators but retag in under such an infrastructure sub-component.
 - Add indicators on FPIC in infrastructure decisions, e.g.: Proportion of infrastructure plans with documented free, prior, informed consent of relevant IP/LC institutions.

- Arrange for cross-target collaboration with infrastructure, nature and water expert groups on using IK and LK on ecosystem-based infrastructure (see Target 9(d)).

5. Indicators Encouraging Adaptation Guided by Local Knowledge Systems Must be Paired with Indicators Measuring Ethical and Equitable Engagement

Issue: Inclusion in the Consolidated List of multiple Indicators measuring the use of Indigenous Knowledge and local knowledge to guide adaptation is a welcome development but the failure to pair these with measures addressing ethical and equitable engagement could actually encourage extractive or top-down approaches to IK/LK.

Adaptation Guided by Local Knowledge Systems

HACA applauds the efforts of the CH Expert Group to incorporate indicators measuring adaptation based on and guided by traditional knowledge, Indigenous Peoples' knowledge, and local knowledge systems across the components of Target 9g. This focus is supported by the text of Target 9g and by FGCR Para 14. Relevant Indicator options included in the Consolidated List are:

- Proportion of traditional ecological knowledge (TEK) initiatives operationalized for ecosystem-based adaptation supporting heritage sites (9g07)
- Percentage of adaptation measures that value and use traditional knowledge, ways and livelihoods of culturally diverse populations (9g30)
- Percentage of application of local, indigenous and traditional knowledge in DRR (9g31)
- Share of adaptation strategies and plans for cultural heritage that have fully incorporated Indigenous Peoples, indigenous and local knowledge, and traditional ecological knowledge (9g58)

Need for Indicators Measuring Equitable Engagement

At the same time, HACA has deep concern about the absence of parallel indicators addressing ethical and equitable engagement with Indigenous Peoples and local communities. Ethical and equitable engagement relative to the “application” of IK/LK (as well as “wisdom and values”) is explicitly called for in FGCR Para 22. The terms of Para 22 should be incorporated into the indicators for every FGCR target but are especially important in 9g where inclusion of indicators encouraging *use* of IK/LK without such corresponding equitable engagement metrics could encourage proliferation of extractive or top-down approaches to IK/LK.

HACA collaborators unanimously agreed that indicators for Target 9g must explicitly measure the existence of mechanisms for assuring respect for rights-holders and centering co-development, allowing assessment of conditions for ensuring Indigenous peoples and local communities actively lead and define knowledge-sharing processes, rather than being treated as passive recipients.

Illustrative feedback from HACA consultation:

“I think overall CH Experts have a sensitivity in their approach to Indigenous and local communities. ... I think this should be acknowledged. However, in 9g52-53-54, I also sense a top-down language.” -- *Mesut Dinler (Turkey)*

“I would highly recommend any indicator that seeks to integrate or use Indigenous knowledge must start with a proper indicator on ethical engagement, otherwise we once again fall into extractive, top-down approaches of knowledge identification and utilization that fundamentally decontextualise and misuses knowledge.” – Sarah Forgesson (New Zealand)

Criticism of Top-Down Language in Existing Indicators

HACA collaborators were unanimous in their concerns about the wording of Indicators 9g52-54 which suggest Indigenous peoples must be “made aware” of climate risks and responses. This language implies that they lack existing knowledge, rather than recognizing them as holders of sophisticated climate adaptation strategies. Illustrative feedback from HACA collaborators on this point includes the following:

“Many Indigenous peoples in Oceania are far more aware of the climate change risks as well as appropriate responses for reducing climate change impacts to their Indigenous heritage and Country than are non-Indigenous people.” — *Helen Wilson (Australia)*

“Made aware of” is not in line with the UN Declaration on the Rights of Indigenous Peoples and FPIC in general.” — *Meredith Wiggins (USA)*

“The preservation of sacred forests, community-led architecture (Takienta), and seasonal knowledge systems in Koutammakou demonstrates that locally led, value-driven adaptation is not only possible—it is already happening. The challenge is not to ‘make people aware,’ but to respect, support, and scale what they already know. — *Ibrahim Tchan (Benin)*

HACA collaborators stress that adaptation strategies should emphasize mutual knowledge-sharing rather than assume an external entity must educate Indigenous communities.

Need for Input-Process-Type Indicators on Strengthening Indigenous Peoples’ Representatives

HACA believes that expanded input and process-type indicators looking at strengthening access and capacity of Indigenous Peoples’ representative institutions in the climate space are needed.

The 9g Consolidated List does include the following:

- “Number of awareness raising and training programs/ workshops on climate change (vulnerability, risk, resilience, and adaptation) are conducted for conservation professionals/ local communities/indigenous peoples.” (9g50)
- “Number of programs encouraging youth to adopt and scale traditional solutions for climate adaptation.” (9g17)

What is still needed is an indicator assessing support for Indigenous Peoples and their sovereign capacities.

Concerns Over Indicators for Protected Area Designations

As written, Indicators 9g32 and 9g35, which promote the creation of protected areas for cultural heritage, raised alarm among HACA collaborators. Without safeguards, protected areas designations could lead to dispossession or restrictions on Indigenous communities' access to their lands and cultural spaces. These indicators need to be revised to explicitly require consultation with affected communities and compliance with UNDRIP principles. Illustrative feedback:

"[T]he actual protection measures around protected areas may be very different across countries and regions, which means that many communities will actually come out worse off, and dispossessed from their lands and no longer have any say in its management. It speaks again for the need for clear and robust safeguard measures that clearly stipulates the requirement for engagement and consulting of communities that ensures they are protected." – Sarah Forgesson (New Zealand)

HACA Recommendations

The final list of Target 9g Indicators should:

- Retain one or more indicators measuring adaptation based on and guided by traditional knowledge, Indigenous Peoples' knowledge, and local knowledge systems
- Introduce dedicated indicators for ethical engagement
 - Metrics should track compliance with UNDRIP principles, including FPIC and self-determination over lands and knowledge in climate adaptation matters; as well as, where appropriate, analogous efforts for local communities. For example: Number of climate measures that received free, prior, and informed consent of affected Indigenous Peoples' autonomous institutions before approval. Here, HACA supports the recommendation of the Indigenous Peoples Organization for a 9g Indicator (perhaps under the Cultural Practice sub-component) on "Percentage of Indigenous Peoples' lands, territories and resources with legally recognized collective tenure rights." Land tenure security is key for assuring ethical use of IK and the intergenerational transmission of IK.
- Reframe language to reflect partnership rather than imposition
 - Reframe (and perhaps consolidate) Indicators 9g52-54 to recognize Indigenous Peoples and local communities as active agents, not passive recipients (e.g. replace "made aware of" with "co-developed with").
- Include safeguards for adaptation initiatives involving protected areas
 - Consultation, participation, benefit-sharing with Indigenous Peoples and local communities and, where appropriate, FPIC must be explicitly referenced in any indicators on protected areas included in the final list.

- Indicators(s) on Support for Indigenous Peoples and Local Communities
 - At least one indicator should be dedicated to measuring efforts to support access to and capacity building for Indigenous Peoples and local communities in adaptation process, for example: Number of: (i) measures to promote capacity building and strengthen leadership of Indigenous peoples' self-governing institutions within climate adaptation processes; (ii) instances of use of Indigenous languages in systems of signposting, documentation and official communications for climate action and planning.

6. Inclusive Processes

Issue: Absence of indicators assessing inclusive processes and locally-led adaptation for cultural heritage runs the risk of undermining the entire 9g indicator package.

Closely related to the issue of ethical and equitable engagement is the need to assess inclusive and locally led processes. FGCR **paras 20 and 21** emphasize the role of stakeholders in adaptation. HACA believes that **inclusive processes** are particularly important in cultural heritage adaptation because the initial determination of cultural or historical significance **itself is shaped by community valorization**. This aligns with the **Faro Convention's concept of "heritage communities,"** which recognizes that **heritage is defined by those who value it**.

Two 9g Indicators included in the Consolidated List explicitly address participation in adaptation processes. HACA considers these provisions to be promising:

- **Indicator 9g34** ("Existence of community mapped vulnerability to climate hazards of cultural sites, practices, and collections").
- **Indicator 9g47** ("Extent to which culture sector professionals and civil society including Indigenous Peoples and local communities participate in the preparation and implementation of culture sector policies, programmes and activities") is a step in the right direction, especially because it addresses the processes of supporting inclusion.

One HACA commentator wrote:

I really liked "Indicator 9g47" ... [it] could already be a game changer because it also raised the issue of training needs and capacity building in the cultural sector. – *Cornelius Holtorf (Sweden)*

At the same time, HACA collaborators overwhelmingly indicated that the text of these should be carefully refined by (1) Disaggregating **rights-holders and stakeholders**; (2) **Specifying the qualitative nature of participation** (e.g., equitable, locally-led); and (3) expanding scope to cover not just **culture policies** but also **climate adaptation planning**.

HACA collaborators contrasted 9g47 with **Indicator 9d13**, recommended by the **Nature Experts**, which reads:

"Number of countries taking action towards the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making and access to justice and information

related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities, and the full protection of environmental human rights defenders.”

One HACA commentator wrote:

“Revisions are needed to proposed indicators 9g34 and 9g47 to emphasize the importance of locally led, inclusive processes rooted in plural knowledge systems, scientific, Indigenous, and local, ensuring that participation is not merely symbolic but grounded in meaningful engagement, cultural sovereignty, and community agency. These improvements [should] explicitly recognize rights-holders as decision-makers and knowledge bearers, rather than conflating them with stakeholders.” – *Salma Sabour (Morocco)*

In addition to refining these Indicators, other indicators which are currently silent on relevant processes could be improved by including such references. For example, Indicator 9g01, which currently reads “% of identified at-risk cultural heritage sites with adaptation measures implemented,” could be refined to emphasize the quality and inclusiveness of those measures, e.g. “% of identified at-risk cultural heritage sites with inclusive, values-based adaptation measures implemented, co-developed with affected communities.”

Mapping of Culture and Heritage

As noted above, the inclusivity of inventorying and designation/listing processes play a foundational role in adaptation as these processes often define what elements will be counted as cultural heritage for purposes of prioritizing risk assessment and adaptation action. The one 9g Indicator included in the Consolidated List on the topic of inventorying(9g49) reads as follows: “Total number of cultural and natural heritage sites that are officially listed and protected.” As written, this Indicator addresses only heritage sites, omitting inventorying and listing of cultural practices. It also fails to measure whether locally-led or inclusive processes were used.

Long-Term Thinking and Intergenerational Considerations

Beyond human engagement, some members proposed expanding inclusivity to **future generations** and even **non-human elements** such as **rivers, pollinators, and ecosystems**.

One HACA collaborator shared:

“I am missing a reference to future generations necessary for a longer-term, intergenerational perspective. I would also have liked to see inclusion to include other than the human species. Of course, the next generations, bees and rivers can't be directly consulted, but there are still legal mechanisms that could have ensured their representation.” — *HACA Member*

Concerns Over Multi-Level Governance

HACA collaborators also noted that multi-level governance was not adequately addressed in the CH Experts’ indicators. HACA had recommended that at least one indicator measure the critical role of regional, national, and subnational governments play in adaptation processes for heritage sites and cultural practices.

HACA Recommendations

The final list of Target 9g Indicators should:

- **Retain Indicator 9g34** but revise to cover all heritage sites and cultural practices and strengthen by using standard climate parlance such as “locally-led” or “inclusively mapped” rather than the more ambiguous phrase “community mapped”.
- **Retain Indicator 9g47** but revise to specify coverage of adaptation processes for heritage sites and cultural practices, and to specify measurement of processes that are inclusive and equitable as to all participants including culture sector professionals and other stakeholders and which recognize the role of Indigenous peoples and other rights-holders as knowledge holders and decision-makers.
- **Retain Indicator 9g49** but revise to cover listing and protection of both heritage sites and cultural practices, and to include reference to inclusive, locally-led values mapping and listing processes.
- Recognize Multi-Level Governance by including language that makes explicit **the need to track the role of local and regional governments** in adaptation of heritage sites and cultural practices.
- Introduce the notion of **future generations and ecosystems/natural heritage elements as potential rights-holders/stakeholders**.

7. Empowering People, in Particular Youth, with Knowledge, Skills, Values, and Attitudes Necessary for Climate Action

Issue: Recommended Indicators lack attention to the role of cultural heritage in climate education and to empowering people, in particular children and youth, with the knowledge, skills, values and attitudes necessary for active action to combat climate change

FGCR para 23 calls for attention to climate education and to empowering people, in particular children and youth, with the knowledge, skills, values and attitudes necessary for active action to combat climate change. Given the essential role of cultural and heritage in these processes, HACA believes they should be addressed in the Target 9g indicators, including addressing the dynamic transmission of cultural and heritage knowledge.

The Consolidated List for 9g does include at least 3 indicators that touch on related topics:

- Extent to which global citizenship education and education for sustainable development with a particular emphasis on cultural diversity are mainstreamed at all levels in education policies, curricula, and assessments. (9g42)
- Assess the mainstreaming of cultural knowledge to inform and enhance sustainable development practice. (9g43)

- Degree of inter-cultural understanding and acceptance of people from other cultures to participate together in socio-economic activities. (9g44)

While these indicators go in the right direction, HACA believes that they require revision to better align with FGCR para 23, which reflects a core competency of culture that 9g should address.

Need to Highlight the Cultural Dimensions of Climate Education

HACA collaborators stress that climate education must go beyond formal schooling to encompass the cultural heritage and memory of communities. Institutions such as museums, libraries, archives, and traditional storytelling venues are uniquely positioned to provide lifelong learning opportunities. These platforms not only help learners of all ages connect with traditional knowledge but also foster shifts in values and attitudes that support resilient, climate-responsive behaviors. However, **the currently proposed Indicators (9g42–44) tend to focus on formal education**, missing opportunities to highlight the role of memory institutions and community-led storytelling in transmitting environmental histories.

Illustrative HACA member insight:

“Memory institutions, such as museums, libraries, and archives, as well as traditional venues for storytelling and community engagement, complement the formal schooling system and offer lifelong learning opportunities to connect learners of all ages with different forms of knowledge systems and memory in order to unpack and understand their relationship with the environment.” - *Rachelle Kalee, International Council of Museums*

“At Koutammakou, teaching youth how to maintain a Takienta is not just construction—it’s climate education, values transmission, and cultural continuity in one. Indicators must reflect this lived reality to unlock the full potential of heritage in adaptation.” — *Ibrahim Tchan (Benin)*

Addressing Structural Barriers: The Digital Divide and Uneven Access

HACA applauds the inclusion of an Indicator (9g10) on digitization (though we request the wording be revised to measure digitization of “collections” rather than “objects,” to better address documentary heritage and other typologies). Beyond that, several collaborators noted that a persistent digital divide disproportionately limits access to primary source materials, especially for communities in the Global South. Critical resources, such as ancient maps and historical records held in Western institutions, remain under-digitized and inaccessible. This structural barrier prevents local researchers, educators, and community leaders from engaging with their own environmental histories, thereby constraining the potential for locally relevant climate education. One HACA collaborator noted:

“Through our Net Zero: Heritage for Climate Action project, we found that crucial historical resources—such as ancient maps showing the historical extent of forest cover or glaciers in Africa—are often held in Western institutions. These institutions, facing their own digitization backlogs, frequently lack both the capacity and the incentive to prioritize access to this knowledge, particularly for communities in the Global South. ... Without equitable access to these records, our ability to learn from past adaptive strategies and apply them to current climate challenges is severely constrained.” — *Aparna Tandon, ICCROM*

Realizing the full potential of heritage in climate action requires addressing such structural barriers to access. This includes not only digitization but also the repatriation and contextualization of materials, capacity-building for local memory institutions, and support for community-led storytelling.

Enhancing Youth Representation and Empowerment in Target 9g Indicators

Two 9g Indicators included in the Consolidated List refer to youth:

- **9g17:** Number of programs encouraging youth to adopt and scale traditional solutions for climate adaptation.
- **9g14 & 9g52:** Inclusion of age-disaggregated data, but without a youth-specific focus.

While both reflect useful concepts, HACA collaborators feel they fail to capture the critical role youth play in cultural and heritage processes and climate adaptation. In the HACA consultation, Darius Saviour Ankamah, Co-Convenor for Africa of the Climate Heritage Network Youth Forum and member of the YOUNGO Arts, Culture, and Heritage Working Group wrote:

“This limited representation [of youth in the draft 9g Indicators] does not reflect the critical role youth play as cultural knowledge holders, agents of innovation, and drivers of intergenerational resilience. The indicators needed to ensure youth as active agents and key parts of the process (not merely beneficiaries) of heritage adaptation, which is essential for ensuring long-term sustainability, equity, and innovation in climate resilience efforts.” —Darius Saviour Ankamah (Ghana)

Enhancing the coverage of Youth in the 9g Indicators would better align them with FGCR Para 23 as well as the UNFCCC ACE Agenda and SDG targets—while also reinforcing intergenerational equity and sustainability.

HACA Recommendations

The final list of Target 9g Indicators should:

- Strengthen Indicators to Reflect the nexus between adapting cultural heritage and youth leadership
 - Revise Indicator 9g17 to track youth-led initiatives in cultural heritage adaptation.
 - Revise Indicator 9g47 to require reporting on youth participation mechanisms.
 - Enhancement of Indicators 9g26 and 9g50 (Capacity Building): Include sub-indicators that track the number of youth-targeted training programs/workshops in cultural heritage conservation and climate risk assessment and adaptation.
- Revised Indicators 9g44-42 to Introduce a focus on Memory Institutions and Storytelling and emphasis climate adaptation in addition to sustainable development
 - Capture the contribution of memory institutions (museums, libraries, storytelling circles) in climate education, for example by tracking the number of community-based culture and heritage programs teaching climate resilience skills, disaggregated by gender and region.

- Emphasis values and attitudes necessary for climate action (e.g. number of educational programs aimed at passing on values of stewardship, reciprocity, and resilience, measured through pre- and post-program attitudinal surveys).
- Address the Digital Divide and Access Barriers
 - Introduce an indicator measuring equitable access to historical climate knowledge, including for example measuring digitization, repatriation, and contextualization of materials for Global South researchers (e.g. share of critical environmental heritage data sets [maps, archives, oral histories] digitized and made available to source communities, with open access and capacity-building support).

8. Cross-linkages Between the Cultural Heritage and other FGCR Targets

Issue: Cross-linkage between cultural heritage and other thematic and dimensional targets is inadequately addressed across the entire Consolidated List.

Recognizing Cultural Heritage as Transversal

Cultural heritage—encompassing both tangible assets and intangible practices such as Indigenous and traditional knowledge—is inherently interwoven with other thematic areas (e.g., food, water, nature) as well as with the dimensional targets (planning, risk assessment, monitoring, evaluation, and learning). Failure to integrate these linkages risks fragmenting adaptation efforts and weakening the overall coherence of climate action. For example, traditional knowledge not only guides ecosystem-based adaptation (EbA) and nature-based solutions (NbS) but also underpins adaptive strategies related to water and food systems as well as to governance and recognition of risk.

Gaps in Cross-Target Coordination

The Consolidated List template utilized by all expert groups invited experts to identify for each Indicator that was included, any “Other target(s) it is relevant for.” HACA collaborators note that very few other expert groups identified any of their Indicators as relevant to cultural heritage, including those for water (9a) or food (9b). The CH Expert Group identified 9g Indicators relevant to the nature thematic but not to any other thematics.

Understandably, the greatest (indeed only) cross-relevance identified for cultural heritage so far is with nature. The Nature Expert Group identified 4 of their Indicators as relevant to the cultural heritage thematic (e.g. 9d10 “Coverage of protected areas and other effective area-based conservation measures”). However, they surprisingly make no reference to the role of IK/LK in NbS or adapting ecosystems.

Similarly, while the CH experts have identified five indicators relevant to the Nature Target, more remains to be done in the nature field and no other cross-thematic links were noted. This limited cross-linking could undermine the effectiveness of adaptation actions by ignoring the real-world inter-linkages of cultural and ecological systems.

HACA believes strongly that additional work must be done to address in recommended Indicators the synergies between cultural heritage and other thematic targets. HACA collaborators recommend the introduction of cross-target indicators—for instance, one that measures the extent to which cultural heritage elements (such as sacred groves or traditional water rituals) are recognized and utilized in adaptive strategies across food, water, and ecosystem services.

Cross-Cutting and Co-Developed Dimensional Target Indicators

As it regards the dimensional targets, HACA had strongly argued that indicators applicable to all four dimensions (10a-d) are needed to measure matters related to the three culture-related-cross cutting issues set out in the FGCR (ethical and equitable engagement; application of traditional knowledge, Indigenous Peoples' knowledge, and local knowledge systems; and strategies to transmit the knowledge, skills, values and attitudes necessary for active action to combat climate change).

The Dimensional Targets Experts did include several indicators in their contribution to the Consolidated List that touch on these matters:

- **10a Impact, vulnerability, risk assessment:** “Number of Parties with traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems integrated into their risk information systems” (10a01d)
- **10b Planning:** “Number of Parties that have developed their NAP/policy instrument in an inclusive and participatory process, with documented engagement of subnational actors, Indigenous Peoples, women, youth, civil society and vulnerable groups (10b1f)
- **10c Implementation:** “Percentage of international climate adaptation finance allocated to sub-national and local institutions, by (i) focus area; (ii) gender; (iii) People with disabilities; (iv) Migrants and displaced people; and (v) Indigenous Peoples (10c08)
- **10d Monitoring, Evaluation and Learning:** “Inclusion of vulnerable and Indigenous and Local People in capacity building for the MEL system of national adaptation efforts”. The description goes on to say: “This element evaluates the extent to which indigenous knowledge, traditional practices, and local observations are systematically incorporated into formal adaptation M&E systems. It assesses whether these knowledge systems are appropriately recognized and validated, whether there are protocols and clear methodologies for ethically integrating diverse knowledge types. Further it reflects whether indigenous and local knowledge holders are not only receiving the needed capacity but could be recognized as experts. This element also considers whether traditional metrics of success are incorporated alongside conventional scientific indicators.” (Indicator 10d05c)

These Indicators reflect an important mainstreaming of aspects of IK and TK into overall climate adaptation processes. The MEL target is exemplary in its attention to ethical and equitable engagement while the Risk Assessment Indicator is fully missing this concept. Other elements of culture and heritage (e.g. culturally appropriate processes, uses of local languages) are missing. Indicators addressing the role of empowering people through attention to skills, values and attitudes (FGCR para 23) in the success of the Iterative Adaptation Cycle are also missing.

The Technical Report notes that there were discussions between the CH Experts and the 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. HACA is grateful to these experts for raising these issues and agrees more work is needed.

Illustrative Quotes from HACA Collaborators:

"The limited cross-linkages between the Cultural Heritage Target and other GGA targets, especially nature, water, and food, are concerning... Cultural heritage, including TEK and place-based practices, is not an isolated issue; it underpins adaptive strategies in food systems, water governance, and biodiversity stewardship." — *Verónica Ruiz, IUCN*

"A cross-cutting indicator may be introduced on Cultural-Ecological Systems: 'Extent to which cultural heritage elements (e.g., ancient sacred trees, groves, water rituals, traditional farming systems) are recognized and utilized in adaptation strategies for food, water and ecosystem services.'" — *Khandoker Mahfuz-ud-Darain (Bangladesh)*

"Very unusual to not see any mention of biocultural heritage in any of these documents. More cross-linking is vital." — *Meredith Wiggins (USA)*

HACA Recommendations

The final list of FGCR Indicators should:

- **Strengthen Tagging and Integration between Thematic Targets:**
 - Comprehensively tag recommended 9g Indicators (e.g., 9g07 and 9g09) to other thematics including nature, food, and water targets.
 - Facilitated work between the CH Expert Group and other expert groups so that indicators from those thematics also incorporate heritage-based adaptation elements, especially IK/TK (e.g. traditional irrigation practices or food security rituals).
- **Adopt a Biocultural Approach:**
 - Collaboration between nature experts and culture experts to embed frameworks like the CBD's Article 8(j) or UNESCO's cultural landscape concepts to ensure that Indigenous Knowledge and biocultural heritage are measured in a coordinated fashion across nature (9d) and culture (9g) indicators.
 - Ensure inclusion in the indicators for Target 9d of a metric addressing equitable and ethical application of IK/LK to NbS.
- **Ensure that each dimension target (10a-d) includes coverage of culture and heritage. For example:**
 - Risk Assessment: Revise 10a0id to address ethical and equitable engagement with Indigenous Peoples and local communities, including obtaining FPIC when indicated.

- Planning (10b): Revise 10b1f to count the number of NAP processes conducted in local languages and the number of NAPs with chapters on cultural heritage developed through inclusive processes.
- Implementation (10c): New Indicator: “% of adaptation finance allocated to heritage projects proposed by Indigenous Peoples and local communities’ rights-holders and stakeholders, disaggregated by source and project type.”
- MEL (10d): Retain 10d05c and add: Supplementary: “Number of open-access case studies on heritage adaptation successes and lessons learned, co-authored with rights-holders.”
- **Develop Cross-Target Co-Benefit Indicators**
 - Introduce indicators that quantify the number of adaptation strategies co-developed across thematic areas that utilize cultural heritage as an asset. This would help illustrate the co-benefits in social cohesion, biodiversity, and traditional livelihoods that arise from integrated adaptation planning.

9. Maladaptation

Issue: The current Consolidated List including (but not limited to) the recommended indicators for Target 9g overlooks the risk of maladaptation.

The Overlooked Risks of Maladaptation

HACA is concerned that the current Consolidated List (including the recommended indicators for Target 9g) largely overlooks the risk of maladaptation. Two aspects of maladaptation are especially relevant to cultural heritage. First, IPCC WGII found with high confidence in AR6 that “Inclusive planning initiatives **informed by cultural values, Indigenous knowledge, local knowledge**, and scientific knowledge can help prevent maladaptation”³ (emphasis added). Second, over-engineered or top-down, grand adaptation “solutions” may themselves disconnect people from place or undermine IK/LK in ways that amount to maladaptation. Indicators should address each.

The Need for Dedicated Safeguards

It is important to recognize how little attention this issue currently receives. Across the entire Consolidated List, the only substantive mentions of maladaptation appear in the rationale for one of the Target 9(e) Indicators. In order to address these issues, a dedicated maladaptation screening indicator should be included within the final indicator list — one that specifically measures whether strategies include mechanisms to identify, monitor, and prevent unintended negative impacts on

³ IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, et al. (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-33, doi:10.1017/9781009325844.001. (Section C.4.3)

cultural rights and values. Although some indicators indirectly touch on related aspects (such as vulnerability assessments or management plans), none explicitly flag potential maladaptation before it occurs. HACA believes that without such safeguards, even well-intentioned adaptation projects may end up damaging cultural heritage in ways that constitute maladaptation.

Addressing Deeper Epistemic Gaps

HACA collaborators stress that maladaptation is not only a technical shortfall but also stems from historical and epistemic biases. They contend that a redefinition of heritage from a climate perspective is needed—one that recognizes intangible, dynamic, and community-rooted practices as essential to resilience. In view of the IPCC findings, dimensional target indicators should not only address using IK/TK but also ethical and equitable engagement, but these provisions should address the role such strategies play in preventing maladaptation. One HACA collaborator wrote:

"I would argue that maladaptation also stems from a deeper epistemic gap—namely, the failure to fully engage with the root causes of the climate crisis, including post-colonial development trajectories that have historically privileged technocratic and top-down approaches." — *Aparna Tandon, ICCROM*

HACA Recommendations

The final list of FGCR Indicators should:

- **Include a Maladaptation Screening Mechanism:** A dedicated indicator (e.g., “Existence of mechanisms to identify, monitor, and avoid maladaptation in climate adaptation strategies for cultural heritage”) that prompts participatory risk assessments and ongoing reflection on potential unintended consequences should be included.
- **Center Community-Defined Values:** Indicators on use of IK/TK should measure the impact on maladaptation avoidance from ensuring that rights-holders have a decisive role in defining what constitutes effective and culturally appropriate adaptation.
- **Shift from Rigid Solutions to Flexible, Context-Sensitive Approaches:** Include an indicator measuring efforts to move away from over-engineered, one-size-fits-all monumental “solutions” and instead investing in locally led adaptation planning informed by cultural values, Indigenous knowledge, local knowledge.

Annex I

9g Indicators Included in Consolidated List by IP-OI Classification

(Prepared for HACA by Dr Salma Sabour, Director of Science, Preserving Legacies)

Indicator ID	Final indicator name	IPO-OI Classification	Typology
9g01	% of identified at-risk cultural heritage sites with adaptation measures implemented	Output	Tangible
9g02	% of climate-sensitive cultural practices adapted with climate-resilient processes	Outcome	Intangible
9g03	% of climate-resilient storage and conservation facilities operational for movable cultural assets	Output	Tangible
9g04	% of adaptation works completed on heritage buildings with climate vulnerability assessments indicating urgent action	Output	Tangible
9g05	% of intangible cultural heritage documentation updated with climate adaptation practices integrated	Output	Intangible
9g06	% of annual cultural events adapted for heat, flood, and storm resilience through modified schedules, venues, or logistics	Output	Intangible
9g07	Proportion of traditional ecological knowledge (TEK) initiatives operationalized for ecosystem-based adaptation supporting heritage sites	Process	Natural
9g08	% of sites with implemented emergency preparedness and response systems tailored to heritage-specific climate hazards	Output	Tangible
9g09	% of cultural landscapes with ecosystem-based adaptation (EbA) interventions implemented	Output	Natural
9g10	% of at-risk heritage objects digitized for preservation as a climate risk contingency	Output	Tangible
9g11	Cultural resources stewardship program developed	Process	Cross-Cutting
9g12	Implementation of initiatives to build infrastructure decision makers' competence and capacity to receive, comprehend, and value insights from Indigenous Peoples (IPs) and local communities (LCs) in the development of infrastructure, both at the individual and institutional levels.	Process	Cross-Cutting
9g13	Number of cultural heritage property management plans and cultural property safeguarding plans integrating adaptation to climate change	Process	Cross-Cutting
9g14	Number or proportion of people (disaggregated by gender, indigenous status, disability status, age group) are involved in the production of climate services for adaptation	Outcome	Intangible

Indicator ID	Final indicator name	IPO-OI Classification	Typology
9g15	Preservation and innovation projects for cultural heritage and monuments	Output	Tangible
9g16	Proportion of world heritage sites without an emergency preparedness plan	Output	Tangible
9g17	Number of programs encouraging youth to adopt and scale traditional solutions for climate adaptation	Outcome	Intangible
9g18	Percentage reduction or increase in climate-related damage to heritage sites after implementation of adaptive measures.	Outcome	Cross-Cutting
9g19	Amount of funding secured for climate adaptation projects for heritage sites/cultural practices.	Input	Cross-Cutting
9g20	Cost savings from preventive adaptive measures compared to post-disaster restoration for heritage places.	Outcome	Cross-Cutting
9g21	Number of policies or regulations updated to include cultural heritage in climate adaptation plans.	Process	Cross-Cutting
9g22	Existence of dedicated budget lines for heritage climate adaptation in national/local budgets.	Input	Cross-Cutting
9g23	Percentage of adaptive strategy projects with regular evaluation and reporting mechanisms.	Process	Cross-Cutting
9g24	Number of international collaborations on heritage climate adaptation.	Process	Cross-Cutting
9g25	Amount of funding allocated for conservation efforts of historic places.	Input	Cross-Cutting
9g26	Number of training programs and workshops on climate change (vulnerability, risk and adaptation) conducted for conservation professionals.	Input	Cross-Cutting
9g27	Nombre de nouveaux textes et réglementation du secteur de l'artisanat adaptée au contexte des changements climatiques (Number of new texts and regulations for the craft sector adapted to the context of climate change)	Process	Intangible
9g28	Number of training programmes/workshops conducted on integrating traditional knowledge of weather forecasting into existing one	Input	Cross-Cutting
9g29	Investissements alloués pour la mise en œuvre de la protection des connaissances scientifiques et traditionnelles (Investment allocated to the protection of scientific and traditional knowledge)	Input	Cross-Cutting
9g30	Percentage of adaptation measures that value and use traditional knowledge, ways and livelihoods of culturally diverse population	Process	Intangible
9g31	Percentage of application of local, indigenous and traditional knowledge in DRR	Process	Intangible
9g32	Percentage of cultural heritage sites that are designated as a protected area	Output	Tangible

Indicator ID	Final indicator name	IPO-OI Classification	Typology
9g33	Percentage of listed/classified cultural and natural heritage sites that have management plans that take into consideration a changing climate	Process	Tangible
9g34	Share of indigenous villages that have carried out a climate- and vulnerability analysis and developed action plans for adaptation	Process	Intangible
9g35	Existence of community mapped vulnerability to climate hazards of cultural sites, practices, and collections (including documents and museums)	Output	Tangible
9g36	Proportion of cultural/heritage sites accorded protected areas	Impact	Tangible
9g37	Sendai Framework C-6: Direct economic loss to cultural heritage damaged or destroyed attributed to disasters	Impact	Tangible
9g38	SDG 11.4.1 Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (Indicator '1. Expenditure on heritage' of the UNESCO Culture 2030 Indicators framework)	Process	Natural
9g39	Existence of measures to foster climate change mitigation and adaptation and enhance resilience through sustainable safeguarding and management of tangible and intangible cultural heritage as well as natural heritage. (Indicator '3. Climate adaptation & resilience' of the UNESCO Culture 2030 Indicators framework)	Process	Natural
9g40	Extent to which policies and measures exist to safeguard and promote sustainability of tangible and intangible cultural heritage as well as natural heritage. (Indicator '2. Sustainable Management of Heritage' of the UNESCO Culture 2030 Indicators framework)	Input	Cross-Cutting
9g41	Proportion of public expenditure devoted to cultural and creative activities as a percentage of the annual public budget and expenditure for the culture and creative sectors	Process	Cross-Cutting
9g42	Extent to which government policies and regulations support culture's contribution to promote better safeguarding of cultural and natural heritage and livelihoods . (Indicator '12. Governance of Culture' of the UNESCO Culture 2030 Indicators framework)	Process	Cross-Cutting
9g43	Global SDG 4.7.1 Extent to which global citizenship education and education for sustainable development with a particular emphasis on cultural diversity are mainstreamed at all levels in education policies, curricula, and assessments. (Indicator '13. Education for Sustainable Development' of the UNESCO Culture 2030 Indicators framework)	Process	Cross-Cutting

Indicator ID	Final indicator name	IPO-OI Classification	Typology
9g44	Assess the mainstreaming of cultural knowledge to inform and enhance sustainable development practice (Indicator '14. Cultural Knowledge' of the UNESCO Culture 2030 Indicators framework).	Outcome	Intangible
9g45	Degree of inter-cultural understanding and acceptance of people from other cultures to participate together in socio-economic activities (Indicator '18.Culture for Social Cohesion' of the UNESCO Culture 2030 Indicatorsframework)	Outcome	Intangible
9g46	Degree to which different people have access to cultural facilities in relation to the distribution of population (Indicator '20. Access to Culture' of the UNESCO Culture 2030 Indicators framework)	Outcome	Intangible
9g47	The extent to which visit or participate in cultural activities or skills Cultural participation (Indicator '21.Cultural Participation' of the UNESCO Culture 2030 Indicators framework)	Process	Cross-Cutting
9g48	Extent to which culture sector professionals and civil society including indigenous peoples and local communities participate in the preparation and implementation of culture sector policies, programmes and activities. (Indicator '22. Participatory Processes' of the UNESCO Culture 2030 Indicators framework)	Output	Tangible
9g49	Percentage of management plans or safeguarding plans developed and implemented for classified heritage sites or intangible cultural heritage elements that includes specific responses to environmental conditions.	Output	Tangible
9g50	Total number of cultural and natural heritage sites that are officially listed and protected.	Input	Cross-Cutting
9g51	Number of awareness raising and training programs/ workshops on climate change (vulnerability, risk, resilience, and adaptation) are conducted for conservation professionals/ local communities/indigenous peoples.	Process	Cross-Cutting
9g52	Existence of interministerial/intersectoral coordination mechanisms on adaptation that includes Cultural Heritage.	Outcome	Intangible
9g53	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	Outcome	Intangible
9g54	<i>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</i>	Outcome	Intangible

Indicator ID	Final indicator name	IPO-OI Classification	Typology
9g55	<i>Share of Indigenous Peoples and local communities, [disaggregated by gender, age, people with disabilities, migrants and displaced people] made aware of appropriate responses for reducing climate change impacts to cultural heritage</i>	Output	Tangible
9g56	Share of cultural heritage sites with implemented climate adaptation strategies and measures to preserve and/ protect cultural heritage.	Output	Tangible
9g57	Share of tangible heritage [buildings, sites] retrofitted with climate-resilient materials or technologies [guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems]	Input	Cross-Cutting
9g58	Total per capita expenditure [provide or received] on the implementation of climate adaptation strategies for preservation, protection and conservation of all cultural heritage, disaggregated by channel (bilateral, multilateral, regional); financial instrument (grant, concessional loan, non-concessional loan, equity, guarantee, insurance, other) and level of government	Process	Cross-Cutting
9g59	Share of adaptation strategies and plans for cultural heritage that have fully incorporated Indigenous Peoples, indigenous and local knowledge, and traditional ecological knowledge	Process	Cross-Cutting
9g60	Share of cultural heritage professionals [involved in the implementation of adaptation strategies] and community leaders trained in conducting a climate risk assessment and implementation of climate adaptation techniques tailored to their needs, disaggregated by training workshops and programmes; educational programming; knowledge exchange; public outreach and awareness.	Impact	Tangible
9g61	Share of exposed cultural heritage sites made climate resilient because of implementation of adaptation strategies	Impact	Tangible
9g62	Share of climate adaptation plans, strategies and measures developed and implemented for cultural heritage that have improved the resilience of culturally important sites.	Outcome	Intangible