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LEGACY SOLUTIONS

Cultural heritage in global climate action

RESEARCH **BRIEFING**

COP 29 | 11-22 NOVEMBER 2024

Background photo: Baduy Village, Lebak Regency, Banten, Indonesia | Credit: Ginevra Austine via Unsplash

KEY POINTS

- **Climate change threatens both tangible and intangible cultural heritage,** with Indigenous and local communities particularly vulnerable. The loss of traditional practices and knowledge remains insufficiently documented.
- At the same time, there is consensus in the international community that **Indigenous and local knowledge is vital for sustainable resource management and climate adaptation,** providing locally-adapted methods developed over generations.
- Despite recognition of traditional knowledge in global climate policy, implementation gaps persist, with current frameworks often **failing to protect Indigenous knowledge systems or engage Indigenous communities effectively.**
- COP27 and COP28 have integrated cultural heritage into climate adaptation strategies, but **funding and methods to address non-economic losses, including intangible heritage, are still inadequate.**
- Global climate policies require more robust frameworks to **address non-economic losses and to ensure the active participation of Indigenous peoples in decision making.**
- Case studies from Kenya, Colombia, the Amazon and the Sundarbans show how **policies can draw on local knowledge and practices** to support communities and act on climate.
- **Storytelling, cultural heritage and arts and longer narrative media work can bridge this global and digital divide.** Arts are well documented as a way to improve science communications and climate education.
- There is a need for more data and profiling of the ability of the **arts as capable of producing new climate solutions** that are interdisciplinary, intergenerational and culturally sensitive.

1. CULTURAL HERITAGE AND INDIGENOUS KNOWLEDGE ARE VITAL FOR CLIMATE ACTION

Cultural heritage at risk

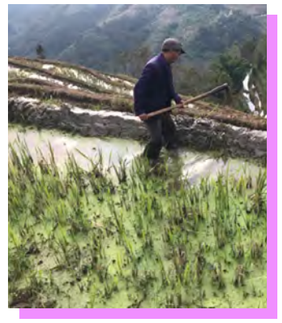

Photo top right: A Gangpuren villager managing the ditches in the Cultural Landscape of Honghe Hani Rice Terraces, Yunnan, China | Credit: © R. Zhang

Cultures worldwide are increasingly at risk[1] from the impacts of climate change. While the destruction of tangible heritage, such as monuments and UNESCO World Heritage sites[2] attracts significant attention, the loss of intangible heritage has been underexplored[3] and is rarely the main focus of campaigns, news and storytelling.[4] This is particularly detrimental for Indigenous and local communities, where intangible cultural practices are central to identity, social cohesion and spiritual well-being,[5] as well as how to adapt to their changing environments and call for climate action.

Many Indigenous peoples and marginalised communities live in highly vulnerable environments,[6] where extreme weather events and climate impacts pose severe threats. The International Council on Monuments and Sites (ICOMOS) highlights in the Future of our Pasts report that "the spirit, integrity, and traditional uses of cultural landscapes are subject to subtle incremental alterations caused by local impacts of climate change,"[7] directly threatening the livelihoods and cultural practices of communities.

> "the spirit, integrity, and traditional uses of cultural landscapes are subject to subtle incremental alterations caused by local impacts of climate change.

As ecosystems deteriorate, climate-induced environmental degradation leads to forced displacement.[8] Communities can struggle to maintain their cultural practices in unfamiliar environments, leading to a loss of the knowledge that has helped them adapt[9] to environmental variability over centuries.

UNESCO[10] and ICOMOS[11] underscore that displacement severs communities from their ancestral lands and the cultural practices that are intertwined with these environments. ICOMOS emphasises the importance of preserving these land-based connections,[12] as they provide communities with the cultural continuity and emotional stability essential for resilience. Disrupting these ties not only undermines their cultural strength but also deprives the global community of valuable knowledge which can "hold evidence of paleoclimatic change, social evolution and past human responses to environmental change and environmental stress."[13]

The growing consensus on integrating Indigenous and local knowledge into climate action

Photo: Traditional Colombian Wayuu Fisher | Credit: Daniel Pelaez-Duque via Unsplash

There's a growing consensus that Indigenous and local knowledge provides unique and irreplaceable insights into sustainable resource management and climate adaptation. Traditional knowledge systems are often highly flexible and adaptive,[14] offering centuries-spanning insights into environmental disruption that can complement modern technological solutions.

UNESCO emphasises the importance of traditional knowledge in tackling the climate crisis in the Local Knowledge, Global Goals report.[15] The ICOMOS Future of Our Pasts report takes a similar stance, highlighting the critical role of cultural interventions rooted in traditional knowledge as part of climate adaptation strategies, stating that cultural heritage holds an "untapped asset in developing both adaptation pathways and mitigation pathways."[16] These knowledge systems offer valuable insights into land management, water conservation and sustainable practices that are often overlooked in modern strategies.

By integrating local values and knowledge with scientific research, more effective and locally tailored climate solutions can be created.[17] The IPBES Global Assessment report finds that policies that exclude cultural and traditional knowledge can lead to maladaptation, exacerbating vulnerabilities and increasing the risk of climate-related impacts.[18] For example, large-scale infrastructure projects, including those designed to mitigate climate change, such as dams, can disrupt Indigenous lands, causing environmental degradation and leading to displacement.[19] This observation is echoed by UNESCO,[20] which emphasises the necessity of aligning global climate goals with locally grounded knowledge systems.

UNESCO also notes the increasing representation of Indigenous knowledge in literature on climate change, and particularly in IPCC reports. The IPCC's Fourth Assessment Report (AR4)[21] saw a "surge in the number of entries"[22] on Indigenous knowledge and first recognised this knowledge as an independent source for understanding climate impacts. Following work by UNESCO, the 2014 Fifth Assessment Report (AR5)[23] gave "broad and systematic attention"[24] to Indigenous knowledge. The recent Sixth Assessment Report (AR6),[25] published in 2023, reinforces the importance of traditional knowledge in shaping climate solutions, including in the summary for policymakers that it "facilitates climate-resilient development, builds capacity, and allows locally appropriate and socially acceptable solutions."[26]

> "cultural heritage holds an untapped asset in developing both adaptation pathways and mitigation pathways.

The gap between commitments and implementation

Despite the growing recognition of the value of traditional knowledge, there is still a persistent gap[27] between what we know about the importance of the inclusion of culture in climate policy and practical implementation. Due to historical marginalisation and power imbalances, Indigenous and local communities are often left out of decision-making processes[28] and institutional action to include these communities remains limited.

ICOMOS' Future of Our Pasts[29] and Global Research and Action Agenda on Culture, Heritage, and Climate Change[30] reports explore the institutional barriers preventing meaningful incorporation of traditional knowledge into climate policy. These reports argue that existing legal and policy frameworks often fail to protect Indigenous knowledge systems, especially in regions where land rights and resource control are contested. ICOMOS warns that climate action methodologies and policy frameworks may engage with cultural heritage superficially,[31] often relying on indirect approaches or proxies, without genuine engagement with Indigenous communities.

IPBES highlights that incorporating a broader range of worldviews, values and understandings of the relationship between people and nature[32] into decision-making, as well as respecting communities' rights, leads to more balanced and sustainable environmental and social outcomes.

The literature calls for more robust frameworks[33] that ensure Indigenous peoples' active participation in decision-making processes and emphasise the importance of acknowledging cultural and spiritual values in economic and political decisions.

> "incorporating a broader range of worldviews, values and understandings of the relationship between people and nature into decision-making ... leads to more balanced and sustainable environmental and social outcomes.

Photo: Participants in an exchange hosted by the International Network of Mountain Indigenous People learn about traditional maize varieties in the 'Barter and Maize' Park in Cusco, Peru | Credit: Krystyna Swiderska, IIED

Background photo: Rice terraces in Lia Pan Tân, Vietnam | Credit: Van Ngoc Tang via Unsplash

Background photo via UNESCO. 2017. Local Knowledge, Global Goals. UNESCO: Paris. 46 pp.

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2.

> "The framework urges that cultural heritage be protected by adaptation strategies, guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems.

PROGRESS AND GAPS IN GLOBAL CLIMATE POLICY AT COP27, COP28 & CBD COP16

COP27 marked a significant shift in global climate policy by incorporating cultural heritage into the Global Goal on Adaptation (GGA) framework, following the Glasgow-Sharm el-Sheikh work programme established at COP26. The GGA was launched as part of the Paris Agreement and then defined over the following years, aiming to guide global adaptation efforts. By embedding cultural heritage, water management and biodiversity into adaptation efforts, the GGA framework aims to ensure that climate strategies are culturally-relevant and tailored to the needs of local communities. The framework "urges" that cultural heritage be protected by adaptation strategies, "guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems."[34]

The main climate pact resulting from COP27the conference, the Sharm el-Sheikh Implementation Plan,[35] also emphasised the role of Indigenous and local actors in addressing climate change and called for multi-level collaboration.

This was further solidified at COP28 with the adoption of the Emirates Declaration on Culture-based Climate Action, which commits to "scaling up culture and heritage-based strategies"[36] for enhancing adaptive capacity and reducing vulnerability. The declaration established the Group of Friends of Culture-Based Climate Action, aimed at strengthening coordinated action in support of cultural heritage in climate initiatives.

Article 22 of the COP27 Sharm el-Sheikh Implementation Plan highlighted how "the adverse effects of climate change" are leading to "devastating economic and non-economic losses, including forced displacement and impacts on cultural heritage."[37] A key development at COP28 was the creation of the Loss and Damage Fund, designed to address both measurable climate impacts and non-economic losses (NELs), including the destruction of intangible cultural heritage.

However, the fund remains under-resourced. According to Christian Aid, damages from extreme weather events in the six months following the conference alone amounted to USD 41 billion.[38] Yet as of May 2024, only USD 792 million[39] had been pledged to the fund.

As COP29 unfolds, involving affected communities directly in identifying these losses and determining appropriate remedies will be key[40] to ensuring effective and culturally sensitive reparations. Literature suggests that new methodologies must be developed to assess and monitor NELs,[41] particularly those related to intangible heritage.

At the 16th Conference of the Parties to the Convention on Biological Diversity (CBD COP16) in Cali, Colombia, several significant outcomes[42] were achieved to enhance the role of Indigenous peoples and local communities in biodiversity conservation and to recognize their cultural heritage. Most importantly, there was the establishment of a subsidiary body that will include Indigenous peoples in future decisions on nature conservation, a development that builds on a growing movement to recognise the role of the descendants of some regions' original inhabitants in protecting land and combating climate change.

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Photo top right: Jhajayra Machoa Mendua, leader of the A'i Cofan nationality, speaks during a press conference at the 16th United Nations Biodiversity Summit (COP16), in Yumbo, Colombia, Oct. 31, 2024 | Credit: Luisa Gonzalez / Reuters

3.

GLOBAL STORIES OF CULTURE AND CLIMATE ACTION

Although international climate talks increasingly recognise the importance of cultural heritage to face global threats, integrating cultural values and Indigenous knowledge into policy remains a challenge. The following case studies offer examples of how these synergies have been developed and applied around the world.

Background photo: Traditional art displayed at the Ticuna indigenous community San Martin de Amacayacu, Leticia, Amazonia, Colombia | Credit: Matthieu via Adobe Stock

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Ticuna community-based tourism in the Brazilian Amazon

The Ticuna are the largest Indigenous group in the Brazilian Amazon, primarily residing along the upper Solimões River in the state of Amazonas.[43] With an estimated total population of 56,000[44] in 2022, spread across Brazil, Colombia and Peru, they are recognised for their profound connection to the rainforest,[45] which is reflected in their cultural practices, knowledge systems and globally-renowned craftsmanship.

Ticuna artistic production serves as both an expression of their identity and a demonstration of their resilience.[46] Their craftwork, which includes intricately designed ceremonial masks, paintings, pottery and weaving, is rooted in their extensive knowledge of the forest's flora.[47] Many creations are crafted from materials such as bark, seeds and wood sourced directly from their surroundings. Their traditional knowledge also includes sustainable harvesting practices[48] that ensure the forest continues to provide for future generations.

The Ticuna have faced many challenges, including the presence of drug trafficking routes[49] along the Solimões River and deforestation. Illegal logging and mining[50] are encroaching on their ancestral lands, threatening both their environment and traditional way of life.

Initiatives like the Tchirugüne: Economic-Cultural Strengthening and Territorial Protection project have been launched to reinforce Tikuna cultural practices and territorial protection.[51] The project emphasises community-based tourism, with a particular focus on handicrafts and flour production. It is implemented by the N'gutapa Institute, ACT-Brazil and the Floresta+ Amazônia initiative and supported by the UNDP, the Ministry of Environment and Climate Change (MMA) and Green Climate Fund (GCF).

By promoting local crafts as a source of income, the project helps preserve the Tikuna's cultural heritage while offering economic alternatives that align with environmental conservation. Additionally, workshops, training and educational activities[52] support community-led environmental monitoring and surveillance, emphasising the Tikuna's autonomy and dedication to safeguarding their land.

Photo: Indigenous Ticuna woman playing a tortoise shell drum, Peruvian Amazon | Credit: Camilo via Adobe Stock

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The Mijikenda Kaya Forests
Kenya

Located along Kenya's coast, the Sacred Mijikenda Kaya Forests are a UNESCO World Heritage Site[53] comprising 10 separate forest sites spread over 200 kilometers. These forests contain the remains of fortified villages, known as Kayas, which are considered ancestral homes by the Mijikenda people and are revered as sacred places.

The Kaya forests are rich in biodiversity and provide a range of benefits for the environment and human well-being.[54] They support local communities in areas such as biomass energy, food production, shelter, herbal medicine, eco-tourism and agriculture, and provide key ecosystem services such as soil stabilisation, climate regulation, and drought and flood control.

Conservation of the Kaya forests is guided by traditional rules upheld by a Council of Elders,[55] who maintain a governance system that promotes Mijikenda culture, biodiversity protection and agroecological practices in the forest and surrounding areas. This approach is embedded in the Mijikenda worldview, which is centered on the concept of Mudzini – a "harmonious relationship between humans and nature."[56] Core cultural values, such as reciprocity, equilibrium, solidarity and collectivism play a critical role in guiding natural resource management, reinforcing social cohesion and preserving traditional practices.

As climate change intensifies, the Mijikenda's knowledge of weather forecasting[57] offers invaluable insights to farmers in coastal Kenya and helps monitor site-specific climate changes, filling gaps left by scientific models. In Kilifi County, the practical application of traditional knowledge is evident among the Rabai, a Mijikenda subtribe, who have returned to cultivating traditional crop varieties[58] that are resistant to pests, diseases and drought. These practices have enhanced food security and strengthened climate resilience.[59]

In collaboration with the Kenya Forestry Research Institute (KEFRI) and local stakeholders, the International Institute for Environment and Development (IIED) has supported the Rabai community to preserve their cultural heritage and promote sustainable development.[60] Through the Smallholder Innovation for Resilience (SIFOR) project, IIED supported the establishment of the Rabai Cultural Village, enabling the Rabai community in Kilifi County to generate income through biocultural tourism while safeguarding their cultural heritage.[61] The village maintains a seed bank to conserve traditional crop varieties and operates a tree nursery[62] that can produce 60,000 native seedlings annually, helping to restore degraded areas of the Kaya forests.

Building on this success, IIED has moved to formalise the Rabai Cultural Village as a Biocultural Heritage Territory - a landscape managed through Indigenous knowledge and cultural practices that promotes biodiversity conservation and sustainable livelihoods.[63] This will empower Kaya elders to uphold traditional conservation rules and promote agroecological practices.[64]

By expanding and diversifying their income through biocultural tourism, these initiatives preserve Kilifi County's historical and architectural heritage[65] while supporting sustainable development and promoting culture-centred policy.[66]

The Kaya forests are facing ongoing challenges, particularly deforestation and encroachment of forested areas. A coordinated approach involving stakeholders such as national government agencies, local administration and village elders will be key to establishing a sustainable resource management strategy.[67]

Photo centre top: Collecting fruit in the Mijikenda Kaya Forests | Credit: Ninara via Flickr

The Sundarbans
Bangladesh and India

Located in the Bay of Bengal, the Sundarbans is a vast network of low-lying islands and the world's largest mangrove forest. The forest is spread across India[68] and Bangladesh[69] and is a UNESCO World Heritage Site in both countries. It provides vital ecological services[70] to its 7.2 million inhabitants,[71] including cyclone protection, food and natural resource provision, and carbon sequestration. Local communities rely on the forest for fishing, honey collection and tourism.[72] Over generations, these communities have developed sustainable resource management practices that have become central to climate resilience policies in both countries.[73]

In Bangladesh, community-based tourism (CBT) in the Sundarbans focuses on involving local communities in tourism as a means to create sustainable livelihoods while reducing dependence on forest resources. This approach encourages residents to actively participate in tourism operations. By diversifying income sources and lessening the pressure on the mangrove forest, CBT initiatives aim to support economic development and conservation efforts.[74]

In the Sundarban Delta of West Bengal, India, intangible cultural heritage also plays a key role in climate adaptation. A project involving the traditional Shola Craft has revitalised the practice of crafting decorative items from Sholapith – a spongy plant found in marshy areas. Shola Craft is used to create intricate decorations for rituals, festivals and religious ceremonies. By developing new products for international markets, the The Rural Craft and Cultural Hubs (RCCH) initiative supported by UNESCO and the Government of West Bengal, has created sustainable livelihoods for women, preserving a traditional practice while reducing reliance on dwindling forest resources.[75] The cultivation of Sholapith not only provides an income source but also contributes to resilient livelihoods, offering protection against soil salinity and extreme weather.[76]

Despite the efforts, challenges remain. While policies in Bangladesh and India permit resource harvesting and tourism, they can fail to ensure fair economic benefits for local residents.[77] Inconsistent coordination among local stakeholders further hinders efforts. Enhanced collaboration between the authorities of both countries is crucial to establish sustainable conservation efforts.[78]

Background photo: Sundarban, Bagerhat, Bangladesh | Credit: Mamun Shizon via Unsplash

Photo: Man observing the shoreline in the Sundarbans, Bangladesh | Credit: Mh Mehedi via Unsplash

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The Wayúu people
Colombia

In the Guajira Peninsula, along the border with Venezuela, reside the Wayúu people,[79] the largest indigenous group among Colombia's 115 recognised indigenous communities.[80] Faced with challenging climate conditions, competition for water and malnutrition,[81] the Wayúu use traditional agriculture to enhance their resilience against challenging climate conditions.[82]

Central to their agricultural practices is the cultivation of the guajiro bean, known locally as kapeshuna, a traditional crop that can thrive in the arid conditions of the La Guajira region.[83] The Wayúu employ traditional agricultural methods that optimise the use of scarce resources, including specialised irrigation methods, to ensure a steady food supply despite unpredictable weather patterns and drought.[84] The cultivation process engages the entire community and holds significant cultural value for the Wayuu who also use it to prepare treatments and medicines.[85]

The FAO-UNDP Scaling up Climate Ambition on Land Use and Agriculture (SCALA) programme in Colombia collaborates with the Wayúu people to document and systematise their agricultural practices for climate change adaptation. The initiative aims to use Colombia's cultural diversity to create "a network of adaptive practices and dialogues"[86] across different regions. Through "Adaptation Dialogues" SCALA identifies traditional techniques to address knowledge gaps in the agricultural sector and uses this knowledge to feed into both local and national adaptation efforts.[87]

Beyond agriculture, the Wayúu are known for their craftsmanship, especially in weaving.[88] The creation of mochilas became a globally recognised fashion statement[89] and weaving an important source of income for the community.[90] Initiatives such as the Desarollo Local Sostenible supported by the Colombian government and the EU,[91] and efforts by the Hilo Sagrado Foundation,[92] have supported Wayúu artisans to enhance their skills and market their products both domestically and internationally. By incorporating their crafts into new markets the Wayúu promote their cultural legacy while fostering economic growth.[93]

Despite their adaptability, the Wayúu still face grave challenges. The harsh desert conditions of Guajira, compounded by climate change, have led to water scarcity as natural sources dry up or become contaminated.[94] In addition, limited infrastructure and the region's remote location further isolate the community, restricting access to basic supplies, markets and health services.[95] This situation has led to complaints by human rights organisations,[96] prompting Colombia's Constitutional Court to order urgent state action to address these issues,[97] yet the government response continues to fall short.[98]

Background photo: Indigenous Wayúu children in La Guajira, Colombia | Credit: Getty

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Zero Carbon Analytics

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