

STRATEGIC SYNTHESIS

KOUTAMMAKOU FACING CLIMATE CHANGE

*Strategic synthesis of the climate risk assessment and adaptation priorities for
heritage conservation*

Synthesis document based on the Koutammakou climate risk assessment
« *Climate Risk Assessment of the Koutammakou Site, the Land of the Batammariba (Benin and Togo)* »
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Transboundary cultural landscape, Benin – Togo Inscribed on the UNESCO World Heritage List (2004 / extension 2023)

1. Executive summary

This section provides a quick overview of the key findings of the Koutammakou climate risk assessment and the resulting action priorities.

Context

A transboundary cultural landscape shared between Benin and Togo, Koutammakou is inscribed on the UNESCO World Heritage List for its Outstanding Universal Value (OUV), grounded in the interdependence between the sikien (takienta), sacred spaces, cultural practices and the knowledge systems that structure Batammariba identity. The site cannot be analysed as a set of independent heritage elements: it constitutes an integrated biocultural system, in which material, immaterial, social and ecological components are closely interdependent.

The assessment drew on an integrated approach combining four complementary data sources: historical climate observations and climate projections from the IPSL-CM6A-LR (CMIP6) model, an inventory of heritage components, spatial analyses using geographic information systems and remote sensing, and a participatory process involving 277 local, institutional and international expert stakeholders.

Key climate findings

- **Observed warming (1979–2025):** +1 to +1.5 °C, accompanied by a decrease in average rainfall and strong interannual variability (coefficient of variation of 94.5 to 101.7 %).
- **Projections to 2080:** +2.5 to +3 °C under the SSP2-4.5 scenario; +4.5 to +5 °C under the SSP5-8.5 scenario, with maximum temperatures potentially reaching 37.8 to 42.9 °C.
- **Intensification of rainfall extremes:** +130 to +230 mm/year, with increased variability and irregularity of the hydrological regime.
- **Six major climate hazards identified:** extreme rainfall, prolonged droughts, violent winds, heatwaves, hydrological variability and rainfall irregularity.

KEY FIGURES

2,277 sikien (takienta) inventoried in Benin and 1,928 in Togo.

Warming already observed: +1 to +1.5 °C (1979–2025).

Warming projected by 2080: +2.5 to +3 °C (SSP2-4.5) / +4.5 to +5 °C (SSP5-8.5).

Projected rainfall extremes: +130 to +230 mm/year.

277 stakeholders engaged in the participatory assessment process.

Risk levels by 2080 (SSP5-8.5): architectural value 3.9 (critical), use value 3.8 (very high), ecological value 3.5, spiritual value 3.3 — all above the critical threshold (≥ 3).

Most exposed heritage components

The sikien (takienta) — traditional raw-earth dwellings — concentrate most of the exposure: they are often located in topographically unstable areas, amplifying their exposure to torrential rains (perceived as a threat by respondents) and drought. Sacred spaces (groves, springs, shrines), indigenous knowledge for intergenerational transmission, and traditional agrarian systems are also highly exposed.

Main risks and consequences

The analysis reveals an overall critical level of climate risk, particularly under the SSP5-8.5 scenario, across all heritage values of Koutammakou: critical risk for architectural value and ecological value, very high to critical risk for spiritual and cultural value, and high risk for use value. Without adequate

adaptation measures, these trends could progressively and, in some cases irreversibly, compromise by 2080 the heritage values that underpin the resilience of the cultural landscape.

Action priorities

The source report proposes a transformative biocultural resilience strategy, structured around six action levers (resilience of vernacular building fabric, safeguarding of intangible heritage, ecological restoration, socio-economic resilience, adaptive climate governance, and mobilisation of art and storytelling), and three cross-cutting priorities: governance, financing and community governance.

KEY MESSAGES FOR DECISION-MAKERS

1. Koutammakou is already engaged in a trajectory of transformation under the effect of climate change; action can no longer be deferred.
2. Under the SSP5-8.5 scenario, several attributes of the Outstanding Universal Value could suffer irreversible degradation by 2080.
3. Risk must be addressed systemically: the site's vulnerability results from interactions between its components, not from the exposure of each taken in isolation.
4. Batammariba communities are already developing local responses drawing on their own knowledge; these responses must be recognised, supported and linked to scientific knowledge.
5. Adaptation governance must be integrated into the property's management plans and into national policies, including the Nationally Determined Contributions of Benin and Togo.
6. Financing adaptation requires coordinated mobilisation of national and international climate finance mechanisms.
7. Cross-border cooperation between Benin and Togo is essential to the coherent management of the cultural landscape.

2. Koutammakou: a vulnerable cultural and landscape heritage

Heritage value and architecture

Koutammakou covers approximately 50,000 hectares on the Togolese side and 231,673.18 hectares on the Beninese side. Inscribed on the UNESCO World Heritage List in 2004 (Togo), with an extension in 2023 (Benin), the site is recognised for its balance between people and nature. Its Outstanding Universal Value rests on two criteria: criterion (v), an outstanding example of a living and sustainable traditional settlement system, and criterion (vi), a profound spiritual relationship between the Batammariba and their environment.

At the heart of this landscape stands the takienta, a raw-earth dwelling built from natural materials (clay, wood, plant fibres), organised according to a cosmological and functional logic (ground floor for altars and livestock, upper levels for storage, terrace for social life). The site's climate is tropical savanna with a dry winter season (Köppen-Geiger classification), with average annual rainfall exceeding 1,000 mm over about 90 days, and an average annual temperature of 26.8 °C (peak of 30.1 °C in March, minimum of 24.6 °C in August).

Cultural landscape, practices and knowledge

The Batammariba base their way of life on a close relationship between people, nature and spirits: sacred groves off-limits outside of rituals, earth priests (katenkaya) who safeguard natural balances, and traditional agriculture based on crop rotation. Rites of passage (Dikuntri for young girls, Difuani for young boys) and funeral rites structure the intergenerational transmission of knowledge and the social organisation of the territory.

Dependencies between heritage, environment and livelihoods

Koutammakou's biocultural system rests on an indissociable continuum linking bio-based materials, vernacular know-how, synchronised ritual calendars, customary governance and ecosystem services. This organisation means that climate risks cannot be assessed sector by sector: the site's vulnerability results from interactions between its various components rather than from the exposure of each taken in isolation.

IMPLICATION FOR CONSERVATION

Because the takienta, rituals, knowledge and ecosystems form a single system, climate change is not merely an environmental pressure: it directly undermines the authenticity, integrity and transmission of the property's Outstanding Universal Value. Climate adaptation is therefore a condition for heritage conservation, not a parallel undertaking.

3. Climate profile and evolution of hazards

This section presents the data available in the report on the observed and projected evolution of the climate hazards affecting Koutammakou.

Methodological framework

Climate projections are based on the IPSL-CM6A-LR (CMIP6) model and on two IPCC scenarios for the 2080 horizon: SSP2-4.5 (moderate emissions trajectory) and SSP5-8.5 (high emissions trajectory). Historical climate observations cover the period 1979–2025 (the report's methodology section also refers to a 1970–2025 reference period for climate and environmental data).

Key figures table: Evolution of climate hazards

Current situation, observed evolution and projections under the SSP2-4.5 and SSP5-8.5 scenarios (2080 horizon).

Indicator	Current / observed situation (1979–2025)	SSP2-4.5 projection (2080)	SSP5-8.5 projection (2080)
Average temperature	+1 to +1.5 °C (regional warming trend)	+2.5 to +3 °C	+4.5 to +5 °C; maximums of 37.8 to 42.9 °C
Rainfall	Decrease in averages; strong interannual variability (coefficient of variation 94.5–101.7 %)	Intensification of rainfall extremes	+130 to +230 mm/year; increased irregularity of the hydrological regime
Hydroclimatic regime	More uncertain water availability; intensifying water deficit episodes	Progressive amplification	Marked amplification; high hydrological variability

Source report Table 4: Identified climate hazards and characteristics

Summary of the six major hazards and their consequences for the cultural heritage.

Hazard	Characteristics	Potential consequences for heritage
Heatwaves and rising temperatures	Average temperature rise estimated at +1.5 to +2 °C by 2050 (IPCC, 2021); more frequent and intense heatwaves.	Premature drying of thatch, shorter lifespan of granaries; health impacts on elder custodians of ritual knowledge; disruption of social and ceremonial rhythms.
Increased hydrological variability	Marked interannual fluctuation in river flow, groundwater recharge and soil saturation.	Imbalance in the sacred terroir; threat to the integrity of initiatory paths, hilltop shrines and takienta foundations; threat to the homogeneity of the cultural landscape (UNESCO criterion v).
Rainfall irregularity and shifting seasons	Changes in atmospheric circulation and weakening ocean currents disrupting the spatio-temporal distribution of rainfall in West Africa (WMO, 2022; IPCC, 2021).	Disruption of the traditional agricultural calendar; desynchronisation of rites; obstruction of the planning of sikien re-plastering; weakening of ritual legitimacy.
Phenological disruptions	Changes in seasonal biological rhythms (flowering, fruiting, animal migration, reproduction) driven by rising temperatures and rainfall irregularity.	Weakening of oral transmission, which is tied to precise natural cycles; effects on the availability of medicinal and ritual plant species.

Source: source report, Table 4 (working group outputs) and Executive Summary.

4. Heritage exposure

This section identifies the heritage components exposed to climate hazards, as inventoried in the report (Table 9).

Exposure table — Koutammakou values and attributes facing climate hazards

Based on Table 9 of the source report (working group outputs).

Value / attribute	Exposed components	Hazards concerned	Level of exposure (report)
Architectural value (sikien and vernacular construction)	Sikien (traditional raw-earth dwellings); vernacular construction techniques; traditional materials (wood, straw, clay)	Torrential rains, local storms with gusts, drought	2,277 sikien inventoried in Benin and 1,928 in Togo; increasing collapses linked to torrential rains; scarcity of natural building materials; weakening of traditional techniques
Spiritual and cultural value (rites, ancestral governance)	Calendar of initiatory rites and ceremonies; sacred sites (groves, caves, altars); transmission of spiritual knowledge	Rainfall variability, drought, shifting seasons	Disruption of ritual cycles; degradation of sacred sites through erosion and extreme rainfall; weakening of transmission to younger generations
Ecological value (management of natural resources)	Sacred forests and local vegetation; soils and biodiversity; water resources (rivers, ponds)	Drought, changes in hydrological cycles	Accelerated loss of forests and scarcity of species used for construction and traditional medicine; soil erosion affecting arable land; threat to endemic species
Use value (intergenerational transmission, social cohesion)	Community organisation model; traditional lifestyles and farming techniques; transmission of know-how	Drought, declining agricultural productivity, climate migration	Increased youth migration to cities; growing dependence on modern materials; reduced intergenerational exchange; abandonment of certain traditional crops

Source: source report, Table 9 (working group outputs).

Other exposed components

- **Infrastructure and cultural sites:** shrines (including the Fawaafa shrine), initiatory paths, ancestral altars.
- **Livelihoods:** rain-fed agriculture, livestock rearing, traditional craftsmanship.
- **Heritage-holding communities:** katenkaya (earth priests), master builders, women plasterers, elder custodians of ritual knowledge.

5. Vulnerability and adaptive capacity

This section distinguishes the vulnerability factors from the adaptive capacities already mobilised by Batammariba communities, as described in the report.

Vulnerability factors

- Physical and material: intrinsic sensitivity of raw-earth materials to extreme rainfall and drought; scarcity of natural building materials (wood, thatch, clay).
- Social and economic: rural exodus of young people reducing the renewal of building skills; economic and social pressure favouring modern materials (cement, corrugated iron) perceived as markers of ‘modernity’.
- Institutional: absence of a national policy supporting resilient vernacular housing; limited diffusion of innovations, confined to a few villages.
- Cultural: weakening of intergenerational transmission of ritual and building knowledge under the effect of migration and socio-economic change.

Existing adaptive capacities

The report documents a living system of Batammariba indigenous knowledge, combining observation of natural signs, ritual practices and knowledge transmission (Table 5):

- System for observing natural signs: state of sacred trees (late leafing of baobab or néré trees signals prolonged drought), movement of insects and animals (unusual migration of termites and ants to higher ground announcing heavy rainfall), observation of winds, the moon and the stars to anticipate extreme weather events.
- Ritual practices and environmental regulation: restrictions on the use of natural resources, rain-calling rituals, prohibition of certain bushfires during years perceived as particularly dry.
- Intergenerational transmission: tales and legends about climate variations, agricultural education and crop adaptation, initiatory ceremonies held around water sources during drought periods.
- Living building know-how: specialised masons and women plasterers still passing on earth-building techniques, néré/karité-based plastering, and straw roofing; social organisation of labour pooling tasks (men for structural work, women for plastering).

KEY TAKEAWAY

The adaptive capacity of architectural value is described as medium to low by 2080. Endogenous resilience levers remain (know-how, social organisation, the symbolic recognition of the takienta), but they are heavily undermined by resource scarcity, climate desynchronisation, socio-economic pressure and the marginalisation of young craftspeople.

6. Climate risk matrix

This matrix summarises the risk levels established in the report for each of the four heritage values of Koutammakou, by the 2080 horizon. The risk levels reproduced here are those of the source report and have not been modified.

Risk matrix by heritage value (2080 horizon, SSP2-4.5 and SSP5-8.5 scenario)

Risk scores (continuous scale, critical threshold ≥ 3) from Graph 21 of the source report.

Heritage Value Category	Main Hazards	What Is Threatened (Potential Impact)	Score SSP2-4.5 (2080)	Level (SSP2-4.5)	Score SSP5-8.5 (2080)	Level (SSP5-8.5)
Architectural Value	Prolonged drought, seasonal irregularity, deforestation, extreme rainfall, youth migration, maladaptation (cement, sheet metal)	Structural degradation of the Tata (cracked earthen walls, erosion of earthen roofs, collapses linked to violent rains and lack of maintenance)	2.7	High	3.9	Critical
Use Value	Prolonged drought, seasonal irregularity, deforestation	Loss of functionality of traditional agricultural and domestic spaces; progressive abandonment of usage practices tied to vernacular architecture	2.5	Moderate	3.4	Very High
Ecological Value	Drought, deforestation, changes in hydrological cycles	Degradation of surrounding vegetation cover, soil depletion, disruption of water resources associated with the site	2.5	Moderate	3.6	Critical
Spiritual and Cultural Value	Rainfall variability, drought, shifting seasons	Disruption of ritual calendars and cultural practices tied to agricultural and seasonal cycles; erosion of cultural transmission	2.5	Moderate	3.3	Very High

Source: source report, Graph 21 and Tables 13, 19, 23, 27.

Under the extreme SSP5-8.5 scenario, all of these indicators cross the critical threshold (≥ 3), signalling a systemic risk to the cultural and ecological sustainability of the site. Takienta located in topographically unstable areas (steep slopes, thin ferruginous soils) concentrate an intrinsic heritage exposure, for torrential rains and for drought.

PRIORITY RISK

The climate risk to architectural value is the highest in the system (score 3.9, critical level). It stems from the combination of sensitive materials (raw earth), weakened adaptive capacity, and technical responses that are sometimes poorly calibrated. Without integrated, participatory and culturally sensitive heritage-climate management, this risk could compromise the integrity and authenticity of the property before 2080.

7. Impacts on Outstanding Universal Value

This section links the identified climate risks to the conditions for preserving the authenticity, integrity and transmission of Koutammakou's OUV attributes.

Authenticity and integrity

Koutammakou's OUV rests on criteria (v) — a living and sustainable traditional settlement system — and (vi) — a profound spiritual relationship between the Batammariba and their environment. The assessment shows that, under the SSP5-8.5 scenario, several of the attributes underpinning this value could suffer irreversible degradation by 2080: degradation of the sikien through erosion and cracking, drying up of sacred springs, and weakening of the intergenerational transmission of rites and knowledge.

Knowledge systems and cultural practices

Oral transmission of myths and knowledge is weakened because it is tied to precise natural cycles (rains, flowering, animal migration); climate irregularity breaks these reference points. The ritual calendar, desynchronised by the shifting of seasons, weakens the spiritual legitimacy of ceremonies and the planning of sikien maintenance work (re-plastering).

Interactions with other pressure factors

- **Migration:** the migration of populations to urban areas, for economic or climate-related reasons, threatens the transmission of cultural practices.
- **Poverty and economic capacity:** local communities are particularly vulnerable due to poverty, the disappearance of traditional knowledge, and insufficient institutional support.
- **Pressure on materials:** the scarcity of natural resources (wood, thatch, clay) drives the use of modern materials incompatible with traditional techniques, leading to an irreversible transformation of the sikien's authentic appearance.
- **Environmental degradation:** anthropogenic pressures, combined with the effects of climate change, reduce ecosystems' capacity to provide the resources essential for construction, ritual practices and traditional uses.

8. Adaptation priorities

The report structures its adaptation strategy around six strategic axes (levers), corresponding to the priority categories identified below. Each axis is accompanied by a detailed operational plan in the source report (Tables 30 to 37).

Adaptation measure prioritisation matrix

Category / Axis	Risk addressed	Main action	Horizon	Responsible	Monitoring indicator
Strategic Axis 1: Strengthen the climate resilience of takienta and construction techniques	Degradation of takienta by extreme rainfall	Community-based preventive maintenance programme	2026-2030	Site managers, communities, craftspeople	Share of takienta receiving annual maintenance
Strategic Axis 2: Preserve cultural practices, sacred spaces and indigenous knowledge	Disruption of seasonal cycles affecting ritual practices and knowledge transmission	Documentation and protection of sacred spaces; support for intergenerational transmission mechanisms	2026-2050	Managers, katenkaya, communities	Number of sacred spaces documented, mapped and included in protection or conservation mechanisms.
Strategic Axis 3: Restore the ecosystems supporting biocultural resilience	Degradation of sacred groves and scarcity of natural materials	Restoration of sacred groves, reforestation with local species, nature-based solutions	2026-2050	Communities, managers, technical partners	Restored area of sacred groves
Strategic Axis 4: Strengthen the socio-economic resilience of local communities	Declining agricultural yields and household vulnerability	Diversification of livelihoods, agroecology, support for craft and ecotourism activities	2026-2050	Communities, local authorities	Household income; diversification of economic activities
Strategic Axis 5: Develop adaptive climate governance and a permanent monitoring system	Insufficient integration of climate risks into property management	Establishment of a technical committee on climate adaptation; ongoing monitoring and periodic review	2026-2030 then ongoing	Heritage institutions, local and national authorities	Number of technical committee meetings; frequency of climate monitoring
Strategic Axis 6: Mobilise art, storytelling and cultural practices as adaptation levers	Weakening of the social and cultural mechanisms of transmission	Storytelling, music, slam poetry and oratory art competitions devoted to heritage and climate	2026-2050	Young artists, communities, cultural institutions	Number of storytelling, music, slam poetry and public speaking competitions on cultural heritage and climate adaptation organized.

Source: source report, Tables 28 to 37 (strategic correspondence and operational plans by axis).

Cross-cutting strategic priorities

Implementing the strategy calls for three cross-cutting priorities, common to all axes: **(1) governance**, integrating climate risks into the property's management plans and into national adaptation policies of Benin and Togo; **(2) financing**, coordinated mobilisation of national and international climate finance mechanisms in support of sikien maintenance, ecosystem restoration and local capacity building; **(3) community governance**, the involvement of customary institutions, knowledge holders, and cross-border cooperation between Benin and Togo.

9. Roadmap for the climate resilience of Koutammakou

The report organises its actions across three time horizons, aligned with the risk × vulnerability × adaptive capacity matrix.

Roadmap of three time horizons

Based on the Executive Summary and the operational plans by strategic axis (Tables 30 to 37).

Horizon	Priority actions	Actors involved	Expected outcomes
Short term 2026-2030	Development of a community-based preventive maintenance programme for takienta; establishment of a technical committee on climate adaptation; integration of climate risks into the revision of the property's management plans.	Site managers, communities, craftspeople, heritage institutions, local authorities	Reduction in immediate degradation of sikien; operational institutional framework for climate governance.
Medium term 2030-2050	Strengthening of vernacular restoration techniques; restoration of sacred groves and supporting ecosystems; diversification of livelihoods (agroecology, craftsmanship, ecotourism); mobilisation of art and storytelling as vectors of transmission.	Master builders, universities, communities, local authorities, technical and financial partners	Measurable restoration of ecosystems; strengthened socio-economic resilience of households; consolidated intergenerational transmission of knowledge.
Long term beyond 2050 (2080 horizon)	Consolidation of polycentric, adaptive climate governance; transformational adaptation of structures and practices under the SSP5-8.5 scenario; ongoing monitoring and periodic review of the strategy.	National institutions of Benin and Togo, Batammariba communities, international partners	Maintenance of the authenticity, integrity and biocultural functions of Koutammakou by 2080.

Source: source report, Executive Summary and Chapter 3 (Operational implementation plan).

10. Governance and coordination

This section reproduces the governance architecture proposed in the report (Chapter 4), without adding elements not present in the source.

Institutional governance of adaptation

- Systematically integrate climate considerations into the site's management plan.
- Establish a technical committee on climate adaptation bringing together heritage institutions, environmental services, local authorities and community representatives.
- Strengthen cross-border cooperation between Benin and Togo for coherent management of the entire cultural landscape.
- Develop scientific partnerships with universities and research centres to improve knowledge of climate risks.

This governance must operate on a principle of permanent coordination between the local, national and international levels.

Community participation and customary governance

- Systematic involvement of traditional chiefs and customary authorities in decision-making processes.
- Community participation in identifying, implementing and monitoring adaptation measures.
- Valuing indigenous knowledge in the design of responses to climate risks.
- Strengthening the role of women and young people in local governance mechanisms.
- Establishment of local consultation platforms between institutional and community actors.

Sustainable financing of adaptation

Implementing the strategy requires diversifying financing mechanisms to ensure its sustainability through to the 2080 horizon. The report identifies the following sources:

- National budgets dedicated to cultural heritage and the environment; contributions from local authorities.
- International climate finance mechanisms: the Green Climate Fund, the Adaptation Fund, the Global Environment Facility.
- Bilateral and multilateral cooperation programmes; financing linked to biodiversity and nature-based solutions.
- Partnerships with universities, foundations and international organisations.
- Innovative mechanisms: payments for ecosystem services, community carbon credits, heritage trust funds.

PRIORITY ACTION

A resource mobilisation strategy should be developed and periodically updated to ensure financing of the identified priorities, foremost among them the preventive maintenance of sikien and the restoration of supporting ecosystems.

11. Resilience monitoring indicators

The monitoring system proposed in the report (Table 38) rests on five dimensions. The indicators listed below are those formulated in the report as ‘example indicators’; they constitute indicators proposed for future monitoring rather than data already systematically measured in the report.

Source report Table 38 — Indicator framework for monitoring biocultural resilience

Proposed indicators, organised into five dimensions.

Dimension	Example indicators (proposed for future monitoring)
Built heritage	Conservation status of takienta; frequency of degradation; number of restorations consistent with traditional techniques.
Intangible heritage	Number of cultural practices maintained; level of intergenerational transmission; conservation status of sacred sites.
Ecosystems	Restored area of sacred groves; change in vegetation cover; availability of local species.
Community resilience	Household income; diversification of economic activities; participation of women and young people.
Climate governance	Number of technical committee meetings; frequency of climate monitoring; mobilisation of funding and partnerships.

Source: source report, Table 38.

Periodic review

- Annual technical assessment of the main resilience indicators.
- Full strategic review every five years.
- Systematic update whenever new climate projections are published or scientific knowledge evolves significantly.
- Regular incorporation of feedback from local communities and managers.
- Exceptional review following any major climate event that has caused significant damage to the cultural landscape.

12. Conclusion and messages for decision-makers

Climate change is now one of the main risk factors for the conservation of Koutammakou's cultural landscape. The impacts already observed on the sikien (takienta), ecosystems, natural resources and cultural practices confirm that the adaptation process is already under way, empirically, driven by local communities. Projections for the 2080 horizon show a progressive worsening of these vulnerabilities, particularly under the SSP5-8.5 scenario, where the intensification of temperatures, droughts and extreme rainfall events could durably compromise several attributes of the property's Outstanding Universal Value if no ambitious measures are taken.

The proposed adaptation strategy rests on an integrated biocultural resilience approach, combining the conservation of built heritage, the safeguarding of intangible heritage, ecosystem restoration, the strengthening of livelihoods, adaptive governance, and the mobilisation of art as a vector for awareness-raising, transmission and social transformation. By the 2080 horizon, the ambition set out in the report is for Koutammakou to become an international reference in biocultural resilience, demonstrating that safeguarding world heritage can serve as a lever to strengthen societies' capacity to face climate transformations while preserving their identity, memory and relationship to their territory.

10 priorities for immediate action

1. Revise the management plans for Koutammakou to explicitly integrate the climate risks identified for the SSP2-4.5 and SSP5-8.5 scenarios.
2. Establish a technical committee on climate adaptation bringing together heritage institutions, environmental services, local authorities and community representatives.
3. Set up a permanent mechanism for updating the adaptation strategy, based on new scientific data and field observations.
4. Develop a system for monitoring climate impacts on the attributes of Outstanding Universal Value.
5. Integrate the protection of cultural heritage into national adaptation policies of Benin and Togo.
6. Strengthen cross-border cooperation between Benin and Togo for the coordinated management of the cultural landscape.
7. Establish financing mechanisms dedicated to the preventive maintenance of takienta.
8. Support ecological restoration programmes for sacred groves and cultural landscapes.
9. Strengthen training arrangements for craftspeople, managers and local authorities on the climate adaptation of heritage.
10. Facilitate Koutammakou's access to international climate finance and heritage conservation mechanisms.

Sources and references

A selection of references actually cited in the source report. The full bibliography appears in the report ('Bibliographical References' section).

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