

Exploring Policy Frameworks for Cultural Heritage in Climate Adaptation and Disaster Risk Management: A Cross-Case Comparison

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Abstract

We examine the integration of cultural heritage into climate adaptation and flood risk governance through comparative case studies in Norway and Italy, undertaken within the AGREE project. Using a relational analytical framework to assess the policy portfolios connecting these fields, we analyse how heritage is framed in adaptation and risk policies, how vulnerability is conceptualised, and how integration unfolds across sectors and scales. Norway provides formal definitions and planning tools for heritage vulnerability, yet implementation remains inconsistent. Italy demonstrates diagnostic awareness of heritage risk, but operational integration is lacking. Our findings highlight persistent gaps in vertical and horizontal policy alignment, while identifying entry points for transformative change. Reframing cultural heritage in terms of its relational capacities may support more integrated, adaptive, and resilient approaches to climate risk governance.

Introduction

Flood protection is a growing priority in local adaptation strategies across Europe (Cumiskey et al., 2019). Over the past two decades, urban flooding has intensified due to shifting precipitation patterns and temperature fluctuations (Bueno Rubial et al., 2024). Extreme rainfall events, although statistically rare, are becoming more frequent and severe, posing increasingly significant risks to cities. Regional climate projections indicate these trends will intensify by century's end, especially in Norway and Italy (Amundsen & Dannevig, 2021; Vitale et al., 2022), underscoring the rising importance of flood risk management (FRM) in climate change adaptation (CCA).

While technological innovations have improved hazard control and set safety standards, FRM has evolved beyond a technical field. It increasingly intersects with governance, spatial planning, and societal concerns. Risk-based approaches emphasize reducing exposure and vulnerability (IPCC, 2022); however, the practical integration of spatial policies into FRM remains limited.

Meeting today's climate challenges requires transformative adaptation—structural shifts in governance logics, regulatory norms, and institutional values (UNFCCC, 2024). Climate risk management (CRM) frames this as a long-term, non-linear process that addresses the root causes of vulnerability across scales, from communities to national regimes (Deubelli & Mechler, 2021). Although promising, this transformation remains difficult to operationalise due to entrenched policy silos and institutional inertia (Hölscher et al., 2019).

CCA measures, such as water reservoirs and flood infrastructure, rely on multi-level governance (Termeer et al., 2017) and diverse policy instruments (Cumiskey et al., 2019). This mix of policies also presents significant governance and implementation challenges. Their inherent complexity, stemming from multiple, often conflicting goals and instruments across sectors and governance levels, can result in fragmentation, redundancy, or institutional lock-in. The variation of policy mechanisms to address CCA and increased climate risks often evolves incrementally rather than through deliberate design, complicating optimization and integration (Lesnikowski et al., 2019). Additional challenges include blurred responsibilities, inconsistent policy timeframes, and difficulties in aligning spatial and administrative boundaries (Nilsson & Persson, 2003). Thus, we analyze the policy mixes employed at national, regional, and local levels according to a policy-mixes structured approach to understanding how governments combine various goals and instruments. Examining how these two cities integrate CCA and cultural heritage conservation policies amidst escalating flood risk offers valuable insight into the complexities of policy frameworks and the challenges of systemic and landscape-based cross-sectoral integration.

Adaptation strategies require coordinated policy mixes across levels of government. Local actions are shaped by broader institutional frameworks, and practical strategies often combine instruments such as spatial planning,

infrastructure standards, and financial incentives (Cumiskey et al., 2019). Yet this complexity can lead to fragmentation and institutional lock-in, especially when policy instruments evolve incrementally (Lesnikowski et al., 2019), or when responsibilities and spatial jurisdictions are poorly aligned (Nilsson & Persson, 2003).

This paper analyses policy mixes for CCA and FRM across national, regional, and local levels. We focus on how governments combine diverse instruments and goals, and how these combinations impact the integration of cultural heritage. Examining how two cities—Lillehammer in Norway and Moncalieri in Italy—navigate climate adaptation and heritage conservation amidst increasing flood risks offers valuable insight into the challenges of systemic, cross-sectoral governance.

The AGREE (Advancing Cultural Heritage Governance for Resilient Climate Adaptation) project investigates the intersection of FRM and cultural heritage management—two domains where adaptation is often operationalised. It asks: What is the role and effectiveness of cultural heritage governance frameworks in advancing climate action across countries and governance levels? We compare two contrasting governance contexts: Italy's centralized, sector-based model with strong civil protection traditions, and Norway's decentralized, participatory planning model that emphasizes vulnerability assessments (Amundsen & Dannevig, 2021). Despite these differences, both countries face intensifying flood risks to heritage, creating a shared ground for comparison.

Moncalieri, in the Piedmont Region, is part of Turin's metropolitan area and lies along the Po River. The city has experienced several flood events, notably in 2000, revealing systemic vulnerabilities linked to ageing infrastructure and fragmented governance. Lillehammer, in Norway's Innlandet region, has a long history of floods, including the devastating "Storofsen" flood of 1789 and another major event in 1995 that severely affected heritage areas. Both cities illustrate complex interdependencies between water systems, urban development, and historic environments.

To assess how adaptation and heritage objectives interact within policy discourses, we combine policy-mix and discourse analysis. We map the portfolios of planning, regulatory, and capacity-building instruments for FRM and heritage management, then analyse how they frame climate risk, resilience, and heritage values. This approach uncovers discursive misalignments or synergies and helps identify capacities and gaps that shape cross-sectoral coordination. Applying this to Turin and Lillehammer reveals how climate adaptation is—and is not—being integrated with cultural heritage governance in flood-prone urban areas.

Theoretical Framework

Sustainability transformations require a shift in how we conceptualise relationships between humans, nature, and governance systems. West et al. (2020) call for a relational turn in sustainability science, arguing that dualistic thinking—such as the separation of nature and culture—hinders our capacity to address complex socio-ecological challenges. Relational approaches instead view systems as dynamic and co-constituted, shaped by continuous interactions. This shift enables more inclusive and transformative governance by emphasising the relationships and processes that underpin decision-making and lived experience.

This relational perspective offers a foundation for addressing climate risks to cultural heritage. It moves beyond siloed, asset-based approaches and recognises heritage as a socially embedded and evolving element of place, memory, and identity—capable of contributing to climate adaptation, not just requiring protection.

Recent convergence between landscape and heritage discourses reflects this shift. Both emphasise place-based, long-term stewardship and promote participatory, cross-sectoral governance (Galan et al., 2023). Landscapes are increasingly understood not only as physical environments but also as cultural and emotional infrastruc-

tures—deeply embedded in how communities relate to place (López Sánchez et al., 2020).

The Historic Urban Landscape (HUL) approach embodies these principles. It seeks to embed heritage management within wider territorial development goals (Bandarin & van Oers, 2012), moving away from static conservation towards adaptive governance models that integrate ecological, social, and cultural values (Veldpaus & Pereira Roders, 2017). HUL thus supports systems thinking in heritage governance, aligned with broader adaptation agendas.

This convergence prompts key questions: How is cultural heritage framed in adaptation and risk policy? How can relational approaches like HUL inform governance mechanisms that integrate climate, heritage, and spatial planning? To answer these, we apply an analytical framework combining three interrelated lenses: (1) cultural heritage as a relational actor in policy discourse; (2) climate risk management (CRM); and (3) policy integration (PI).

Cultural Heritage as a Relational Actor in Policy Discourse

We build on Guzman (2025), who proposes a framework for analyzing how cultural heritage is conceptualized and operationalized within national climate policy portfolios. This analytical framework serves to trace discursive shifts, from portraying heritage as a vulnerable asset to recognising it as a relational actor that contributes to adaptation processes. This repositioning opens new roles for heritage in enabling cross-sector collaboration, adaptive planning, and inclusive decision-making.

Through discourse analysis as defined by (Hajer, 1993), this framework examines how policy narratives shape the framing of heritage, define policy problems, and legitimise governance responses. It identifies three key dimensions through which cultural heritage becomes integrated in adaptation governance:

- Paradigm shifts: how heritage discourses evolve from preservation to adaptation;
- Policy cycle integration: whether heritage is addressed from planning to implementation and monitoring;
- Collaborative governance: How heritage facilitates coordination across sectors.

This approach allows us to examine not only whether heritage is included in policy, but how it is framed—as passive or active, static or dynamic, vulnerable or adaptive. It also highlights heritage’s potential to mediate between technical systems and lived experiences of place and change.

Framing heritage as a relational actor thus repositions it as more than a sectoral concern. It becomes a vehicle for transformative change, capable of mobilising shared values, institutional innovation, and context-sensitive knowledge. This conceptual shift aligns with recent calls in adaptation and heritage literature to treat cultural assets not as isolated monuments, but as embedded within evolving socio-spatial systems that both shape and are shaped by climate risks.

Climate Risk Management (CRM)

The second lens builds on climate risk management as a governance framework that integrates climate adaptation and disaster risk reduction. CRM moves beyond reactive, hazard-based models typical of traditional disaster risk management (DRM), and instead emphasises proactive, systemic approaches that address the root causes of vulnerability (Leitner et al., 2020).

CRM recognises that risk is shaped not only by exposure and hazard, but also by governance responses. Poorly

designed interventions may inadvertently increase risk, particularly when they ignore social values, historical context, or community capacities (Andrews et al., 2023). For cultural heritage, this highlights the importance of engaging with the meanings of place, identity, and continuity in climate strategies.

By applying CRM to cultural heritage, we extend beyond technical assessments of material degradation. This lens highlights how vulnerability is socially constructed and historically situated, and how heritage can serve as a resource for building resilience, particularly when planning frameworks acknowledge its symbolic, experiential, and adaptive dimensions.

CRM thus reinforces the relational framing of heritage. It calls for integrated, long-term planning approaches that consider cultural systems as both at risk and part of the solution. In the context of this study, CRM provides a means to assess whether risk policies adequately account for the multifaceted nature of heritage vulnerability and whether heritage is being effectively activated in building adaptive capacity.

Policy Integration (PI)

The third lens addresses policy integration as a strategy for overcoming fragmentation between cultural heritage, spatial planning, climate adaptation, and disaster risk management. Following Lafferty and Hovden (2003) and Tosun and Lang (2017), we adopt a dual perspective: horizontal integration examines the extent to which cultural heritage is linked to climate and environmental sectors through regulatory, planning, and institutional instruments. It asks whether heritage is treated as a cross-cutting concern or confined to sectoral mandates. Additionally, vertical integration examines whether heritage-related adaptation objectives are consistently addressed across different scales and whether feedback mechanisms exist between national frameworks and subnational implementation. Inconsistent integration across these levels can undermine both climate resilience and heritage protection.

Effective PI supports mutual reinforcement of policies and enhances collaboration between actors. It also enables cultural heritage to function as a bridge between technical planning, institutional structures, and community-based knowledge.

This is particularly relevant in flood risk governance, where overlapping responsibilities, divergent planning cycles, and fragmented data systems often challenge implementation. Policy integration can help align adaptation and heritage goals, reduce duplication, and open space for transformative governance approaches.

By combining the lenses of CRM and PI with the discourse-oriented analysis of heritage as a relational actor, we aim to assess not only whether and where heritage appears in policy, but also how it is conceptualised and what capacities it brings to governance systems.

This framework enables a more nuanced evaluation of whether heritage is positioned as a passive object of protection or as an active contributor to resilience and systemic adaptation. Together, the three lenses provide the conceptual foundation for our comparative analysis of how cultural heritage is integrated into climate adaptation and flood risk planning in Norway and Italy.

Methodology

This study adopts a qualitative, comparative case study approach to examine how cultural heritage is conceptualised and integrated into climate adaptation and risk frameworks across governance levels in Italy and Norway. The analysis focuses on multi-level governance arrangements, flood risk management, and the degree of policy

integration—both vertical (across scales) and horizontal (across sectors). Case selection is based on the AGREE project's empirical focus on urban heritage historically exposed to flood hazards, situated within distinct planning cultures, institutional architectures, and heritage governance frameworks.

Data sources

The empirical analysis draws on a broad set of policy documents related to climate adaptation, disaster risk management, flood risk planning, and cultural heritage management at national, regional, and municipal levels in Italy and Norway. To structure the document collection, we applied the policy portfolio framework developed by Hurlimann et al. (2024), which includes two main components:

- A policy instrument typology, covering laws, regulations, strategies, and guidelines;
- A built environment policy setting, capturing the institutional and spatial contexts in which instruments are deployed across cultural heritage, CCA, and CRM (including DRM).

This framework provided a systematic basis for identifying and comparing the planning and governance instruments that influence the positioning of cultural heritage within climate and risk policies.

Coding and Analytical Procedure

The policy portfolio framework provided the foundation for targeted content retrieval. A structured codebook, aligned with the three conceptual dimensions—heritage as relational actor, climate risk management (CRM), and policy integration (PI)—was optimised using Large Language Models (LLMs), specifically NotebookLM.

Drawing on Guzman (2025), the analysis applies prompting techniques to extract, cluster, and refine relevant text segments from a large volume of documents. These prompts guided the identification of both explicit and implicit framings of cultural heritage, climate risk, and vulnerability. They also supported the mapping of institutional responsibilities, coordination mechanisms, and cross-sectoral linkages.

This hybrid method, combining structured policy mapping with AI-assisted discourse analysis, enabled a systematic comparison of the coherence, effectiveness, and transformative potential of national and subnational policy portfolios. Thematic synthesis and interpretation were manually verified to ensure analytical rigour and contextual sensitivity. The resulting insights contribute to understanding how cultural heritage governance can support more transformative approaches to climate adaptation and flood risk planning according to the cases' policy context (Fig 1).

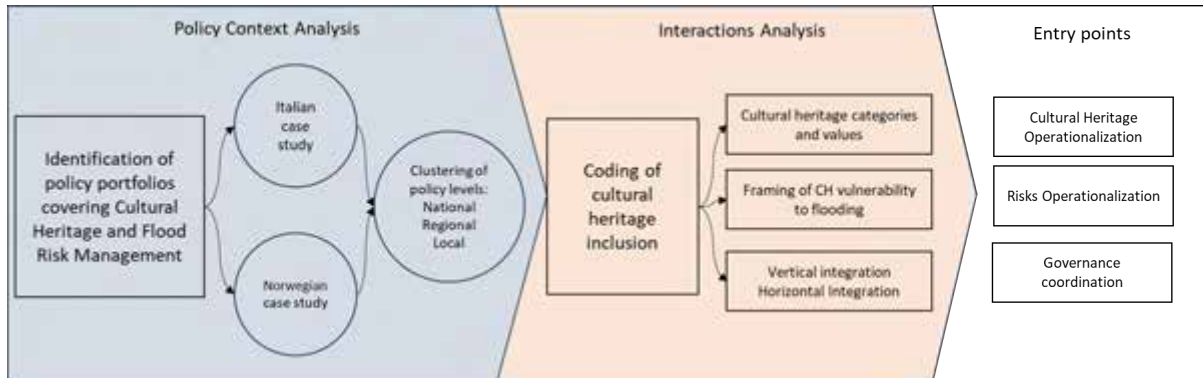


Figure 1. Methods overview for case study analysis.

Case Study Analysis

Lillehammer, Innlandet region in Norway

The Norwegian policy portfolio (figure 2) for cultural heritage management (CHM), climate change adaptation (CCA), and flood-related disaster risk management (DRM) comprises 38 documents: 26 at the national level, 5 at the regional level, and 7 at the municipal level. These span regulatory, planning, and guidance instruments relevant to heritage in the context of climate risk.

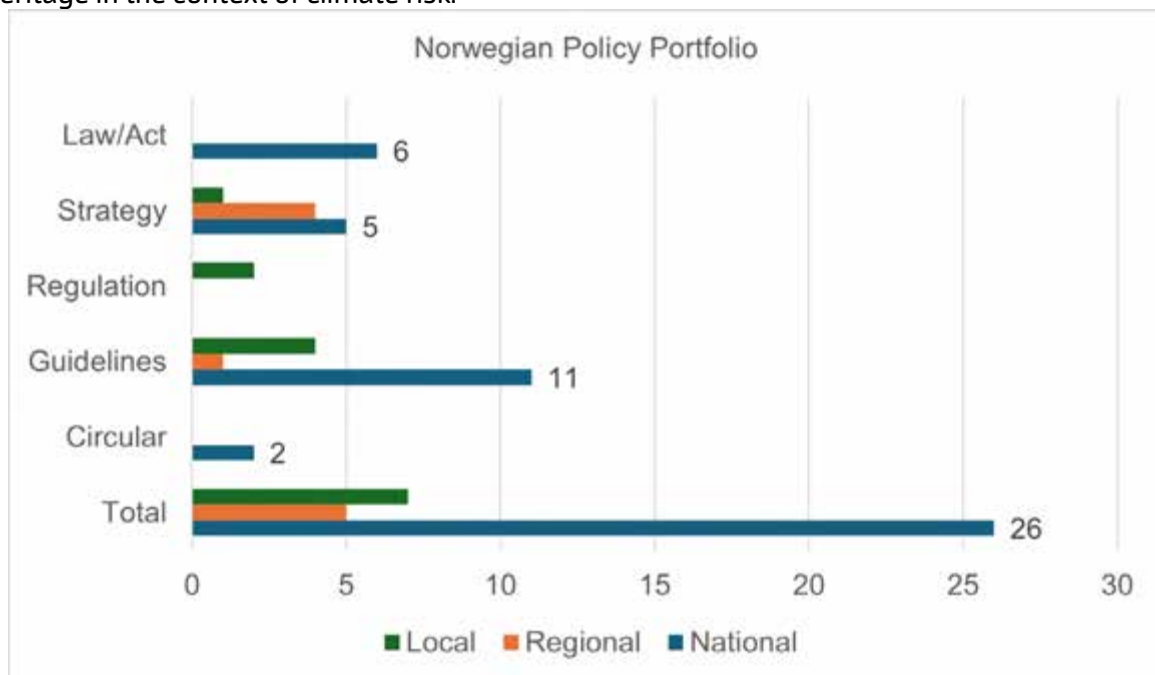


Figure 2. Norwegian policy portfolio for cultural heritage in FRM for CCA and DRM

National policy documents

Nationally, key responsibilities are defined by the Planning and Building Act (2008), the Water Resources Act, and the Civil Protection Act. The Norwegian Water Resources and Energy Directorate (NVE) leads on flood hazard mapping, spatial planning guidance, and emergency coordination. The Directorate for Civil Protection (DSB) oversees broader disaster preparedness. Within the Risk and Vulnerability Analysis (ROS) framework, cultural heritage is explicitly identified as a vulnerable asset. Vulnerability is defined in terms of a cultural environment's capacity to retain value under prolonged stress, encompassing physical degradation, symbolic and institutional fragility, and threats from climate-driven hazards such as flooding, erosion, and biological decay.

Regional policy documents

Innlandet County translates national priorities into spatial strategies via mandatory four-year Regional Planning Strategies and supporting thematic plans. The county's FylkesROS (Regional Risk and Vulnerability Analysis) incorporates cultural heritage under the categories of "Nature and Environment" and "Material Values." This framework uses scenario-based assessments to identify indirect flood impacts on heritage sites, such as water infiltration, soil saturation, and erosion.

Although this value-based risk framing elevates heritage within the regional discourse and encourages the preparation of emergency plans, its application remains mainly generic and advisory in nature. Cultural heritage is treated as an asset at risk rather than as a contributor to adaptive spatial planning. Its role is referenced in environmental and emergency strategies but is not embedded in instruments that guide spatial decision-making or long-term resilience planning.

Local policy documents

At the municipal level, Lillehammer integrates cultural heritage into risk governance through planning instruments such as the Municipal Master Plan and binding Zoning Plans, as well as its municipal ROS (Risk and Vulnerability Analysis). These tools consider cultural heritage among long-term risks and apply concepts such as "sensitivity requirements" and "tolerance thresholds" to regulate development and conservation activities.

Despite this formal inclusion, flood-related heritage risks are typically rated as "very small," reflecting low perceived urgency and limited consideration of evolving climate dynamics. While regulatory mechanisms safeguard heritage against inappropriate development, they do not consistently address climate-induced risks or promote proactive adaptation. Design standards and oversight processes remain focused on static protection rather than anticipatory or systemic responses to future climate impacts.

Table 1. Cultural Heritage Vulnerability in Flood Risk Governance – Norwegian Case Study

Comparative Point	National level	Regional (Innlandet)	Local (Lillehammer municipality)
Formulation of Vulnerability	Focused on material and structural susceptibility to climate parameters (moisture, temperature, rainfall).	- Part of broader sectoral/territorial assessments (FylkesROS); - highlights exposure and emergency preparedness gaps.	- Embedded in land use plans and heritage protection strategies (Kommundelplan); - expressed through tolerance and sensitivity criteria.
Focus of Vulnerability	Physical degradation of heritage due to site-specific climate conditions and structural/material weaknesses.	Emphasis on hazards like flooding and landslides and their potential to damage heritage.	Emphasis on architectural character, cultural landscape features, and urban form coherence.
Mechanism / Approach	Uses scientific data, national registers (Askeladden), risk matrices, and expert-based assessments.	- Integrated into ROS analyses; - focuses on qualitative assessment of exposure and event-based risk.	Planning tools define acceptable change thresholds (scale, structure, terrain, form) and guide development to protect heritage significance.
Types of Heritage Considered	Mostly listed and mapped heritage assets, including buildings, archaeological sites, and landscapes.	Includes settlements, infrastructure, and sectoral assets, often aggregated into risk categories.	Broad inclusion: historic buildings, gardens, walls, paths, and visual experience of heritage environments.

Vulnerability Dimensions Addressed	Primarily physical/material dimensions.	Some institutional and preparedness dimensions included in civil protection planning.	Focuses on morphological, experiential, and aesthetic dimensions of vulnerability.
Integration in Risk Planning	Partial – addressed in sectoral strategies and adaptation studies; generally limited to state-owned or protected heritage.	- Present within ROS frameworks, but not always heritage-specific; - often generalized within infrastructure or building risk.	Stronger integration in planning documents and municipal regulations; less in hazard-specific risk assessments.
Quantification / Monitoring	Lacks comprehensive quantitative indicators; knowledge base relies on expert input and fragmented registries.	- Risk often qualitatively graded; - lacks specific vulnerability metrics for cultural heritage.	Uses qualitative tolerance definitions and design prescriptions rather than measurable vulnerability indicators.
Limitations / Gaps	Cultural heritage vulnerability is largely framed as a technical conservation issue, with less emphasis on systemic or societal dimensions.	- Heritage is not consistently or specifically disaggregated in risk data; - Limited technical detail.	- Emphasis on planning compliance rather than climate resilience; - No systematic tracking of climate-related vulnerability at the site or community level.

Turin, Piedmont, Italy

National policy documents

Italy's FRM system spans multiple levels of government and integrates civil protection, environmental planning, and water governance. The legal framework is long-established and supported by technical experience in hydrogeological risk management. The national policy portfolio comprises 37 documents relevant to cultural heritage management (CHM), CCA, and DRM, with a particular focus on FRM. Policy documents (shown in fig.3) include nine national-level instruments (laws, strategies, and programmes), 16 regional documents, and 12 at the municipal level, reflecting Italy's hierarchical structure and the division between strategic planning and regulatory implementation.

Despite the availability of planning tools such as Flood Risk Management Plans (FRMPs) and hazard maps, cultural heritage is not systematically integrated into national or basin-scale FRM strategies. While risks to heritage, particularly in historic centres, underground assets, and coastal or archaeological sites, are increasingly recognised, they are typically addressed in isolated assessments. Diagnostic studies often explore material sensitivity, environmental conditions (e.g., fluctuating water tables), and anthropogenic stressors such as neglect or tourism. However, these insights are not yet embedded into FRM protocols, early warning systems, or emergency preparedness plans. Although the 2023 National Adaptation Plan (PNACC) acknowledges the vulnerability of heritage, it has yet to produce enforceable mandates or mechanisms for implementation.

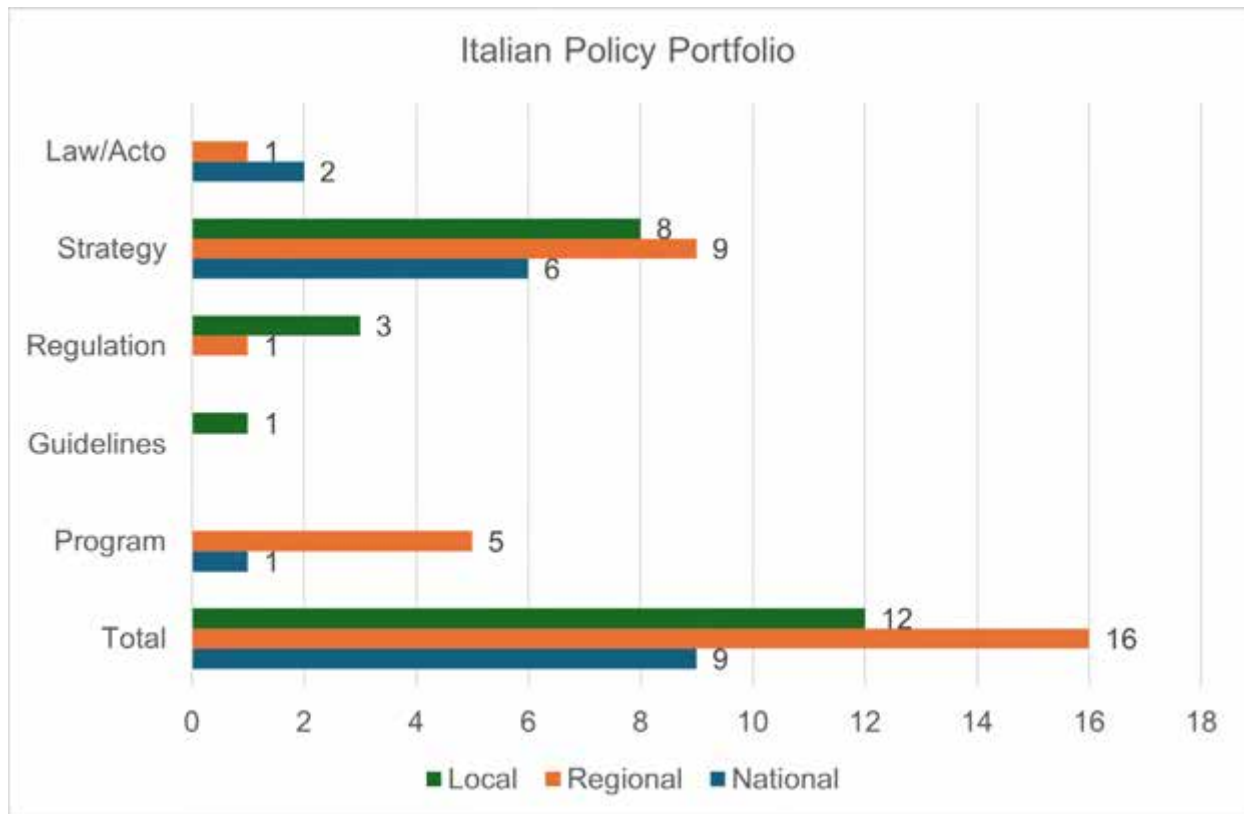


Figure 3. Italian policy portfolio for cultural heritage in FRM for CCA and DRM

Piedmont region policy documents

Following constitutional reforms, Italian regions such as Piedmont have gained significant autonomy in spatial planning and civil protection. Flood risk governance is integrated into Territorial Coordination Plans (PTRC/PTCP), supported by a Regional Functional Centre that collaborates with the national Department of Civil Protection (DPC) on real-time hazard monitoring, early warning, and prevention strategies. River Basin Authorities provide hazard maps that inform regional land-use restrictions and guide planning in areas prone to risk.

Despite the formal embedding of flood risk planning into regional governance, cultural heritage remains largely absent from these instruments. Historic centres, subterranean structures, and culturally significant landscapes are visibly exposed to hydrological hazards, but this exposure is rarely reflected in risk assessments, hazard mapping, or emergency planning.

Where heritage is considered, the regional approach reflects a multi-dimensional view of vulnerability. Physical risks arise from degradation, ground instability, and maintenance deficits. Institutional fragilities include fragmented mandates, weak coordination, and the lack of strategies linking heritage protection and promotion. Territorial inequalities persist, particularly in inland and mountainous areas, alongside chronic capacity gaps, underfunding, and outdated infrastructure that limits adaptive reuse. However, these issues are mostly recognised in assessments and reports, rather than operationalised in governance instruments.

Moncalieri municipality and Turin metropolitan area policy documents

Municipalities and provinces are responsible for local risk governance. Each municipality must prepare a Piano Comunale di Protezione Civile (Municipal Civil Protection Plan), which outlines hazard scenarios, such as floods and landslides, and sets out emergency procedures and guidance for citizens. Mayors act as the highest civil protection authorities in emergencies. The Metropolitan City of Turin coordinates among municipalities, supports planning, and consolidates local risk data.

Land-use restrictions in flood-prone areas are enforced through municipal planning instruments based on hazard maps from regional and national sources. Functions such as drainage and local water management are often delegated to land reclamation consortia, reflecting Italy's decentralised implementation model.

Cultural heritage is acknowledged within civil protection and urban planning frameworks but lacks dedicated risk methodologies. It is referenced in Strategic Environmental Assessments (VAS) under general environmental or landscape categories, without clear criteria for vulnerability or exposure. The Cultural and Environmental Assets Observatory in Turin improves data availability by cataloguing and mapping heritage assets and constraints. However, its use in vulnerability assessment or flood risk planning remains limited.

Table2. Cultural Heritage Vulnerability in Flood Risk Governance – Italian Case Study

Comparative Point	National Level	Regional Level (Piedmont)	Local Level (Turin)
Formulation of Vulnerability	Generic and implicit in FRMPs; heritage vulnerability is not methodologically defined	Multi-dimensional diagnosis covering physical, institutional, territorial fragilities	Implicit in civil protection and environmental assessments; not heritage-specific
Focus of Vulnerability	Damage to exposed assets; heritage seen as one of many sectors	Sectoral fragilities and systemic weaknesses across institutions and landscapes	Emergency impact on heritage assets; indirect inclusion in urban planning
Mechanism / Approach	General guidance in FRMPs and civil protection policies	Diagnostic assessments in regional plans; preliminary integration in spatial and adaptation planning	Strategic Environmental Assessments (VAS); local protection plans; civil protection frameworks
Types of Heritage Considered	Broad: monuments, archaeological sites, landscape heritage (not disaggregated)	Historic buildings, archaeological sites, rural landscapes	Cultural and environmental assets, including archives and museums
Vulnerability Dimensions Addressed	Physical exposure; limited institutional or societal framing	Physical, institutional, societal, infrastructural, and data-related vulnerabilities	Exposure to hazard; infrastructural and data constraints; societal access barriers
Integration in Risk Planning	Limited; cultural heritage weakly embedded in FRMPs or hazard maps	Partial; not systematically translated into FRM or adaptation instruments	Fragmented; planning tools acknowledge heritage but lack targeted vulnerability assessments
Quantification / Monitoring	Minimal; no dedicated indicators or recovery protocols	Economic valuation and scoring tools used diagnostically; not linked to FRM	Observatories and asset mapping exist, but not integrated with risk assessment
Limitations / Gaps	Weak operational link between heritage and FRM; fragmented responsibility	No formal mechanism for integrating heritage in hazard mapping or emergency preparedness	No dedicated methodologies for heritage-specific vulnerability; underutilized data systems

Comparative Discussion

This section compares the integration of cultural heritage into flood risk and climate adaptation governance in Norway and Italy. While both countries acknowledge heritage vulnerability, they differ in how it is framed, operationalised, and linked across governance levels.

Norway adopts a formal and multi-dimensional definition of vulnerability, embedded in national civil protection and planning tools. Cultural heritage is explicitly included in the ROS (Risk and Vulnerability Analysis) framework and reflected in spatial planning regulations. However, this framing is not always translated into practice at the local level, where climate-specific risks to heritage are often rated as low.

In contrast, Italy is showing an increasing awareness of heritage vulnerability, particularly at the regional and municipal levels. Diagnostic assessments in Piedmont, for example, highlight physical, institutional, and territorial fragilities. Yet, this knowledge is not systematically integrated into national FRM instruments, emergency planning, or spatial policies. To consolidate the comparative insights across key governance dimensions, Table 3 summarises the main findings:

Table 3 Comparative Summary – Cultural Heritage in Flood Risk and Adaptation Governance

Analytical Dimension	Norway	Italy
Heritage Categories & Values	Tangible assets (e.g. buildings, sites); some recognition of functional and experiential value in planning tools.	Focus on tangible heritage (monuments, archaeology); limited articulation of social or functional roles.
Vulnerability Framing	Defined nationally (ROS); includes physical, symbolic, and institutional aspects.	Diagnosed regionally; multi-dimensional but lacks national methodology.
Operational Integration	Heritage included in national tools; local uptake limited, risks often downplayed.	Heritage rarely integrated into FRMPs; awareness growing but not formalised.
Vertical Integration	National frameworks guide subnational levels; implementation varies.	Weak vertical coherence; local and regional efforts not fully supported.
Horizontal Integration	Some coordination between heritage, planning, and risk sectors.	Institutional silos persist; limited cross-sectoral governance.
Transformative Potential	Emerging in discourse; heritage recognised as a potential resilience asset.	Seen largely as a passive asset; not yet activated in resilience strategies.

Conclusions

This study examined the integration of cultural heritage into climate adaptation and flood risk governance in Norway and Italy. While both countries recognise heritage vulnerability, integration remains limited and uneven. Norway benefits from clear national frameworks, but local uptake is inconsistent and often downplays climate risks. Italy demonstrates growing diagnostic awareness at regional and municipal levels yet lacks operational tools and formal mechanisms for integration.

In both contexts, heritage is still largely framed as a passive asset at risk, rather than an active contributor to resilience. Policy integration—both vertical and horizontal—remains weak, constrained by fragmented mandates, limited coordination, and underdeveloped methodologies for heritage-specific risk assessment. These findings point to the need for relational governance approaches that see heritage not just as an object to protect, but as a medium for connecting people, places, and institutions. Advancing this perspective can support more inclusive, adaptive, and systemic responses to climate risk.

Within the AGREE project objectives, we will further explore how integration unfolds in practice by engaging with the actors and institutions shaping adaptation and heritage governance on the ground.

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Appendices

Norwegian policy portfolio

Code	Instrument title: National documents	Policy Type	Year
LI.10	Guidelines for risk and vulnerability assessment method for Cultural environments	Guidelines	09.06.2024
LI.12	Act concerning the cultural heritage	Law/act	1978
LI.13	Meld. St. 13 (2020–2021) Report to the Storting (white paper) Norway's Climate Action Plan for 2021–2030	Strategy-Plan	08.01.2021
LI.14	Natural Damage Compensation Act	Law/act	01.01.2017
LI.15	The Civil Protection Act	Law/act	ACT-2010-06-25-45
LI.16	Guide to comprehensive risk and vulnerability analysis in the municipality - Revised 2022 - version 1	Guidelines	01.10.2022
LI.17	The Planning and Building Act – PBL	Law/act	01.07.2024
LI.18	Guidelines: How to take climate change into account in planning?	Guidelines	31.10.2019
LI.19	Regulation on municipal preparedness duty	Law/act	05.07.1905
LI.20	State planning guidelines for climate and energy planning and climate adaptation	Law/act	28.09.2018
LI.21	National expectations for regional and municipal planning 2023–2027	Strategy-Plan	20 June 2023
LI.22	New goals for Norway's cultural environment policy – Meld. St. 16 (2019–2020) Report to the Storting (white paper)	Strategy-Plan	17.apr.20
LI.24	DSB GUIDES Community safety in the municipality's spatial planning Method for risk and vulnerability analysis in planning	Guidelines	2017
LI.25	National and significant regional interests in the environmental area - clarification of the environmental administration's objection practice	circular	17.02.2021
LI.26	Handbook on impact assessment of climate and environment M-1941 Create a plan and study program	Guidelines	n.d.
LI.27	Handbook on impact assessment of climate and environment M-1941 Method of investigation	Guidelines	n.d.
LI.28	Social security in planning and construction case processing Circular H-5/18	circular	17.10.2018
LI.29	Climate strategy for cultural environment management 2021–2030	Strategy-Plan	01.08.2021
LI.30	Strategy and Professional Recommendations for Urban and Rural Development	Strategy-Plan	14.02.2025
LI.31	Regulations on Environmental Impact Assessments	Regulation	01.07.2017
LI.32	The Climate Helper: A guide on how to ensure public safety and climate adaptation in planning according to the Planning and Building Act	Guidelines	2015
LI.33	Safety against floods Investigation of flood risk in zoning plans and building applications	Guidelines	des.22
LI.34	Guide: Sea level rise and high-water levels	Guidelines	June 2024
LI.35	Risk Analysis of Rain-Induced Flooding in Cities	Guidelines	2019
LI.37	Guide for the County Governor's work with risk and vulnerability analyses (fylkesROS) version 4	Guidelines	mar.20
LI.38	Regulations on mandatory registration of ground surveys and natural hazard assessments	Regulation	18.12.2024

Code	Instrument title: Regional documents	Policy Type	Year
LI.8	Regional Strategy for Sustainable Development	Strategy-Plan	ND
LI.9	Regional Plan for Climate, Energy and Environment	Strategy-Plan	06.13.2023
LI.11	Regional Plan for Social Security Innlandet Region	Guidelines	31.10.2022
LI.23	County Risk and Vulnerability Assessment Inlandet 2022-2026	Strategy-Plan	
LI.36	Lågen plan Regional Plan for Gudbrandsdalslågen with tributaries - Measures to reduce flood and landslide damage	Strategy-Plan	29.jun.21

Code	Instrument title: Local documents	Policy Type	Year
LI.1	Area Policy for Future Lillehammer. Municipal Plan's Areal Part - Provisions and Guidelines 2020-2023 (2030)	Regulation and Guideline	26.03.2020
LI.2	Municipal Plan Lillehammer City Town Plan - Provisions and guidelines 2022-2023 (2030)	Regulation and Guideline	26.03.2020
LI.3	Complete risk and vulnerability assessment Lillehammer	Guidelines	01.01.2019
LI.4	Emergency plan Lillehammer municipality	Guidelines	ND
LI.5	Storm water plan for Lillehammer municipality Thematic plan	Strategy-Plan	2024
LI.6	Flooding in smaller tributaries - preparedness 2024	Guidelines	22.03.2024
LI.7	R-01 Measures report Åretta River	Guidelines	07.02.2019

Italian policy portfolio

Code	Instrument title: National documents	Policy Type	Year
TU.29	National Recovery and Resilience Plan	Strategy	2021-226
TU.30	National Prevention Plan	Strategy	2020-2025
TU.33	Integrated National Energy and Climate Plan	Strategy	2019-2030
TU.34	National Plan for Adaptation to Climate Change	Strategy	2023
TU.35	Norms for the development of green urban spaces	Law	2013
TU.41	Cultural Heritage Code	Law	2004

Code	Instrument title: Regional documents	Policy Type	Year
TU.10	Regional Strategy for Sustainable Development	Strategy	2022
TU.11	Regional Strategy for Climate Change - 1 st phase	Strategy	2022
TU.12	Regional Territory Plan	Strategy	2024 (updated in 2011)
TU.13	Regional Landscape Plan	Strategy	2017
TU.14	The Unitary Strategy Document	Strategy	2021
TU.15	Finance and Economy Document	Strategy	2022
TU.16	Management Plan of the Po River Hydrographic District	Strategy	2010
TU.17	Hydrogeological Planning Plan - Po River	Strategy	2001
TU.18	Water Protection Plan	Strategy	2007 (updated in 2021)

TU.19	Triannual Program of Culture	Program	2022
TU.20	Adhesion of the Piedmont Region to the Memorandum of Understanding to gather the commitment of sub-national governments in reducing global emissions, 'UNDER 2 MOU' Subnational Global Climate Leadership Memorandum of Understanding	Program	2015
TU.22	MaB UNESCO Biosphere Reserve Po Hill	Program	
TU.23	Report on the state of the environment	Program	2023
TU.25	FESR Regional Programme of Piedmont for the programming period 2021-27	Program	2022
TU.27	Identification of the interventions related to the enhancement of the natural and cultural heritage of the Piedmont Region, originally planned within the framework of the POR FESR 2014-2020 programming	Regulation	2024
TU.28	Coordinated provisions in the field of culture	Law	2018
TU.31	Flood Risk Management Plan	Strategy	2016 (updated 2021)
TU.32	Water Balance Plan	Strategy	2016 (updated 2021)
TU.38	Area plan of the Piedmontese Po River belt	Program	2009

Code	Instrument title: Local documents	Policy Type	Year
TU.1	Climate Resilience Plan	Strategy	2020
TU.2	Metropolitan Agenda for Sustainable Development	Strategy	2022
TU.3	Metropolitan Agenda for Sustainable Development – Work Plan for the System Actions	Strategy	2023
TU.4	Metropolitan Strategy Plan 2021-2023	Strategy	2021
TU.5		Strategy	2020
TU.6	Territorial Plan of General Metropolitan	Strategy	2023
TU.7	Acquisition, management, and enhancement of real estate assets.	Regulation	2021
TU.8	Governance of public urban goods in the City of Turin	Regulation	2019
TU.9	Provincial-Territorial Coordination Plan	Regulation	2011
TU.39	Civil Protection Plan Moncalieri	Strategy	2022
TU. 40	Piano Regolatore Comunale di Moncalieri – Norme tecniche di attuazione	Strategy	2000
TU.44	Climate Resilience Plan	Guideline, Programme	2020